Ontario

Ministry of Transportation

Highway 7&8 Transportation Corridor Planning and Class EA Study

Greater Stratford to New Hamburg Area
MTO Group Work Project # 13-00-00

Report E: Transportation Corridor Needs Assessment

DRAFT

July, 2009

www.7and8corridorstudy.ca

This report is presented in draft format in order to obtain information and comments from stakeholders. Your input is requested by September 30, 2009 so the report can be finalized.

AECOM

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1.0 INTRODUCTION

1.1 Introduction to the Highway 7&8 Transportation Corridor Planning and Class EA Study

The Ministry of Transportation (MTO) is undertaking a Highway 7&8 Transportation Corridor Planning and Class Environmental Assessment (Class EA) Study, from Greater Stratford to New Hamburg area. The study will:

- develop a plan that addresses:
    - capacity, operation and safety needs along the 2-lane and 4-lane sections of Highway 7&8 between Stratford and the New Hamburg area and through the urban centres (Stratford, Shakespeare and New Hamburg) along Highway 7&8 for the movement of people and goods; and
    - linkage needs between the analysis area and transportation corridors serving other regions in the province.
- prepare a preliminary design for the provincial roadway components of that plan; and
- be documented in a Transportation Environmental Study Report for public review at study completion.

This study will also:

- review and build on the findings of the MTO Highway 7&8 Study Design – Greater Stratford to New Hamburg Area, December 2005;
- address the transportation policies and growth forecasts of the final Growth Plan for the Greater Golden Horseshoe (recognizing that the easterly portion of the analysis area for this project lies within the Greater Golden Horseshoe);
- recognize other relevant transportation corridor studies being undertaken by MTO; and
- be carried out as a Group 'A' project, in accordance with the Class Environmental Assessment for Provincial Transportation Facilities.

Access to the above documents can be obtained through the project website at www.7and8 corridorstudy.ca.

A major component of the study is an outreach and consultation program structured around six key points of decision-making, each of which will be supported by:

- the release of a newsletter;
- the release of draft reports for review and comment;
- a round of Public Information Centres (PICs);
- posting of information on the study web site; and
- newspaper notices announcing the above.

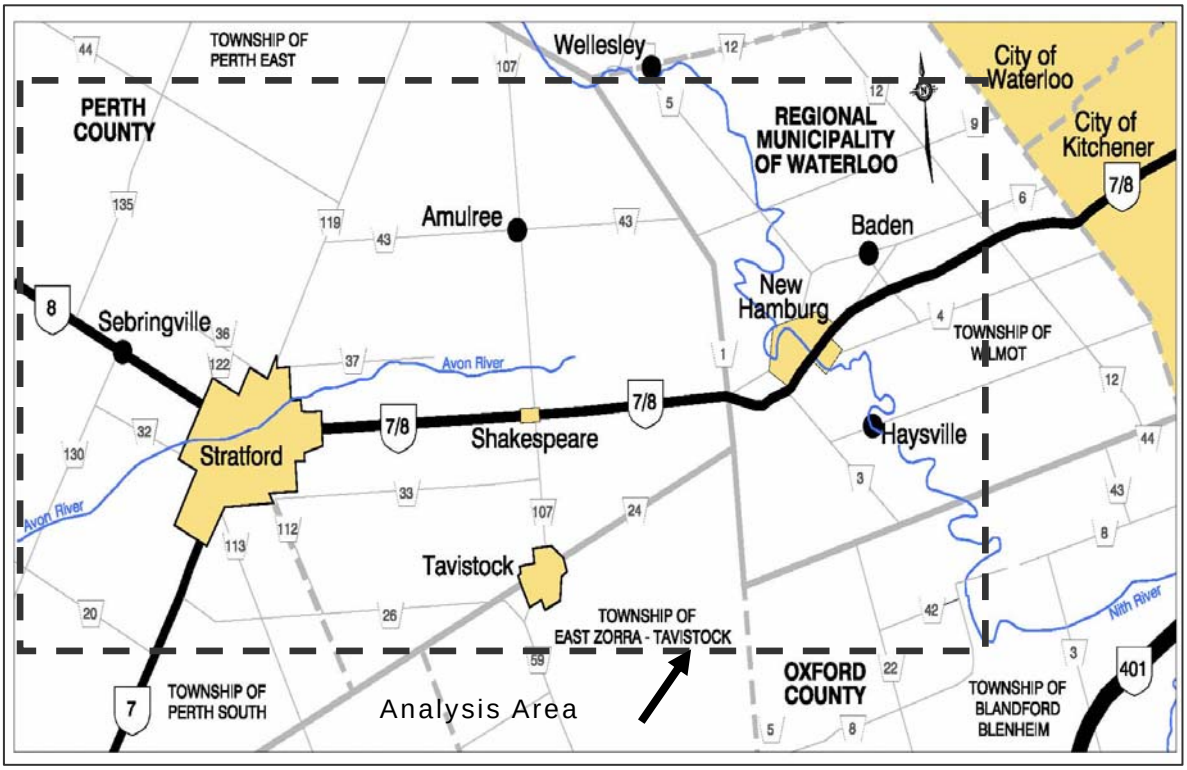
At the completion of the study, the filing of a Transportation Environmental Study Report (TESR) will be announced through newspaper notices. Decisions on funding and timing of detail design and construction are based upon environmental clearance of the TESR, since it determines the type of transportation facilities and their location.

1.2 Analysis Area

The Analysis Area was established to identify transportation problems and opportunities associated with Highway 7&8 from the Greater Stratford to New Hamburg Area plus the broader 'Area Transportation System' (including Highway 8) between Highway 7&8 and Highway 401. The Analysis Area was not intended to represent a Study Area for the planning alternatives to be generated during the course of the study. The selection of a Study Area within the Analysis is documented in this report.

For orientation and reference, a map of the Analysis Area is provided in **Exhibit 1.1** below.

Exhibit 1.1: Map of Analysis Area



1.3 Study Objectives

Exhibit 1.2 below provides a summary of study objectives from Report A of this study (the 'Study Plan for Technical Work, Outreach and Consultation'):

Exhibit 1.2: Summary of Study Objectives Highway 7&8 Transportation Corridor Planning and Class EA Study
1. To identify and assess the factors that are driving 'Area Transportation System' needs
2. To apply those driving factors in preparing a Transportation Development Strategy to address long-term multi-year needs for the movement of people and goods
3. To undertake the planning and design of the provincial roadway components (provincial highways and provincial transitways) of those strategies
4. To conduct the planning and design of provincial roadways with an inherent approach of avoiding or minimizing overall environmental impacts
5. To identify highway access management measures for growth management and highway protection
6. To engage public and stakeholders early in the study process and continue to engage them throughout the study process

1.4 Transportation Problems and Opportunities

Exhibit 1.3 and **Exhibit 1.4** below provide the transportation problems and transportation opportunities that this study has set out to address.

Exhibit 1.3: Transportation Problems Highway 7&8 Transportation Corridor Planning and Class EA Study
• There is inadequate transportation capacity to meet current and projected needs (to 2031) for the efficient movement of both people and goods along the 2-lane and 4-lane sections of Highway 7&8 between Stratford and the New Hamburg area and on Highway 7&8 through the urban centres (Stratford, Shakespeare and New Hamburg). A capacity deficiency of 1 lane in each direction will be realized in the corridor between Greater Stratford and the New Hamburg area by 2031. In addition, there are capacity constraints at intersections in urban areas.
• Capacity constraints result in trip diversion to parallel rural roadways in the Analysis Area. Such routes are generally not designed to accommodate high traffic volumes. These routes also travel through rural communities where through traffic results in safety and operational concerns.
• Provincial / inter-regional traffic through urban centres along Highway 7&8 interferes with their "downtown / historic crossroads" function.

Exhibit 1.3: Transportation Problems **Highway 7&8 Transportation Corridor Planning and Class EA Study**
• Geometric and traffic safety characteristics along Highway 7&8 are not appropriate to address forecasted needs in a manner that facilitates their safe and efficient use for the movement of people and goods.
• There is currently no comprehensive highway access management plan for Highway 7&8 from Greater Stratford to New Hamburg to protect highway function/operation/safety, and to discourage inappropriate highway-related land development/growth.
• The connection of the Analysis Area to transportation corridors serving other regions in the province is inadequate for long-term transportation and economic development needs.
• Limited inter-city transit service is available so the majority of trips are auto-based.
• Truck trips in the corridor have limited route choice and are subject to either traffic congestion in Stratford and/or New Hamburg or connecting roadways that are inadequate or not intended for commercial vehicle activity.

With respect to inadequate inter-regional/provincial transportation capacity identified above, *'Report C – Area Transportation System Problems and Opportunities'*, which was released in June, 2008, and can be viewed on the study web site at www.7and8corridorstudy.ca, indicates that there will be a road capacity deficiency of 1 lane in each direction within the corridor by 2031. Report C indicates that this capacity deficiency will occur in the shorter term (0 to 10 year timeframe) through Stratford and from Stratford to Waterloo Regional Road 1 and in the longer term (approaching 2031) for the New Hamburg area.

With respect to stakeholder questions regarding the travel demand forecast approach and methodology, Section 3 of Report C outlines indicates, in part, that the travel demand analysis included:

- review of existing data bases such as the 'Transportation Tomorrow Survey', Census, Statistics Canada, Commercial Vehicle Studies, travel characteristics from origin-destination studies;
- strategic assessment of longer-term travel demand by specific user types to provide a perspective on the travel patterns and flows in the analysis area;
- development of a strategic model to precast future person trips;
- forecasted travel demands based on planned population and employment growth in the analysis area and in central/southwestern Ontario.

With respect to the population and employment projections indicated above, Report C, indicates that they were obtained from the province's Growth Plan for the Greater Golden Horseshoe (2006), the approved Official Plans of the municipalities within the analysis area, and review of existing data bases such Census, Statistics Canada.

The origin-destination surveys, undertaken during the summer of 2004, captured both weekday and weekend travel patterns, and collected information on the auto occupancy, trip lengths, and trip purposes for vehicles using the major provincial highways in the analysis area. While recent changes in the economy and increases in fuel prices may have an influence on motorists' travel choices, this is not expected to reduce the need to invest in new transportation infrastructure over the longer term. Therefore, the travel characteristics identified from the origin-destination studies were considered in the development of forecasted travel demands for the analysis area.

With respect to a recommendation that a complete study of north-south travel across any controlled access highway be undertaken before any plans to build the highway begin, it is important to note that a broad range of access management alternatives will be considered for the crossing roads, including interchanges, overpasses and underpasses, and at-grade intersections. The development of crossing road treatments, to be undertaken during the detailed planning and preliminary design phases of the work, will take into consideration local / agricultural access requirements and emergency services requirements. The results of this work will be presented at future PICs.

With respect to stakeholder comments regarding need and potential impact to the Stratford, Shakespeare and New Hamburg business communities, farm gate businesses, and linked farm operations across the Highway 7&8 corridor, the following is provided:

- These businesses need Highway 7&8 to function well for both long-distance and local traffic.
- If nothing is done to address the projected traffic on Highway 7&8, it will have a significant impact on these businesses because of traffic congestion on the highway, and the associated transportation challenges such as left turns into businesses and farm operations, and crossing the highway from north to south side, etc..

Exhibit 1.4: Transportation Opportunities **Highway 7&8 Transportation Corridor Planning and Class EA Study**

• Policies and objectives of the Provincial Growth Plan promote opportunities to:
  ◦ Provide for "transit-first" initiatives that support the provision of transit service between urban growth centres; and
  ◦ Recognize the importance of balanced investment in the road and highway system, to better serve goods movement and the needs of the travelling public.

• Area transportation system planning and local land use planning in the Analysis Area need to be co-ordinated, in order to ensure new/intensified development associated with forecasted population and employment growth in the Analysis Area does not negatively affect or even preclude alternatives to address transportation problems and opportunities.
• The local transportation network is an integral part of the overall transportation network within the Analysis Area. The planned road programs of the area municipalities as identified in the Official Plans and Transportation Master Plans aim to preserve, improve and maximize

Exhibit 1.4: Transportation Opportunities **Highway 7&8 Transportation Corridor Planning and Class EA Study**
use of the existing infrastructure.
• Implementation of alternative mobility strategies will assist in managing growth and congestion, provide a framework for increased transit use, provide opportunities to consider car pool, HOV and other transportation options, and optimize the current system through continued and necessary infrastructure investment.
• The provision of regular transit service between communities would provide an alternative to the auto in the Highway 7&8 corridor which could reduce auto demands in the corridor.
• Opportunities for use of the rail corridor to improve passenger travel connections between the Analysis Area and urban centres to the east could reduce auto demands in the corridor.
• A new transportation corridor has the potential to avoid overloading existing urban arterials and parallel rural roadways.
• A new transportation corridor linking Greater Stratford and the New Hamburg area would improve reliability and redundancy in the area transportation system.

With respect to stakeholder comments regarding the need to co-ordinate area transportation system planning and local land use planning in the Analysis Area, the following information is provided:

- Municipal Official Plans, not transportation corridor planning studies, are the mechanism by which urban sprawl associated with development is controlled.
- With respect to potential highway-related development, municipal Official Plans are complimented by MTO "highway access management".
- It is MTO practice to discourage inappropriate highway-related development by significantly limiting new access to existing corridors which undergo significant improvement/widening, and by allowing virtually no private access to any new highway corridor.
- *'Report A – Study Plan'* was released in June, 2008, and can be viewed on the study web site at www.7and8corridorstudy.ca. In Supporting Document #2 of Report A, limitations on access to provincial highways is identified under preliminary planning, under detailed planning and under preliminary design.

As the Highway 7&8 Transportation Corridor Study proceeds, the study team will monitor the progress, findings and recommendations of other studies. It is anticipated the other studies could influence the preliminary design of interchanges or intersections with Highway 7&8, but that they will not affect:

- the corridor alternatives being considered;
- the selection of the preferred combination;

- the associated widening alternatives and/or new route alternatives, as applicable, which are generated within that combination.

1.5 Purpose, Relevance and Position of Report "E" Within the Study Process

The purpose of Report E is to:

- Document the development, assessment and evaluation of preliminary planning alternatives;
- Document the recommended preliminary planning alternative;
- Document the preliminary study area for the generation of detailed planning alternatives; and
- Outline the process and criteria for generating and evaluating detailed planning alternatives for provincial roadways.

This will allow for the appropriate scoping of the remaining detailed technical and consultation requirements of the Class EA and Preliminary Design components of the Study.

As can be seen in **Exhibit 1.5** below, Report E is the sixth of 11 reports to be prepared for this study and the only report of Phase 3, Transportation Needs Assessment.

Exhibit 1.5: Summary of Reports **Highway 7&8 Transportation Corridor Planning and Class EA Study**
STUDY PHASE 1: STUDY PLAN
• Report "A" Study Plan For Technical Work, Outreach And Consultation
STUDY PHASE 2: AREA TRANSPORTATION SYSTEM PLANNING
• Report "B": Working Paper – Overview of Transportation, Land Use and Economic Conditions Within the Analysis Area
• Report "F" -1st Part: Working Paper - Environmental Conditions And Constraints
• Report "C": Working Paper – 'Area Transportation System' Problems and Opportunities
• Report "D": Working Paper – Area Transportation System Alternatives
STUDY PHASE 3: PRELIMINARY PLANNING
• ***Report "E": Milestone Report – Highway 7&8 Transportation Corridor Needs Assessment***

Exhibit 1.5: Summary of Reports **Highway 7&8 Transportation Corridor Planning and Class EA Study**
STUDY PHASE 4: DETAILED PLANNING FOR PROVINCIAL ROADWAYS
• Report "F" 2nd Part: Working Paper - Environmental Conditions And Constraints
• Report "G": Working Paper – Generation of Detailed Planning Alternatives for Provincial Roadways
• Report "H": Milestone Report - Selection of Detailed Planning Alternatives for Provincial Roadways
STUDY PHASE 5: PRELIMINARY DESIGN FOR PROVINCIAL ROADWAYS
• Report "I": Working Paper - Generation of Provincial Roadway Preliminary Design Alternatives
• Report "J": Milestone Report - Selection of Preliminary Design Alternatives for Provincial Roadways
STUDY PHASE 6: TRANSPORTATION ENVIRONMENTAL STUDY REPORT
• Report "K": Transportation Environmental Study Report (documents overall study)

Report E is designed to document the preliminary planning alternatives, including the recommended preliminary planning alternative and the study area for the generation of detailed planning alternatives. For highlights of the report, readers are referred to the exhibits which are identified in the table of contents of this report.

2.0 SUMMARY OF 'AREA TRANSPORTATION SYSTEM' NEEDS ASSESSMENT

The development, assessment and evaluation of the Area Transportation System alternatives, including the recommended 'Area Transportation System' alternatives, were documented in '*Report D – Area Transportation System Alternatives*', which was released in June, 2008, and can be viewed on the study web site at www.7and8corridorstudy.ca. A summary of the findings of Report D is provided in the following sub-sections.

2.1 Individual Area Transportation System Functional and Modal Alternatives

Area Transportation System Alternatives are defined as fundamentally different ways of addressing the identified transportation problems and opportunities. The following individual Area Transportation System Alternatives were examined to determine their effectiveness in addressing the problems and opportunities at a functional level:

- the "do nothing" alternative;
- transportation demand management (TDM);
- transportation system management (TSM);
- improved/new freight rail service;
- improved/new passenger rail service;
- improved/new municipal roads;
- new provincial transitway; and
- improved/new provincial highway.

The transportation network in the Analysis Area provides service to the urban communities of Stratford, Shakespeare and New Hamburg as well as the rural areas between. The capability of individual alternatives to address all of the identified problems and opportunities, as "stand alone" solutions, has been described in detail in '*Report D – Area Transportation System Alternatives*'.

While many of the Areas Transportation System alternatives would contribute positively to the identified problems and opportunities in the Analysis Area, most are limited in their effectiveness when considered individually. As a result, and in recognition that transportation system solutions require comprehensive, multimodal strategies for long term effectiveness and sustainability, the individual alternatives are grouped into logical Combination Alternatives for further detailed assessment. The Combination Alternatives and the assessment are described in further detail in the following section.

2.2 Combinations of Area Transportation System Alternatives

A combination of the individual Area Transportation System alternatives is desirable to effectively address the identified problems and opportunities. Four separate Combination

Alternatives were developed, with each building upon the most desirable and effective elements of the individual alternatives in successively distinctive ways, as follows:

- Combination #1: Optimize Existing Network (all modes);
- Combination #2: New/Expanded Non-Road Infrastructure plus Elements of Combination #1;
- Combination #3: Widen Municipal Roads and/or Provincial Highways plus Elements of Combination #2
    - Combination #3A: Widen Perth Road 33 / McCarthy Boulevard / C.H. Meier Boulevard;
    - Combination #3B: Widen Highway 7&8 to 4/5 lanes with localized widening to 6/7 lanes through New Hamburg;
    - Combination #3C: Widen Highway 7&8 to 4/5 lanes, with localized widening to 6/7 lanes through New Hamburg, plus widen municipal roads to the south of Stratford
    - Combination #3D: Widen Highway 7&8 to 4/5 lanes, with localized widening to 6/7 lanes through New Hamburg, plus widen municipal roads to the north of Stratford;
    - Combination #3E: Widen Highway 7&8 from east of Stratford through Shakespeare to New Hamburg, plus median barrier and intersection improvements through New Hamburg, plus widened Lorne Avenue Corridor through Stratford that connects to Highway 8 immediately west of Stratford and Highway 7&8 immediately east of Stratford.
- Combination #4: New Provincial Highways/Transitways plus Elements of Combination #3:
    - Combination #4A: Widen Highway 7&8 plus new local bypasses to the south of each of Stratford, Shakespeare and Hew Hamburg;
    - Combination #4B: Widen Highway 7&8 plus new local bypasses to the north of each of Stratford, Shakespeare and New Hamburg;
    - Combination #4C: New highway/transitway corridor to the north;
    - Combination #4D: New highway/transitway corridor to the south.

2.3 Screening and Selection of Area Transportation System Alternatives

Report D discusses the potential of the various transportation modes in addressing the preliminary statement of transportation problems and opportunities. The recommendations of Report D were modified in response to Stakeholder input. The following provides a brief overview of the screening results, and some comments to address stakeholder questions and suggestions:

Inter-Regional Transit And Passenger Rail Service

With respect to the use of inter-regional transit and passenger rail service to address the transportation problems and opportunities:

- Transit potential in the Highway 7&8 corridor was established by aggressively assuming the mode share of commuter work trips on transit is more than doubled to 10% to Waterloo, Kitchener and Cambridge, and is increased from 3.2% to 5% to London.

- Even if this transit potential is fully accommodated by providing 35 additional buses, or 4 light rail train sets, or 1 additional heavy rail passenger train per day, inter-regional transit and passenger rail cannot sufficiently reduce auto trip demand in the Highway 7&8 corridor to address the forecasted 2031 inadequate inter-regional/provincial transportation capacity between and through Stratford, Shakespeare and New Hamburg, and beyond.

- However, inter-regional transit is considered an important and required service in the Highway 7&8 corridor, and it was been included in the combination area transportation alternatives carried forward in the study.

- Inter-regional transit could include existing passenger rail; new passenger rail; provincial transitway (separate inter-regional transit facilities directly associated with a provincial highway); transit infrastructure on a provincial highway, including reserved bus lanes, high occupancy vehicle lanes, and bus priority facilities; and buses in general purpose lanes.

- With respect to a stakeholder suggestion that the study consider long distance passenger rail systems across the province, such as the proposed Windsor to Quebec high speed rail initiatives are well beyond the scope of this study, and since no recommendations are available with respect to their applicability to the Highway 7&8 corridor, they cannot be considered.

Freight Rail Service

With respect to the use of freight rail service to address the transportation problems and opportunities:

- Railways are best suited for carrying bulk commodities over long distances between major freight terminals. For short-distance hauls of non-bulk freight commodities by rail, it takes longer to load and unload than it does to ship them, rendering this unattractive to shippers, carriers and receivers from the perspectives of cost and timeliness, particularly for perishable products such as fresh vegetables and fruit.

- Based upon the 2000 Commercial Vehicle Survey, approximately 63% of the truck demands in the Highway 7&8 corridor are for short to medium distance trips, and not suitable for diversion to freight rail service.

- The long distance freight market currently served by trucks in the Highway 7&8 corridor is estimated at 560 vehicles per day. Even if all of the long distance freight could be shifted from truck to rail, this would not remove enough traffic from the Highway 7&8 corridor to address the forecasted 2031 inadequate inter-regional/provincial transportation capacity between and through Stratford, Shakespeare and New Hamburg, and beyond.

- Considering the above, freight rail service is an area transportation alternative that was not being carried forward in the study.

Municipal Roads

The potential of municipal roads to address the transportation problems and opportunities differs by area, as discussed below.

- In the area immediately west of Stratford:

  - The Highway 7&8 Transportation Corridor Planning and Class EA Study has determined that there is not a road capacity deficiency immediately west of Stratford by 2031 (see '*Report C. – Area Transportation System Problems and Opportunities*').

  - Accordingly, municipal roads could, with geometric improvements to bring them to provincial highway standards, be considered immediately west of Stratford.

- In the area of Stratford and immediately east of Stratford:

  - The Highway 7&8 Transportation Corridor Planning and Class EA Study has determined that there will be a road capacity deficiency of 1 lane in each direction by 2031 (see '*Report C. – Area Transportation System Problems and Opportunities*').

  - Based upon input received from the City of Stratford, the currently designated municipal road truck route through Stratford was added to the short list of corridor alternatives. This 2-lane truck route is based upon Lorne Avenue, which has a right-of-way is sufficient to accommodate a 4 to 5 lane roadway cross-section.

  - Immediately east of Stratford, a corridor based upon Lorne Avenue could be connected to Highway 7&8 via existing north-south municipal roads, or via a new corridor.

- In the area from east of Stratford to east of New Hamburg:

  - The Highway 7&8 Transportation Corridor Planning and Class EA Study has determined that there will be a road capacity deficiency of 1 lane in each direction by 2031 (see '*Report C. – Area Transportation System Problems and Opportunities*').

  - Between Stratford and New Hamburg, the widening Perth Road 33 to the south, or Perth Road 37 to the north of Highway 7&8 may provide sufficient theoretical capacity to accommodate future demands, but constraints due to reduced speed limits, numerous

private entrances, and lower design standards would result in not enough traffic being removed from Highway 7&8 to address the forecasted 2031 inadequate inter-regional/provincial transportation capacity, particularly through Stratford and Shakespeare.

- In the New Hamburg area, there are no continuous municipal road connections to the north or south of Highway 7&8 that could serve as a viable alternative without making a number of jogs at offset intersections. Even if these situations were rectified, the limitations discussed above would apply.

- Considering the all of the above, use and widening of municipal roads is an area transportation alternative that was not carried forward in the study from east of Stratford to east of New Hamburg.

Provincial Highways

- With respect to the use of provincial highways, the screening analysis of the Area Transportation System Alternatives determined that no single combination is expected to address all of the forecasted transportation problems and opportunities in the Analysis Area, and that the variations of Combinations #3 and #4 that should be carried forward for further assessment are the followings:

  - Combination #3E: Widen Highway 7&8 from east of Stratford through Shakespeare to New Hamburg, plus median barrier and intersection improvements through New Hamburg, plus widened Lorne Avenue Corridor through Stratford that connects to Highway 8 immediately west of Stratford and Highway 7&8 immediately east of Stratford.
  - Combination #4A: Widen Highway 7&8 plus new local bypasses to the south of each of Stratford, Shakespeare and Hew Hamburg, plus transportation demand management (TDM) and inter-regional transit;
  - Combination #4B: Widen Highway 7&8 plus new local bypasses to the north of each of Stratford, Shakespeare and New Hamburg , plus TDM and inter-regional transit;
  - Combination #4C: New highway/transitway corridor to the north, plus TDM and inter-regional transit;
  - Combination #4D: New highway/transitway corridor to the south, plus TDM and inter-regional transit.

Additional characteristics of Combinations #3E, #4A, 4B, 4C and 4D in addressing the problems and opportunities are as follows:

- High potential to improve the efficient movement of people and goods through reduced transportation system congestion and improved mode choice for person trips and goods movement;
- High potential to provide the highest improvement to transportation system congestion and improve mode choice for recreation and tourist travel;
- High potential to improve system reliability / redundancy by addressing transportation system congestion, improving mode choice and providing a new highway/ transitway for route choice alternatives;
- High potential to improve safety based on ability to address transportation system congestion;
- High potential to increase accessibility to urban / work centers and the provincial highway network by providing improved mode choice, new highway/ transitway and improved access to communities and the provincial highway network;
- Moderate potential to address modal opportunities within the Analysis Area. Opportunities to shift person trips from auto to transit are moderate, based on improvement to transportation system congestion and provision of a dedicated transitway corridor in conjunction with the new highway corridor, but the effectiveness may be diminished by the lack of transit service from the east end of the Analysis Area to Kitchener-Waterloo. Opportunities to shift goods movement from truck to other modes are limited based on existing rail services connecting the two communities;
- High support for efficient transportation connections between population and employment growth centres due to most improved transportation system congestion and new highway/transit corridor; and
- High support for approved population and employment growth in Analysis Area due to most improved transportation system congestion. Auto reduction and multi-modal strategies are consistent with provincial and municipal transportation planning policies.

The effectiveness of the selected Area Transportation System alternatives in addressing the problems and opportunities is summarized in **Exhibit 2.2**.

Exhibit 2.2: Area Transportation System Conclusions
• The provision of a new transportation corridor north or south of existing Highway 7&8 between New Hamburg and Stratford provides effective relief to the identified capacity issues in the Analysis Area. Operational issues would remain on some arterials in Stratford, but do not affect the ability of the new corridor to provide an improved transportation connection through the Analysis Area. While the widening of the existing 2-lane section of Highway 7&8, as a standalone solution, will address the capacity deficiencies between New Hamburg and Stratford, it does not address congestion within the built up areas of New Hamburg and Stratford.

Exhibit 2.2: Area Transportation System Conclusions
• The provision of a new transportation corridor between Stratford and New Hamburg is most effective in diverting vehicle trips away from existing Highway 7&8 the closer it is situated to the existing corridor. There is a strong demand for travel within the existing Highway 7&8 corridor between Stratford and the communities within the Regional Municipality of Waterloo. Trips that would divert to a corridor located significantly north or south of the existing Highway 7&8 would be those currently using the local road networks in these areas, and the longer distance through-traffic destined for Highway 8 to the west of Stratford or Highway 7 to the south.
• The widening of Highway 7&8 provides the required capacity to address the facility capacity issues between Stratford and New Hamburg. In the New Hamburg area, additional widening to 6 lanes and/or intersection modifications would be required through New Hamburg to address capacity deficiencies through this built-up area. Opportunities to widen existing Highway 7&8 through downtown Stratford are limited, which limits the ability of Highway 7&8 through Stratford to serve as an effective connection to Highway 7 and Highway 8 beyond the City for longer distance person and goods movement demand.
• The use of the Lorne Avenue municipal road truck corridor, and of municipal roads immediately west of Stratford can accommodate the projected 2031 travel demands. An improved connection to the south using Lorne Avenue and Perth Rd 33 / Perth Line 32, and 125th Rd would need to be upgraded to accommodate the provincial traffic and through trucks in order to maintain the effectiveness of Highway 7&8 in accommodating the longer distance movement of people and goods.
• The preferred strategy for the improvement of the area transportation system should include improved infrastructure necessary to support transportation demand management (i.e. carpool lots and/or HOV lanes), transportation system management, and infrastructure to support inter-regional transit. There is expected to be a sizeable market for improved inter-regional transit in the Analysis Area which will require the provision of new infrastructure (road or rail or both) and additional rolling stock (buses, train cars, etc.) to provide a sufficient service level improvement to attract ridership.

3.0 PROCESS FOR THE DEVELOPMENT, ASSESSMENT AND SCREENING/EVALUATION OF PRELIMINARY PLANNING ALTERNATIVES

On the basis of the Area Transportation System assessment results documented in '*Report D: Area Transportation Systems Alternatives*' and summarized in Section 2 of this report, the Area Transportation System alternatives carried forward into the Preliminary Planning phase of the study are those presented in **Exhibit 3.1** below.

Exhibit 3.1: Area Transportation System Alternatives Carried Forward into Preliminary Planning

- Widen Highway 7&8; plus new local bypasses to the south of each of Stratford, Shakespeare and Hew Hamburg; plus transportation demand management (TDM) and inter-regional transit;
- Widen Highway 7&8; plus new local bypasses to the north of each of Stratford, Shakespeare and New Hamburg; plus TDM and inter-regional transit;
- Widen Highway 7&8 from east of Stratford through Shakespeare to New Hamburg; plus median barrier and intersection improvements through New Hamburg; plus widened Lorne Avenue Corridor through Stratford that connects to Highway 8 immediately west of Stratford and Highway 7&8 immediately east of Stratford; plus TDM and inter-regional transit;
- New highway/transitway corridor to the north; plus TDM and inter-regional transit;
- New highway/transitway corridor to the south; plus TDM and inter-regional transit.

A brief description of the process for the development, assessment and evaluation of the preliminary planning alternatives is provided below:

Step 1: Obtain and document existing environmental conditions/features within the analysis area from secondary source and outreach investigations (See Section 4 of this report).

Step 2: Generate a long list of corridor alternatives (presented in **Exhibits 5.1, 5.2, 5.3 and 5.4**), taking stakeholder input into consideration.

Step 3: Identify the criteria for screening the long list of corridor alternatives (presented in **Exhibit 6.1**)

Step 4: Undertake an assessment and screening of the long list of corridor alternatives by "reasoned argument" method, using the criteria and indicators provided in **Exhibit 6.1**, and taking stakeholder input into consideration, to select a preferred short list of corridor alternatives to carry forward for further study (presented in **Exhibit 6.6** and **Exhibit 6.7**).

Step 5: Identify the factors, sub-factors, criteria and indicators for evaluating the short list of corridor alternatives (presented in **Exhibit 7.1**)

Step 6: Undertake a comparative evaluation of the short list of corridor alternatives by "reasoned argument" method, using the factors, sub-factors, criteria and indicators provided in **Exhibit 7.1**), and taking stakeholder input into consideration, to select a preferred corridor / corridor combination to be carried forward in the study (presented in **Exhibit 7.8** and **Exhibit 7.9**) .

4.0 ENVIRONMENTAL CONSTRAINTS MAPPING FOR PRELIMINARY PLANNING

Report F (Part 1), issued in June, 2008, documented the existing environmental conditions and constraints. It establishes an environmental overview within the analysis area based on secondary source information (existing/secondary source information – mapping / constraint mapping, data, reports), supplemented by preliminary field reconnaissance.

Report F (Part 1) provides an overview/background level of detail that supports the selection of 'Area Transportation System' alternatives, and the development and selection of preliminary planning alternatives. The environmental constraints maps provided in Report F identify significant and sensitive features of the natural, socio-economic and cultural environments in the Analysis Area.

5.0 GENERATION OF LONG LIST OF CORRIDOR ALTERNATIVES

As identified in **Exhibit 3.1** of this report, the Area Transportation System alternatives carried forward for further study were the following:

- Widen Highway 7&8 plus new local bypasses to the south of each of Stratford, Shakespeare and Hew Hamburg, plus transportation demand management (TDM) and inter-regional transit;
- Widen Highway 7&8 plus new local bypasses to the north of each of Stratford, Shakespeare and New Hamburg , plus TDM and inter-regional transit;
- Widen Highway 7&8 from east of Stratford through Shakespeare to New Hamburg; plus median barrier and intersection improvements through New Hamburg; plus widened Lorne Avenue Corridor through Stratford that connects to Highway 8 immediately west of Stratford and Highway 7&8 immediately east of Stratford; plus TDM and inter-regional transit;
- New highway/transitway corridor to the north, plus TDM and inter-regional transit;
- New highway/transitway corridor to the south, plus TDM and inter-regional transit.

A long list of highway corridors were generated for the above using the following principles:

- For widening of the existing highway corridor and the Lorne Avenue truck corridor:
  - Assume widening to a minimum of 4/5 lanes in all sections regardless of natural, socio-economic and cultural environmental constraints, so that widening can be assessed on the same basis as local bypass corridors and new corridors with respect to meeting projected capacity requirements;
  - Assume a corridor width of 200m to provide for flexibility (i.e. direction/symmetry of widening) in avoiding or mitigating natural environmental, built environment, and/or cultural environmental features.

- For the median barrier and intersection improvements through New Hamburg:
  - Assume that some intersections may be reduced to “right-in, right-out” or closed, so that the assessment of this alternative includes the highway elements that are required to make it work.

- For local bypass corridors and new corridors
  - Assume a 4/5 lane highway in all sections in order to meet projected capacity requirements.
  - Assume a corridor width of up to 1 km so that they are in close proximity to but distinct from the existing highway, and still wide enough to provide for the generation of route alternatives with a 100 metre wide right-of-way within them by allowing for flexibility in avoiding or mitigating natural environmental, built environment, and/or cultural environmental features.
  - Avoid the built up areas of Stratford, Shakespeare and New Hamburg

- Avoid lakes and major wetland areas
- Generate a set of corridor alternatives that are as close as possible to the communities of Stratford, Shakespeare and New Hamburg and the existing highway, so that these communities continue to be serviced, and it is convenient for traffic to divert from the existing highway
- Generate additional separate and distinct corridors alternatives beyond the set nearest to the existing highway, for comparative screening with respect to transportation effectiveness and high-level environmental criteria.

Application of these principles resulted in a long list of corridor alternatives that are presented in the following exhibits:

- **Exhibit 5.1** presents the long list of corridor alternatives (a total of 31 discreet corridor segments);
- **Exhibit 5.2** presents a map of the long list of corridor alternatives for widening existing Highway 7&8;
- **Exhibit 5.3** presents a map of the long list of local bypass corridor alternatives around Stratford, Shakespeare and New Hamburg; and
- **Exhibit 5.4** presents a map of the long list of new corridor alternatives.

Exhibit 5.1: Long List of Corridor Alternatives

Section 1: From West of Stratford to Highway 7

- Existing Highway 8 west of Stratford (2 lanes) and existing Highway 7 south of Stratford (transition from 4 lanes at the north to 2 lanes at the south);
- One local bypass north and west of Stratford (4 lanes);
- Two local bypasses south and west of Stratford (each being 4 lanes);
- Improving Lorne Avenue / Perth Line 32 through Stratford (4/5 lanes) with two alternative connections northwesterly connections to Highway 8 (each being 2 lanes).

Section 2: From Highway 7 to East of Stratford

- Existing Highway 7&8 through Stratford (4 through lanes);
- Two local bypasses north and east of Stratford (each being 4 lanes);
- Five local bypasses south and east of Stratford (each being 4 lanes);
- Widening Lorne Avenue / Perth Line 33 (widen from 2 to 4/5 lanes) through Stratford, with two alternative northeasterly connections towards Highway 7&8 (each being 4 lanes on new highway, or 4/5 lanes on existing roadway)

Exhibit 5.1: Long List of Corridor Alternatives

Section 3: From East of Stratford to West of New Hamburg

- Existing Highway 7&8 from east of Stratford, through Shakespeare, to west of New Hamburg (widen from 2 to 4/5 lanes);
- One local bypass north of Shakespeare (4 lanes);
- One local bypass south of Shakespeare (4 lanes);
- One new highway corridor north of Highway 7&8 (4 lanes);
- Three new highway corridors south of Highway 7&8 (each being 4 lanes).

Section 4: From West of New Hamburg to East of New Hamburg

- Existing Highway 7&8 through New Hamburg (new median barrier plus intersection modifications/closures);
- Two local bypasses north of New Hamburg (each being 4 lanes);
- Five local bypasses south of New Hamburg (each being 4 lanes).

Note: 5 lanes includes 2 lanes in each direction plus a continuous left turn lane

Exhibit 5.2: Map of Long List of Corridor Alternatives – Existing Corridor Alternative

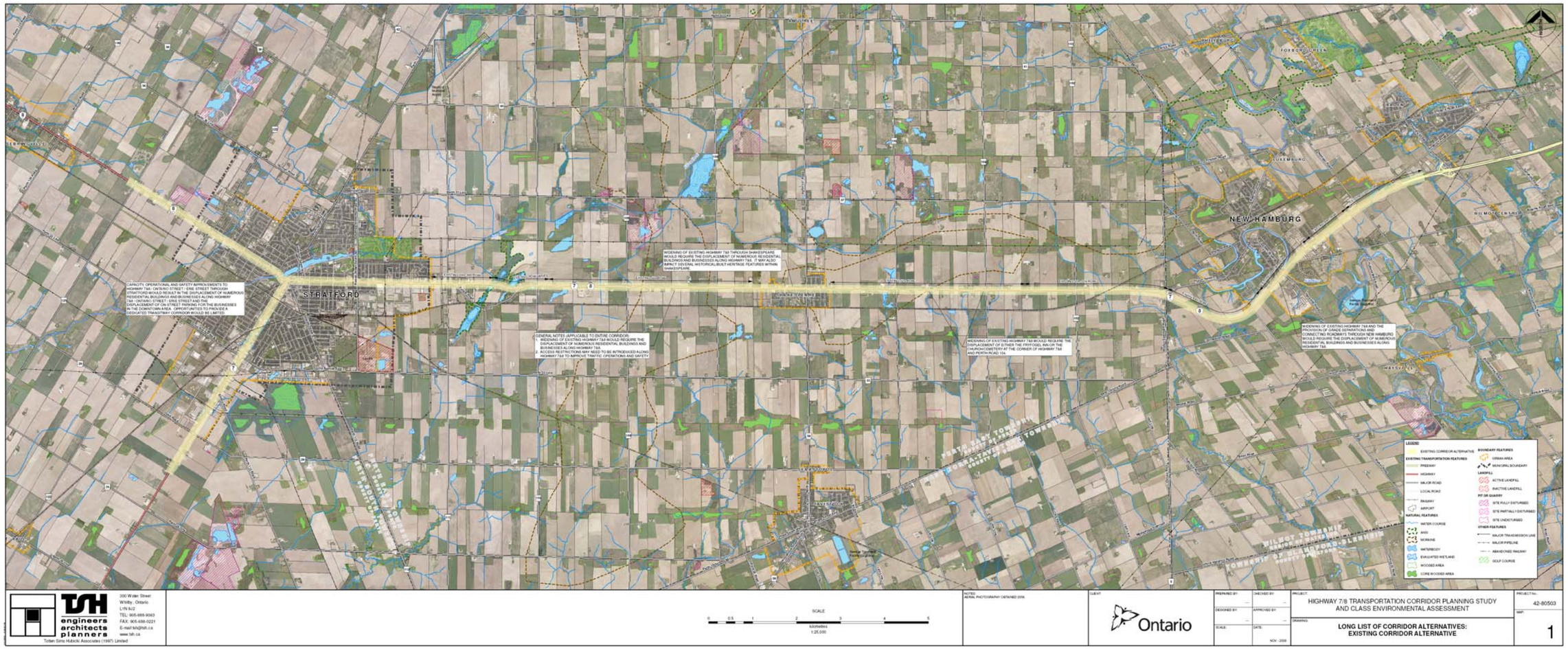


Exhibit 5.3: Map of Long List of Corridor Alternatives – By-Pass Corridor Alternatives

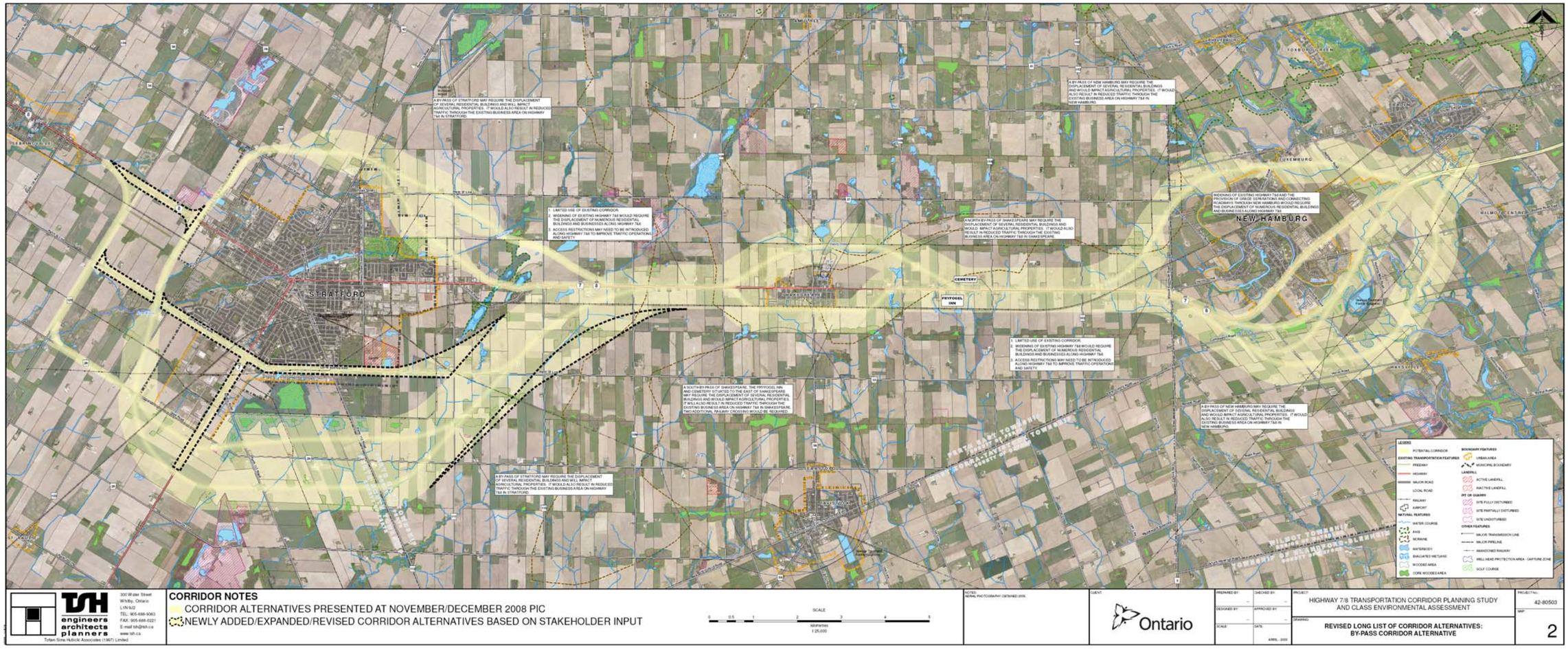
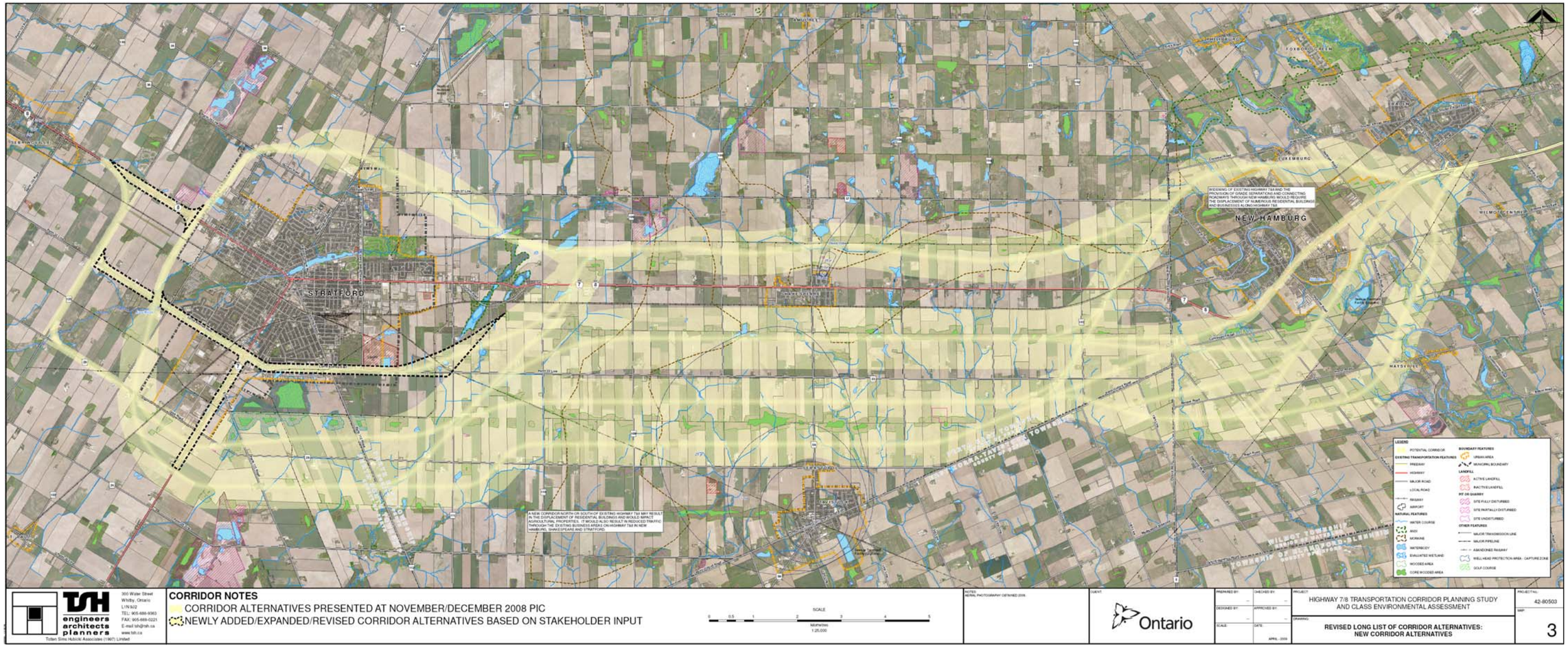


Exhibit 5.4: Map of Long List of Corridor Alternatives – New Corridor Alternatives



Stakeholder comments and questions indicated that there is considerable disparity of opinion among stakeholders regarding corridor alternatives, however the following is provided in response to many of the points raised:

- With respect to the presentation of corridors for widening, local bypasses, new corridors:
  - The bypasses and new corridors have been generated with a width of up to 1 km so that they are in close proximity to but distinct from the existing highway, and still wide enough to provide for the generation of route alternatives with a 100 metre wide right-of-way within them, by allowing for flexibility in avoiding or mitigating natural environmental, built environment, and/or cultural environmental features.
  - Report F – '1st Part – Working Paper – Environmental Conditions and Constraints' was released in June, 2008, and can be viewed on the study web site at www.7and8corridorstudy.ca. Report F provides secondary source information on existing conditions that is referenced to assess and screen the long list of corridors.

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- With respect to traffic signals:
  - The use of traffic lights to restrict or slow traffic on Highway 7&8 would considerably reduce transportation capacity. Since transportation capacity is one of the problems that the study has set out to address, this will not be carried forward.
  - Changes to the timing or triggering of existing traffic signals could provide some short-term improvements, but would not resolve the long-term problems and opportunities that this study set out to address.
  - *Report A – Study Plan'* was released in June, 2008, and can be viewed on the study web site at www.7and8corridorstudy.ca. In Supporting Document #2 it identifies the various alternatives associated with preliminary design. Traffic and electrical engineering is identified to include traffic control signals, major roadside safety infrastructure, traffic signing and movement markings, and roadway illumination, as appropriate. The specifics cannot be determined until preliminary design.

- With respect to photo radar:
  - Photo radar would not address the transportation problems and opportunities the study sets out to address. In addition, photo radar is not currently used in Ontario, and this alternative can therefore not be considered.

- With respect to railway crossings:
  - The alternative involving widening of the existing highway would include an increased number of lanes under the railway structure west of Regional Road 1.
  - Geometric and traffic safety characteristics along Highway 7&8 is one of the problems that the study has set out to address. Accordingly, level crossings at railways are unlikely to be considered.
  - The specifics regarding grade separations and vertical/horizontal alignment shifts of the highway, road and railways associated with the above would be developed following Public Information Centre #3.

- With respect to intersections, interchanges and service roads:
  - Provision of interchanges at key intersections would not on it own resolve the problems and opportunities that this study set out to address, particularly inadequate transportation capacity. Accordingly, although interchanges may be considered in association with the recommended alternatives, they will not be carried forward as a stand-alone alternative.
  - In the information presented at Public Information Centre 2B, held on November 26 and 27, and December 9 of 2009, it was indicated that widening the existing highway through New Hamburg includes modification or closure of existing intersections, with a possible service road.
  - In Supporting Document #2, Report A identifies that the detailed planning and preliminary design phases of the work will all consider the location, configuration and template footprint of highway interchanges/intersections. These will be presented in future PICs.

- With respect to widening of the existing highway:
  - Widening of the existing highway is included in the corridor alternatives that were screened to be carried forward for further assessment in the study because it could make a significant contribution towards addressing the transportation problems and opportunities.
  - Although widening of existing Highway 7&8 to provide a third lane would provide a continuous left turn lane, it would not provide for improved transportation capacity. Since transportation capacity one of the problems that the study has set out to address, this will not be carried forward.
  - A widening of existing Highway 7&8 to 5 lanes would provide additional traffic capacity, and may be one of the highway widening alternatives that is generated if the highway widening alternative is selected as a preferred corridor alternative.
  - The attributes of sections of wide right-of-way lands currently owned by MTO along portions of the existing highway will be considered under the evaluation factor, sub-factor or criteria presented in Exhibit 7.2 and Supporting Document #5 in '*Report A – Study Plan*'. These sections of wide right-of-way are not of themselves a corridor alternative.
  - In Supporting Document #2, Report A identifies that:
    - at the completion of the preliminary planning phase of the study, conceptual areas of widening may be selected as a corridor alternative to be carried forward in the study;
    - in the detailed planning phase of the study, if widening is selected as a corridor alternative to be carried forward, the specific location, extent and direction of widening will be identified; and
    - in the preliminary design phase of the study, the calculated horizontal and vertical alignment and cross-section will be developed.

    These will be presented at future public information centres.

- With respect to local bypasses:
  - Local bypasses to the south of Stratford, Shakespeare and New Hamburg are included in the corridor alternatives that were screened to be carried forward for further

assessment in the study because they could make a significant contribution towards addressing the transportation problems and opportunities.

- The northerly limit of local bypass and new corridor alternatives is as close to Shakespeare as it can be and still have sufficient spacing in which to provide the necessary intersection and associated turning lanes for access to Shakespeare and clearance for a grade separation at the railroad.
- Precedent from many projects in Ontario and North America indicated that impacts associated with the short list of corridor alternatives in and around Shakespeare can reasonably be mitigated. The existing conditions in and around Shakespeare are not sufficiently unique to justify a tunnel as a reasonable alternative to address the problems and opportunities being addressed by this study, or to mitigate impacts. It will therefore not be carried forward.
- The specifics regarding grade separations and vertical/horizontal alignment shifts of highway, road and railways associated with the above would be developed following Public Information Centre #3.
- The study team is not investigating moving the railway southerly to accommodate a new corridor because any marginal benefits with respect to a new provincial highway corridor would be outweighed by the cost and footprint impacts associated with realignment of the railway corridor which would extend over a longer length due to rail design standards.
- In Exhibit 7.2, and Supporting Document #5, Report A indicates that one of the sub-factors for the evaluation of alternatives is traffic safety. The transition from a new corridor to the existing highway would be considered under this sub-factor.
- In Supporting Document #2, Report A identifies that:
  - at the end of the preliminary planning phase of the study, conceptual local bypasses of Stratford, Shakespeare and New Hamburg may be selected as corridor alternatives to be carried forward in the study;
  - in the detailed planning phase of the study, if local bypasses were selected as a corridor alternative to be carried forward, specific routes will be identified; and
  - in the preliminary design phase of the study, calculated horizontal and vertical alignment and cross-section will be developed

  These will be presented at future public information centres.

- With respect to new corridors:
  - A new corridor to the south of existing Highway 7&8 is included in the corridor alternatives that were screened to be carried forward for further assessment in the study because it could make a significant contribution towards addressing the transportation problems and opportunities.
  - The study team is <u>not</u> investigating a trucks-only lane on either side of the railway because of the significant geometric challenges that would be associated with access and egress, and because new general-purpose lanes on a single right-of-way would provide a greater overall benefit.
  - The study team is <u>not</u> investigating a new corridor with no access between Stratford and New Hamburg, because this would restrict access and egress to Shakespeare and to key municipal arterials that a new corridor should be designed to serve.

- Maintenance of provincial highways is undertaken according to cross-Ontario MTO standards. Accordingly, maintenance will not be considered in the evaluation of corridor alternatives.
- In Exhibit 7.2, and Supporting Document #5, Report A indicates that one of the sub-factors for the evaluation of alternatives is traffic safety. The transition from a new corridor to the existing highway would be considered under this sub-factor.
- In Supporting Document #2, Report A identifies that:
  - at the end of the preliminary planning phase of the study, a conceptual new corridor for a new provincial highway and/or transitway may be selected as a corridor alternative to be carried forward in the study;
  - in the detailed planning phase of the study, if a new corridor was selected as a corridor alternative to be carried forward, specific routes will be identified; and
  - in the preliminary design phase of the study, calculated horizontal and vertical alignment and cross-section will be developed

  These will be presented at future public information centres.
- The consideration of a new highway across southern Ontario is well beyond the scope of this study, and cannot be carried forward.

6.0 ASSESSMENT AND SCREENING OF LONG LIST OF CORRIDOR ALTERNATIVES, AND SELECTION OF SHORT LIST OF CORRIDOR ALTERNATIVES

The long list of corridor alternatives identified in **Exhibit 5.1** and mapped in **Exhibits 5.2 through 5.4** were assessed and screened to determine which of them should be carried forward in a short list of corridor alternatives that would be subject of a detailed comparative evaluation.

Exhibit 6.1 presents the criteria that were used to screen the long list of corridor alternatives.

Exhibit 6.1: Screening Criteria for Long List of Corridor Alternatives	
Natural Environment Factors	Terrestrial Ecosystems: Minimize direct loss of Provincially Significant Wetlands (PSWs), Areas of Natural and Scientific Interest (ANSIs), Environmentally Sensitive Areas (ESAs) and core woodlots
	Fisheries and Aquatic Ecosystems, Surface Water: Minimize number of stream crossings
Land Use and Socio-Economic Factors	Land Use - Resources: Minimize loss of Canada Land Inventory Class 1,2,3 agricultural land
	Land Use Planning Policies, Goals, Objectives: Minimize loss of approved development lands
	Land Use - Community, Industry: Minimize removal of existing development
Cultural Environment Factors	Built Heritage: Minimize loss of heritage buildings
	Cultural Heritage Landscapes: Minimize loss of amenities in heritage downtown areas
Transportation Factors	Network Connectivity: Minimize out of way travel
	Mobility and Accessibility: Proximity of corridor to population centres

This screening was done on a section-by-section basis across the analysis area, and is presented in tabular format in the following screening tables in Appendix A:

- Screening of Long List of Corridor Alternatives – Section 1: From Highway 8 West of Stratford to Highway 7;
- Screening of Long List of Corridor Alternatives – Section 2: From Highway 7 to East of Stratford;
- Screening of Long List of Corridor Alternatives – Section 3: From East of Stratford to West of New Hamburg; and
- Screening of Long List of Corridor Alternatives – Section 4: From West of New Hamburg to East of New Hamburg.

The short list of corridor alternatives resulting from this screening process is provided in **Exhibit 6.2** and shown on the map in **Exhibits 6.3**.

Exhibit 6.2 also provides:

- the corridor number and corridor name that is used to identify these corridors for purpose of comparative evaluation (described in Section 7);
- the unique set of node numbers that identify the common points of intersection of each corridor segment that is subject to comparative evaluation, and which is shown on the map provided in **Exhibits 6.3**; and
- a brief description of each corridor alternative.

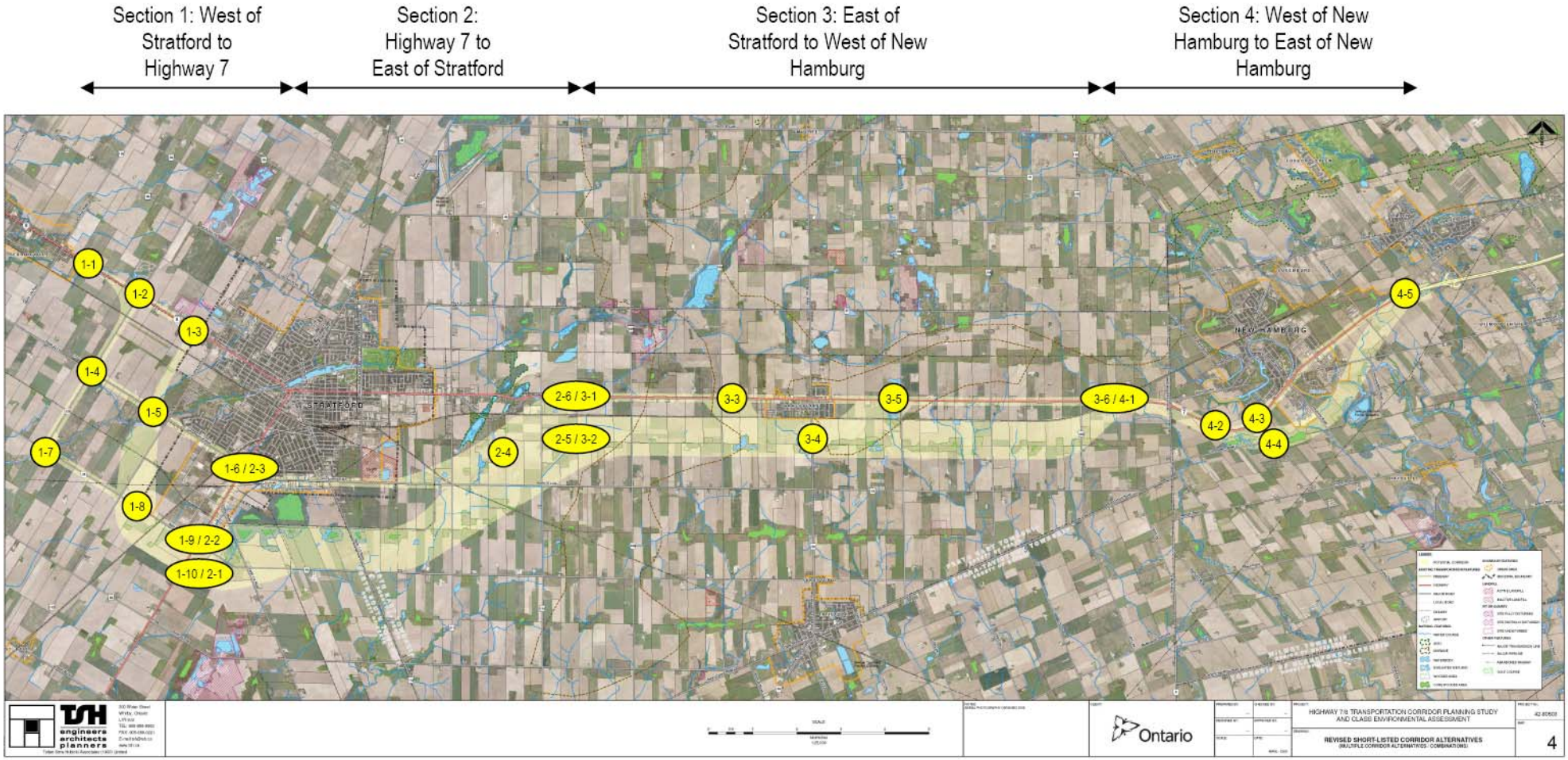
Exhibit 6.2: Short List of Corridor Alternatives – Description and Itemization by Nodes – Sections 1, 2, 3 and 4			
Corridor Number	**Corridor Name**	**Node Identification on Map**	**Description of Corridor Alternative**
Section 1: West of Stratford to Highway 7			
1A	Stratford South Bypass Corridor 1	1-1, 1-2, 1-4, 1-7, 1-8, 1-9	• 2-lane Highway 8 with geometric improvements from mid-way between Perth Roads 130 and 125 to Perth Road 125; • Modification of intersection at Highway 8 and Perth Road 125; • 2-lane Perth Road 125 with geometric improvements from Highway 8 to Perth Line 29; • Modification of intersection at Perth Road 125 and Perth Line 29; • 2/3-lane Perth Line 29 with geometric improvements from Perth Road 125 to Highway 7.
1B	Stratford South Bypass Corridor 2	1-1, 1-2, 1-3, 1-5, 1-8, 1-10	• 2-lane Highway 8 with geometric improvements from mid-way between Perth Roads 130 and 125 to west of O'Loane Avenue; • New 2-lane highway from Highway 8 west of O'Loane Avenue southerly to south of Perth Line 29 and then easterly to Highway 7 south of Perth Line 29.
1C	Stratford Lorne Avenue Corridor 1	1-1, 1-2, 1-4, 1-5, 1-6	• 2-lane Highway 8 with geometric improvements from mid-way between Perth Roads 130 and 125 to Perth Road 125; • Modification of intersection at Highway 8 and Perth Road 125; • 2-lane Perth Road 125 with geometric improvements from Highway 8 to Perth Line 32/Lorne Avenue; • Modification of intersection at Perth Road 125 and Perth Line 32/Lorne Avenue; • 2/3-lane Perth Line 32/Lorne Avenue with geometric improvements from Perth Road 125 to Highway 7.

Exhibit 6.2: Short List of Corridor Alternatives – Description and Itemization by Nodes – Sections 1, 2, 3 and 4			
Corridor Number	**Corridor Name**	**Node Identification on Map**	**Description of Corridor Alternative**
1D	Stratford Lorne Avenue Corridor 2	1-1, 1-2, 1-3, 1-5, 1-6	• 2-lane Highway 8 with geometric improvements from mid-way between Perth Roads 130 and 125 to west of O'Loane Avenue; • New 2-lane highway from Highway 8 west of O'Loane Avenue southerly to Lorne Avenue; • 2/3-lane Lorne Avenue with geometric improvements from intersection of new highway west of O'Loane Avenue to Highway 7.
Section 2: Highway 7 to East of Stratford			
2A	Stratford South Bypass Corridor 1	2-1, 2-4, 2-6	• 4-lane bypass from south of Perth Line 29 at Highway 7 to Highway 7&8 east of Perth Road 110.
2B	Stratford South Bypass Corridor 2	2-1, 2-4, 2-5	• 4-lane bypass from south of Perth Line 29 at Highway 7 to a point mid-way between Perth Line 33 and Highway 7&8, located east of Perth Road 110.
2C	Stratford Lorne Avenue Corridor 1	2-1, 2-2, 2-3, 2-4, 2-6	• Widen Highway 7 from 4 to 4/5 lanes from south of Perth Line 29 to Lorne Avenue; • Widen Lorne Avenue from 2 to 4/5 lanes from Highway 7 to Perth Road 111; • New 4-lane highway from Lorne Avenue at Perth Road 111 to Highway 7&8 east of Perth Road 110.
2D	Stratford Lorne Avenue Corridor 2	2-1, 2-2, 2-3, 2-4, 2-5	• Widen Highway 7 from 4 to 4/5 lanes from south of Perth Line 29 to Lorne Avenue; • Widen Lorne Avenue from 2 to 4/5 lanes from Highway 7 to Perth Road 111; • New 4-lane highway from Lorne Avenue at Perth Road 111 to a point mid-way between Perth Line 33 and Highway 7&8, located east of Perth Road 110.

Exhibit 6.2: Short List of Corridor Alternatives – Description and Itemization by Nodes – Sections 1, 2, 3 and 4			
Corridor Number	**Corridor Name**	**Node Identification on Map**	**Description of Corridor Alternative**
Section 3: East of Stratford to West of New Hamburg			
3A	Existing 7&8 Corridor from East of Stratford to West of New Hamburg	3-1, 3-3, 3-5, 3-6	• Widen Highway 7&8 from 2 to 4/5 lanes from east of Perth Road 110, through Shakespeare, to mid-way between Perth Road 102 and Wilmot–Easthope Road (railway structure).
3B	Shakespeare South Bypass Corridor 1	3-1, 3-3, 3-4, 3-5, 3-6	• Widen Highway 7&8 from 2 to 4/5 lanes from east of Stratford to west of Shakespeare; • 4-lane bypass from Highway 7&8 west of Shakespeare, continuing south of Shakespeare, to Highway 7&8 east of Shakespeare; • Widen Highway 7&8 from 2 to 4/5 lanes from east of Shakespeare to Highway 7&8 mid-way between Perth Road 102 and Wilmot–Easthope Road (railway structure).
3C	Shakespeare South Bypass Corridor 2	3-1, 3-3, 3-4, 3-6	• Widen Highway 7&8 from 2 to 4/5 lanes from east of Stratford to west of Shakespeare; • 4-lane bypass from Highway 7&8 west of Shakespeare to south of Shakespeare; • New 4 lane highway from south of Shakespeare to Highway 7&8 mid-way between Perth Road 102 and Wilmot–Easthope Road (railway structure).
3D	Shakespeare South Bypass Corridor 3	3-2, 3-4, 3-5, 3-6	• New 4-lane highway from a point mid-way between Perth Line 33 and Highway 7&8, located east of Perth Road 110 to south of Shakespeare; • 4-lane bypass from south of Shakespeare to Highway 7&8 east of Shakespeare; • Widen Highway 7&8 from 2 to 4/5 lanes from east of Shakespeare to mid-way between Perth Road 102 and

Exhibit 6.2: Short List of Corridor Alternatives – Description and Itemization by Nodes – Sections 1, 2, 3 and 4			
Corridor Number	**Corridor Name**	**Node Identification on Map**	**Description of Corridor Alternative**
			Wilmot–Easthope Road (railway structure).
3E	New Corridor from Stratford to New Hamburg	3-2, 3-4, 3-6	• New corridor south of Highway 7&8 from east of Perth Road 110 to Highway 7&8 mid-way between Perth Road 102 and Wilmot–Easthope Road (railway structure).
Section 4: West of New Hamburg to East of New Hamburg			
4A	Existing 7&8 Corridor through New Hamburg	4-1, 4-2, 4-3, 4-5	• Widen Highway 7&8 from 2 to 4/5 lanes from mid-way between Perth Road 102 and Wilmot–Easthope Road (railway structure) to existing 4-lane section immediately west of Wilmot–Easthope Road; • Modification of intersection at Wilmot-Easthope Road; • Modification of Highway 7&8 through New Hamburg with median barrier, modification or closure of intersections, plus possible local segments of service road.
4B	New Hamburg South Bypass Corridor	4-1, 4-2, 4-4, 4-5	• Widen Highway 7&8 from 2 to 4/5 lanes from mid-way between Perth Road 102 and Wilmot–Easthope Road (railway structure) to existing 4-lane section immediately west of Wilmot–Easthope Road; • Modification of intersection at Wilmot-Easthope Road; • 4-lane bypass from mid-way between Wilmot–Easthope Road and Walker Road, continuing south of New Hamburg, to the median-divided Highway 7&8 east of New Hamburg.
Note: In addition to the number of through lanes noted above, turning lanes are required at intersections and will be determined through subsequent design phases.			

Exhibit 6.3: Map of Short List of Corridor Alternatives with Nodes Identified



7.0 ASSESSMENT AND EVALUATION OF SHORT LIST OF CORRIDOR ALTERNATIVES AND SELECTION OF PREFERRED CORRIDOR(S)

The short list of corridor alternatives is provided in **Exhibit 6.2** and shown on the map provided in **Exhibit 6.3**.

A detailed comparative assessment/evaluation and selection process for this short list of corridor alternatives was undertaken using qualitative, reasoned argument methodology and the environmental and transportation factors, sub-factors, criteria and indicators identified in **Exhibit 7.1**. This is outlined in Sections 7.1 and 7.2 below.

7.1 Assessment and Evaluation of Short List of Corridor Alternatives

Each alternative in the short list of corridor alternatives was assessed and evaluated as follows:

- A qualitative assessment (high, medium or low) of potential impact for each of the natural environment, land use/social environment, and cultural environment criteria identified in **Exhibit 7.1** was made based on the secondary source environmental information provided in Report F - Part 1 (which is described in Chapter 4 of this report). The evaluation criteria in **Exhibit 7.1** include some modifications based upon stakeholder input.
- A qualitative assessment (high, medium or low) of the potential to support each of the transportation criteria identified in **Exhibit 7.1**.
- A brief rationale for each of these high-medium-low qualitative assessments was provided.
- A summary evaluation of each corridor alternative was made (most preferred corridor, or moderately preferred corridor, or least preferred corridor) for each factor group (natural environment, land use/social environment, cultural environment, and transportation).

The results of the assessment and evaluation process for the short list of corridor alternatives are documented in the tables in **Appendix B**.

The assessment and evaluation of Sections 1 and 2 was combined, in order to ensure that the assessment would be based upon continuous/connecting west-to-east linkages. This was necessary because there is not a common “node” at the junction of Sections 1 and 2.

Exhibit 7.1: Evaluation Factors, Sub-factors, Criteria and Indicators for Assessment and Evaluation of the Short List of Corridor Alternatives

FACTOR/SUB-FACTOR	CRITERIA	INDICATOR FOR ASSESSMENT AND EVALUATION OF SHORT LIST OF CORRIDOR ALTERATIVES	RATIONALE FOR FACTOR, SUB-FACTOR AND CRITERIA EVALUATION
1.0 Natural Environment Factors			
1.1 Fisheries and Aquatic Ecosystems	1.1.1 Fish Habitat and 1.1.2 Fish Community	Potential to affect fish species at risk (vulnerable, threatened or endangered fish species) and their habitat.	• The crossing of water bodies by transportation facilities has the potential to affect fish and aquatic habitat features through impediments to fish passage, loss of vegetation, changes to channel geomorphology (channel form and function), substrate and cover, changes to the water quality due to erosion and sedimentation, stormwater discharge and temperature changes. • PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements_ identified below. • PPS Policy 2.1.5 requires that development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements. In addition, policy 2.1.6 restricts development and site alteration on adjacent lands to natural heritage features (e.g. significant - wetlands, woodlands, valleylands etc.) unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions. • It is an objective of the PPS to protect, improve or restore the quality and quantity of surface water, including headwaters. Surface water features are an important part of the natural, economic and cultural landscape. PPS Policy 2.2.2 restricts development and site alteration in or near sensitive surface water features and groundwater features such that these features and their related hydrologic functions will be protected, improved or restored. • The Federal Fisheries Act prohibits the harmful alteration, disruption or destruction of fish habitat, the introduction of deleterious substances to fish habitat and the blockage of fish passage. Where impacts cannot be mitigated, a Fisheries Compensation Plan is prepared in consultation with the CA/DFO to address agency concerns/requirements. • Subsection 36(3) of the Fisheries Act prohibits the deposit of a deleterious substance, directly or indirectly, into waters frequented by fish.
1.2 Terrestrial Ecosystems	1.2.1 Wildlife	Potential to affect wildlife species at risk (special concern, endangered or threatened wildlife species) and provincially rare (S-1 – S3) species and their habitat.	• PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements identified below. • The presence of species identified by COSEWIC and COSSARO as vulnerable, threatened or endangered (VTE) requires consideration in the generation of route alternatives. Species or populations may be under pressure or susceptible to stress as a result of development. Since habitat for these species is often limited, impacts to areas where the presence of species at risk is suspected or confirmed should be avoided or minimized. The assessment should have regard for the PPS objective that development and site alteration will not be permitted in significant portions of the habitat of Threatened and Endangered Species. The reported presence of Species of Conservation Concern (as defined by MNR in the Significant Wildlife Habitat Technical Guides (SWHTG – MNR, 2000) and TRCA species of concern will also be considered. • The general prohibitions under the Species at Risk Act, which apply to federally protect migratory bird and aquatic species at risk as well as to all endangered and threatened species on federal lands. • Section 6 of the Migratory Bird Regulations under the Migratory Birds Convention Act, 1994, which prohibits the incidental take of migratory birds and the disturbance and destruction of taking of the nest of a migratory bird. • PPS Policy 2.1.4 prohibits development and site alteration in significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E. The assessment should have regard for this objective. Wetlands serve ecological functions to varying degrees including groundwater recharge/discharge, flood attenuation, wildlife movement corridors, habitat for flora and fauna, and water filtration. • The Canadian Federal Policy on Wetland Conservation promotes the goal of no net loss of wetland function in areas where wetland loss has reached critical levels.
	1.2.2 Wetlands	Potential to affect provincially (PSW) and locally (LSW) significant wetlands.	• PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements identified below. • It is important to recognize identified ecologically functional linkages between factors and sub-factors (within a natural heritage system) that contribute to landscape connectivity. The assessment should have regard for PPS Policy 2.1.2 which states that the diversity and connectivity of natural features in an area, and the long term ecological function and biodiversity of natural heritage systems, should be maintained, restored, or where possible improved, recognizing linkages between and among natural heritage features and areas, surface water features and groundwater features. The avoidance of wildlife corridors minimizes risks of wildlife mortality during operation of the facility. Secondary information on ecosystem linkages (aquatic and terrestrial) will be reviewed and supplemented by other available sources (including contacts with specialists, field findings).
	1.2.3 Forests	Potential to affect woodlands, especially larger core woodlands and interior habitat	• PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements identified below. • The PPS Policy 2.1.4 only permits development and site alteration in significant woodlands south and east of the Canadian Shield where it can be demonstrated that there will be no negative impacts on the natural features or their ecological function. The assessment should have regard for the PPS protection objectives. • The study area is located within the Carolinian Zone and may have important representations of Carolinian species assemblages. These natural heritage areas require protection. • Small degraded, isolated remnant woodlots and wetlands can have ecological value. Large natural and relatively undisturbed features have high ecological sensitivity and value.
	1.2.4 Vegetation	Potential to affect populations of rare vegetation, including species at risk, provincially rare species and provincially rare vegetation communities.	
	1.2.5 Designated/Special Areas	Potential to affect designated/special areas.	• PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements identified below. • Important habitat areas, which may not be associated with other features protected by other means (ANSIs, ESAs, PSWs), require consideration during the generation and evaluation of alternatives. These areas may be of local or regional significance to wildlife that is not necessarily at risk. Other areas may be identified as important habitat for wildlife species requiring larger habitat blocks or with specialized habitat requirements. The assessment should have regard for PPS Policy 2.1.4 which states that development and site alteration shall not be permitted in certain listed significant wetlands, woodlands, valleylands, wildlife habitat and areas of natural and scientific interest. Development and site alteration may be permitted in significant wildlife habitat if it can be demonstrated that there will be no negative impacts on the natural features or functions for which the area is identified. • Areas that have been designated as Environmentally Significant Areas, Areas of Natural and Scientific Interest or Significant Valleylands may have landforms or plant communities associated with the area that are designated locally, regionally or provincially significant, or provide important corridors. • ESAs are not explicitly included in the Provincial Policy Statement, but are often associated with other features subject to the policy statement (e.g. ANSIs, significant woodlands, significant habitat of endangered species or threatened species, significant wetlands, valleylands and wildlife habitat). They are also reflected in the MNR Land Use Guidelines, Conservation Authority Plans and municipal land use plans. • PPS Policy 2.1.6 provides for development and site alteration on adjacent lands to listed natural heritage features and areas, only where the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological function. • Policy 4.2.1.2 of the Greenbelt Plan 2005 states that the location and construction of infrastructure and expansions, extensions, operations and maintenance of infrastructure in the Protected Countryside are subject to specified criteria.

Exhibit 7.1: Evaluation Factors, Sub-factors, Criteria and Indicators for Assessment and Evaluation of the Short List of Corridor Alternatives

FACTOR/SUB-FACTOR	CRITERIA	INDICATOR FOR ASSESSMENT AND EVALUATION OF SHORT LIST OF CORRIDOR ALTERATIVES	RATIONALE FOR FACTOR, SUB-FACTOR AND CRITERIA EVALUATION
1.3 Groundwater	1.3.1 Areas of Ground water Recharge and Discharge	Potential to affect volume of groundwater at recharge and discharge areas (depends on presence of low permeability, i.e. till or fine grained glaciolacustrine sediments, or high permeability, i.e. sand, gravels, fractured bedrock, soils at surface) Potential to affect quality of groundwater at recharge and discharge areas (depends on attenuation capacity of soils, and, rate of groundwater infiltration and/or discharge)	• PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements identified below. • Section 2.2 of the PPS identifies that the quality and quantity of water (including groundwater) should be protected improved or restored. The assessment should have regard for this objective. Transportation facilities have the potential to impact groundwater resources through removal of recharge areas, interference with discharge areas/shallow groundwater zones, and introduction of contaminated runoff. Consequently, impacts to areas identified as being susceptible to groundwater contamination and/or interference should be avoided/minimized to the extent possible.
	1.3.2 Groundwater Source and Wellhead Protection Areas (WHPAs)	Potential to affect groundwater wellhead protection areas (i.e., is route upgradient of or within a delineated wellhead protection area)	
	1.3.3 Large Volume Wells	Potential to affect large volume wells	
	1.3.4 Private Wells	To be considered in the detailed planning and preliminary design phases	
	1.3.5 Groundwater-Sensitive Ecosystems	To be considered in the detailed planning and preliminary design phases	
1.4 Surface Water	1.4.1 Watershed / Sub-Watershed Drainage Features/Patterns	Potential to affect permanent watercourses.	• Surface water features are an important part of the natural landscape in the Analysis Area. There are a number of permanent and intermittent watercourses flowing through the Analysis Area as well as a number of provincially and locally significant wetlands and various unnamed tributaries and agricultural swales present in the analysis area. Consequently, surface water quantity and quality could be negatively affected by the undertaking (e.g., reduction in surface water quantity, degradation of surface water quality, etc.) and therefore the ability to protect surface water quality, including the function of headwaters, need to be considered in the evaluation.
	1.4.2 Surface Water Quality and Quantity	To be considered in the detailed planning and preliminary design phases	
2.1 Land Use Planning Policies, Goals, Objectives	2.1.1 First Nations Land Claims	Potential to affect areas for which there are First Nations outstanding land claims	• It is important that First Nations People's land claims within the Analysis Area are documented • The Ontario Provincial Policy Statement notes that long-term prosperity and social well-being of Ontarians depends on maintaining strong communities, a clean and healthy environment and a strong economy. Transportation facilities play a key role in achieving these objectives. • There is a need to co-ordinate transportation planning with municipal land planning as established through Official Plans, Secondary Plans and Zoning by-laws as these specify land uses supported by residents, municipalities and the province. • The Greenbelt Plan notes that infrastructure is important to economic well-being, human health and quality of life in southern Ontario and the Greenbelt. • Policy 4.2.1 of the Greenbelt Plan states that, for lands within the protected countryside, as defined by the Greenbelt Plan, 2005, infrastructure must meet one of the following policies; it supports agriculture, recreation and tourism, rural settlement areas, resource use or the rural economic activity that exists and is permitted within the Greenbelt; or it serves the significant growth and economic development expected in southern Ontario beyond the Greenbelt by providing for the appropriate infrastructure connections among urban growth centers and between these centers and Ontario's borders.
	2.1.2 Provincial/Federal land use planning policies/goals/objectives	Potential to support federal/provincial land use policies/goals/objectives	
	2.1.3 Municipal (regional and local) land use planning policies/goals/objectives (Official Plans)	Potential to support municipal Official Plans	
	2.1.4 Development Objectives of Private Property Owners	To be considered in the detailed planning and preliminary design phases	
2.2 Land Use / Community	2.2.1 Indian Reserves	Potential to affect Indian Reserves	• It is important that potential and significance of impacts to Indian Reservations and sacred grounds be recognized and addressed in accordance with Ontario's New Approach to Aboriginal Affairs (Spring 2005) and the Grand River Notification Agreement • Property takings / displacements and changes / effects on local access have a significant impact on owners and tenants as well as the broader community. • Property takings / displacements and changes / effects on local access have a significant impact on owners and tenants as well as the broader community and customer/client base. • Disruption or displacement of institutional features may adversely affect the users of these features / facilities and the broader community.
	2.2.2 First Nations' Sacred Grounds	To be considered in the detailed planning and preliminary design phases	
	2.2.3 Urban and Rural Residential	Potential to affect urban and residential areas	
	2.2.4 Commercial/Industrial	Potential to affect commercial and industrial areas	
	2.2.5 Tourist Areas and Attractions (e.g. museums, theatres, etc.)	Potential to affect tourist areas and attractions	
	2.2.6 Community Facilities / Institutions (e.g. hospitals, schools, places of worship, unique community features)	Potential to affect community facilities and institutions	
	2.2.7 Municipal Infrastructure and Public Service Facilities (e.g. sewage and water services, police/emergency services, local utilities)	To be considered in the detailed planning and preliminary design phases	

Exhibit 7.1: Evaluation Factors, Sub-factors, Criteria and Indicators for Assessment and Evaluation of the Short List of Corridor Alternatives

FACTOR/SUB-FACTOR	CRITERIA	INDICATOR FOR ASSESSMENT AND EVALUATION OF SHORT LIST OF CORRIDOR ALTERATIVES	RATIONALE FOR FACTOR, SUB-FACTOR AND CRITERIA EVALUATION
2.3 Noise Sensitive Areas (NSAs) (residential areas and sensitive institutional uses)	2.3.1 Highway Noise	Potential for increased traffic noise in NSAs	• The Ontario Ministry of the Environment (MOE) has published Noise Pollution Control (NPC) and Land Use (LU) planning guidelines. These MOE documents establish ambient noise criteria, based on one-hour average sound pressure levels (Leq), and evaluate ambient vibration levels based on either Peak or RMS velocity, as applicable. Noise levels generally rise with increased traffic volumes. • MOE/MTO Noise Protocol requires that highway noise be considered in all Provincial (MTO) Transportation projects
	2.3.2 Construction Noise	To be considered in the detailed planning and preliminary design phases	• The MOE/MTO Noise Protocol requires that construction noise be addressed on MTO construction projects • Construction noise may be subject to municipal (I.e., local) noise by-law
2.4 Agriculture	2.4.1 Agriculture - Canada Land Inventory Class 1,2,3 Land	Potential to affect Canada Land Inventory Class 1,2,3 Land	• PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements identified below. • Section 2.3 of the Provincial Policy Statement requires prime agricultural areas be protected for long-term use for agriculture. Prime agricultural areas include specialty crop areas and Classes 1, 2 and 3 soils in this order of priority. • Ontario Ministry of Agriculture and Food (OMAF) has provincial guidelines for protection of prime agricultural lands as well as agricultural structures or infrastructure
	2.4.2 Agricultural -Farm Infrastructure	Potential to affect farm infrastructure (field tile drainage systems/outlets, irrigation systems, barns / silos/ structures, etc.	
	2.4.3 Agriculture – Operations on Individual Farms	Potential to sever/disrupt in-farm field operations (planting, harvesting, grazing, nutrient management, etc.)	
	2.4.4 Agriculture – Transportation Linkages between Multiple-Farm Operations	Potential to sever/disrupt transportation linkages between multiple-farm operations (movement between linked multiple-farm operations of equipment, materials, workers, etc.)	
2.5 Land Use / Resources	2.5.1 First Nations People's Treaty Rights or Use of Land and Resources for Traditional Purposes (e.g. hunting, fishing, harvesting of country foods, harvesting of medicinal plants)	Potential to affect First Nations People's Treaty Rights or use of land and resources for traditional purposes	• It is important that potential and significance of impacts to Indian Reservations and sacred grounds be recognized and addressed in accordance with Ontario's New Approach to Aboriginal Affairs (Spring 2005) and the Grand River Notification Agreement Planning of transportation facilities must address First Nations People's treaty rights, and be conducted in accordance with Ontario's New Approach to Aboriginal Affairs (Spring 2005) and the Grand River Notification Agreement
	2.5.2 Parks and Recreational Areas (e.g. national/provincial parks, conservation areas, municipal parks, public spaces, golf courses, trails, greenways and open space linkages)	Potential to affect parks and recreational areas	• Disruption or displacement of recreational / community features may adversely affect the users of the facility/feature. Parks are generally lands in public ownership aimed at preserving significant and sometimes unique components of the environment, and providing recreational opportunities. These areas should be avoided to the extent possible however, in some cases, transportation facilities can be situated along park boundaries without adversely affecting the park. Frequently, parts are isolated islands surrounded by development and as such they can function as wildlife refuge areas or may facilitate wildlife movement opportunities. PPS, 2005, Policy 1.5.1 states that healthy active communities shall be promoted by (d) considering the impacts of planning decisions on provincial parks, conservation reserves and conservation areas.
	2.5.3 Aggregates, Mineral-Resources	Potential to affect aggregate and mineral resources sites	• PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements identified below. • Sections 2.4 and 2.5 of the Provincial Policy Statement have the objective of protecting mineral and aggregate resources for the long term. The policy statement makes provisions for the protection of both known deposits and areas of potential. MTO adheres to requirements of the Aggregates Act to protect aggregate resources while minimizing sterilization of mineral aggregate resources as much as possible.
2.6 Major Utility Transmission Corridors (e.g. railroads, hydro, gas, oil)		Potential to affect major utility transmission corridors	• Utility corridors are subject to regulations from owners and governing authorities for operation of utilities including National Energy Board, Ontario Energy Board, Transport Canada, Railway Safety Act, etc.
2.7 Contaminated Property and Waste Management (e.g. Landfills, Hazardous Waste Sites, "Brownfield" Areas, other known contaminated sites, and high-risk contamination areas)		Potential to affect landfills (open and closed), hazardous waste sites "brownfield" areas, and other known contaminated sites, and high-risk contamination areas	• Localized significant sources of property contamination can be associated with operating and closed waste disposal sites, the latter being of more significance due to their difficulty in accurately locating them. Consideration should be given to avoiding/ minimizing effects in the "area of influence" of waste disposal sites. • There is the potential that some of the lands in the project area may be contaminated due to the nature of existing and historical land use especially in older commercial/industrial areas and in areas with heavy industrial activity. Sources of potential property contamination in rural areas are most commonly associated with service stations; isolated pockets of commercial/industrial areas; unknown fill areas; scrap yards and other high-risk land uses. Impacts to these areas should be avoided / minimized to the extent possible. • Appropriate assessments will be carried on these sites and the project will comply with the appropriate.
2.8 Landscape Composition	2.8.1 Scenic Composition (total aesthetic value of landscape components)	To be considered in the detailed planning and preliminary design phases	• Visual impacts on adjacent land use and effects on the visual experiences for users of the facility will be considered.
	2.8.2 Sensitive Viewer Groups	To be considered in the detailed planning and preliminary design phases	
	2.8.3 Scenic value of views/vistas from the transportation facility	To be considered in the detailed planning and preliminary design phases	
	2.8.4 Specimen Trees	To be considered in the detailed planning and preliminary design phases	
2.9 Air Quality	2.9.1 Regional Air Quality and Total Contaminant / Greenhouse Emissions	Potential to reduce the air quality consequences of traffic congestion.	• Air Quality impacts have the potential to affect human health. • Alternatives through or near urban areas create the potential for increased contaminant levels.

Exhibit 7.1: Evaluation Factors, Sub-factors, Criteria and Indicators for Assessment and Evaluation of the Short List of Corridor Alternatives

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			• Dust emissions associated with construction related activities could cause temporary air quality issues. • Greenhouse gases contribute to global warming.
	2.9.2 Local Air Quality and Sensitive Receptors to Air Pollutants		
3.0 Cultural Environmental Factors			
3.1 Cultural Heritage – Built Heritage and Cultural Landscapes	3.1.1 Buildings or "Standing" Sites of Architectural or Heritage Significance or Ontario Heritage Foundation Easement Properties	Potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easements properties	• A new transportation facility may result in the loss of built heritage features resulting in a depletion of the cultural heritage resources / heritage character in the area. • Impacts to built heritage features should be avoided to the extent possible, or as a secondary alternative relocation rather than demolition could be considered. • MTO is required to operate in accordance with Cemeteries Act MTO is required to operate in accordance with Ontario Heritage Act
	3.1.2 Heritage Bridges	Potential to affect heritage bridges	
	3.1.3 Areas of Historic 19th Century Settlement	Potential to affect areas of historic 19th century settlement	
	3.1.4 Cultural Heritage Landscapes (collection of individual man-made features modifying pristine landscape)	To be considered in the detailed planning and preliminary design phases	
	3.1.5 First Nations' Burial Sites	To be considered in the detailed planning and preliminary design phases	
	3.1.6 Cemeteries	Potential to affect cemeteries	
3.2 Cultural Heritage - Archaeology	3.2.1 Pre-Historic and Historic First Nations Sites	Potential to affect significant pre-historic and historic First Nations archaeological sites of extreme local, provincial or national interest	• Disturbance or destruction of certain archaeological sites of extreme local, provincial or national interest represents a significant cultural loss. • Impacts to archaeological resources/sites should be avoided or minimized to the extent possible. • Significant archaeological sites shall be preserved and avoided in accordance with Ontario Ministry of Culture (OMC), and Aboriginal People's policies and procedures, and all others shall be excavated to OMC standards
	3.2.2 Historic Euro-Canadian Archaeological Sites	Potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest	
4.0 Area Economy			
Deleted due to duplication of considerations addressed in Factors 2.2.4, 2.2.5, 5.1.2, 5.1.3, and 5.4.3 (deletion eliminated double-counting).			
5.0 Transportation Factors			
5.1 Area Transportation System Capacity and Efficiency	5.1.1 Federal/Provincial/Municipal transportation planning policies/goals/objectives	Potential to support federal/provincial/ municipal transportation planning policies/goals/objectives	• The Official Plans of municipalities within the Analysis Area, and the strategic growth policies and targets embodied in the Provincial Growth Plan, suggest that population and employment growth will continue over time and will be important to future economic prosperity. In order for this economic growth to be realized, an efficient transportation system to move both people and goods within and through the Analysis Area is considered fundamental. • The effectiveness of each alternative needs to be determined. • There is a need to determine how transportation solutions address future needs in relation to existing and proposed future transportation infrastructure. • There is a need to determine how well transportation solutions operate during peak periods. • Transportation agencies have developed design standards to ensure that safety objectives are reflected in all new/expanded infrastructure. These standards are not subject to modification or compromise to avoid/reduce impacts, costs, etc. • Goods movement between economic centres and growth areas incurs out-of-way travel and delay due to congestion through the Analysis Area. Reducing travel times, out-of-way travel and improving travel time reliability would lead to lower transportation costs and benefit the local, provincial and national economy. • There is a need to determine how well transportation solutions operate during peak periods. • There is a need to determine emergency access and safety issues related to transportation solutions. • There is a need to determine the flexibility of transportation solutions to address future needs beyond the forecasted planning horizon. • Physical conditions and staging issues can affect the feasibility of implementing transportation solutions. • There is the need identify the costs associated with possible transportation solutions. Construction costs can influence the feasibility of a given alternative.
	5.1.2 Efficient movement of people	Potential to support the efficient movement of people between communities and regions based on Level of Service (LOS) and volume to capacity (v/c) on a network, screenline and critical link basis	
	5.1.3 Efficient movement of goods	Potential to support efficient movement of goods between urban growth centres and regional intermodal facilities based on road network and Highway 24 corridor performance measures (LOS and travel speed)	
5.2 Area Transportation System Reliability / Redundancy		Potential to support system reliability and redundancy for travel (people and goods) between regions and communities during adverse conditions	
5.3 Safety	5.3.1 Traffic Safety	Potential to improve traffic safety based on opportunity to reduce congestion on area road network (LOS and v/c) and reduce the frequency of intersections and entrances in the Highway 24 corridor	
	5.3.2 Emergency Access	To be considered in the detailed planning and preliminary design phases	

Exhibit 7.1: Evaluation Factors, Sub-factors, Criteria and Indicators for Assessment and Evaluation of the Short List of Corridor Alternatives

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5.4 Mobility and Accessibility	5.4.1 Modal integration, balance and efficiency	Potential to improve modal choice and increase mode split for person trips between communities, regions and major transit station areas based on travel performance indicators (LOS, v/c, travel speed) at critical screenlines and on potential to provide higher order transit service in the Highway 24 corridor.	
	5.4.2 Linkages to Population and Employment Centres	Potential to improve accessibility to urban growth centres for people and goods movement based on higher order network continuity and connectivity	
	5.4.3 Recreation and Tourism Travel	Potential to support recreation and tourism travel within and to/from the Analysis Area by provision of higher order network (roads and transit) continuity and connectivity and through network performance indicators (LOS, v/c, travel speed)	
	5.4.4 Accommodation for pedestrians, cyclists and snowmobiles	Potential to accommodate pedestrians, cyclists within critical travel corridors in urbanized areas and snowmobiles in recognized rural trails	
5.5 Network Compatibility	5.5.1 Network Connectivity	Potential to improve transportation system connectivity within and to/from the analysis area	
	5.5.2 Flexibility for Future Expansion	Potential to address future transportation needs beyond the forecasted planning horizons	
5.6 Engineering	5.6.1 Constructability	Potential ease of implementation considering feasibility/difficulty of physical, property or environmental constraints	
	5.6.2 Compliance with Design Criteria	Not considered until the detailed planning phase	
5.12 Traffic Operations		Potential impact on traffic operations due to factors such as design features, private access, and transportation network connections	
NOTES:	Information to support the evaluation criteria and indicators for Preliminary Planning Assessment is drawn from secondary source information and preliminary field reconnaissance (the environmental information is documented in Report "F" – 1st Part)		

7.2 Selection of the Preferred Corridor Alternative

The selection of a preferred corridor alternative/combination was undertaken as follows:

- A summary assessment and summary evaluation of each corridor alternative was made for each factor group (natural environment, land use/social environment, cultural environment, and transportation), based upon the information presented in tables in Appendix B**.**
- An overall evaluation and a recommendation of which corridor alternative to select for each section of the analysis area was made, including the rationale (see below) for selecting one alternative over the others. This is also presented in tables in Appendix B**.**

The rationale for selecting the preferred alternative included, in part, the following:

- government legislation, policies and guidelines;
- municipal policy (i.e. Official Plans);
- issues and concerns identified by ministries, agencies and the municipalities during the course of this study as well as issues and concerns identified by interest groups and the general public during recent studies undertaken within the corridor; and
- project team expertise.

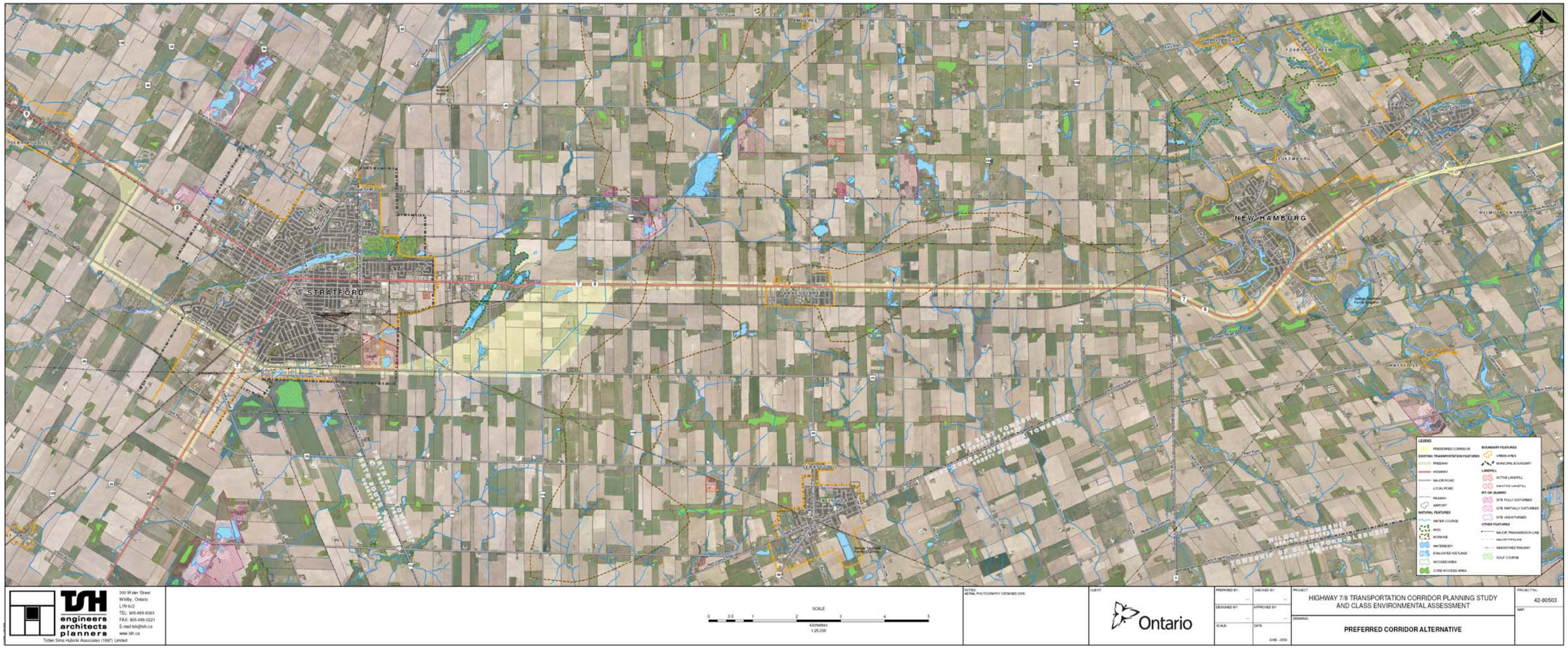
The results of this evaluation of the short list corridor alternatives identifies the preferred corridor alternative/combination that was selected to be carried forward for further review during the detailed planning phase of the study. **Exhibit 7.2** provides a description of the preferred corridor alternative/combination. **Exhibit 7.3** provides a map of the preferred corridor alternative/combination, and associated study area.

Subject to input received, the Project Team will refine the Preliminary Study Area for the generation of detailed planning alternatives. During the study, the study area limits may be refined or modified as required to accommodate any reasonable alternatives that may be developed.

Exhibit 7.2: Description of Preferred Corridor Alternative		
Corridor Number	**Corridor Name**	**Description of Corridor Alternative**
Section 1: West of Stratford to Highway 7		
1C	Stratford Lorne Avenue Corridor 1	• 2-lane Highway 8 with geometric improvements from mid-way between Perth Roads 130 and 125 to Perth Road 125; • Modification of intersection at Highway 8 and Perth Road 125; • 2-lane Perth Road 125 with geometric improvements from Highway 8 to Perth Line 32/Lorne Avenue; • Modification of intersection at Perth Road 125 and Perth Line 32/Lorne Avenue; • 2/3-lane Perth Line 32/Lorne Avenue with geometric improvements from Perth Road 125 to Highway 7.
Section 2: Highway 7 to East of Stratford		
2C	Stratford Lorne Avenue Corridor 1	• Widen Highway 7 from 4 to 4/5 lanes from south of Perth Line 29 to Lorne Avenue; • Widen Lorne Avenue from 2 to 4/5 lanes from Highway 7 to Perth Road 111; • New 4/5 lane highway from Lorne Avenue at Perth Road 111 to Highway 7&8 east of Perth Road 110.
Section 3: East of Stratford to West of New Hamburg		
3A	Existing 7&8 Corridor from East of Stratford, through Shakespeare, to West of New Hamburg	• Widen Highway 7&8 from 2 to 4/5 lanes from east of Perth Road 110, through Shakespeare, to mid-way between Perth Road 102 and Wilmot–Easthope Road (railway structure).
Section 4: West of New Hamburg to East of New Hamburg		
4A	Existing 7&8 Corridor through New Hamburg	• Widen Highway 7&8 from 2 to 4/5 lanes from mid-way between Perth Road 102 and Wilmot–Easthope Road (railway structure) to existing 4-lane section immediately west of Wilmot–Easthope Road; • Modification of intersection at Wilmot-Easthope Road;

Exhibit 7.2: Description of Preferred Corridor Alternative		
Corridor Number	**Corridor Name**	**Description of Corridor Alternative**
		• Modification of Highway 7&8 through New Hamburg with median barrier, modification or closure of intersections, plus possible local segments of service road.
Note: In addition to the number of through lanes noted above, turning lanes are required at intersections and will be determined through subsequent design phases.		

Exhibit 7.3: Map of Preferred Corridor Alternative and Associated Study Area



8.0 AREA TRANSPORTATION SYSTEM STRATEGY

Exhibits 7.7 and 7.8 identify the recommended corridor alternative/combination. It should be emphasized that the area transportation needs assessment detailed in Section 2 of this report also identified the selection of inter-regional transit and transportation demand management (TDM) to address the area transportation system problems and opportunities.

Exhibit 8.1 provides the overall area transportation system strategy that includes all of these elements.

Exhibit 8.1: Area Transportation System Strategy

Strategy Component	Description
Highway Corridor	<u>From west of Stratford to Highway 7</u> • 2-lane Highway 8 with geometric improvements from mid-way between Perth Roads 130 and 125 to Perth Road 125; • Modification of intersection at Highway 8 and Perth Road 125; • 2-lane Perth Road 125 with geometric improvements from Highway 8 to Perth Line 32/Lorne Avenue; • Modification of intersection at Perth Road 125 and Perth Line 32/Lorne Avenue; • 2/3-lane Perth Line 32/Lorne Avenue with geometric improvements from Perth Road 125 to Highway 7. <u>From Highway 7 to East of Stratford</u> • Widen Highway 7 from 2 to 4 lanes from south of Perth Line 29 to Lorne Avenue; • Widen Lorne Avenue from 2 to 4/5 lanes from Highway 7 to Perth Road 111; • New 4-lane highway from Lorne Avenue at Perth Road 111 to Highway 7&8 east of Perth Road 110. <u>From East of Stratford to West of New Hamburg</u> • Widen Highway 7&8 from 2 to 4/5 lanes from east of Perth Road 110, through Shakespeare, to mid-way between Perth Road 102 and Wilmot–Easthope Road (railway structure). <u>From West of New Hamburg to East of New Hamburg</u> • Widen Highway 7&8 from 2 to 4/5 lanes from mid-way between Perth Road 102 and Wilmot–Easthope Road (railway structure) to existing 4-lane section immediately west of Wilmot–Easthope Road; • Modification of intersection at Wilmot-Easthope Road; • Modification of Highway 7&8 through New Hamburg with median barrier, modification or closure of intersections, plus possible service road.
Inter-Regional Transit	Referred to appropriate agency for further review and action
Transportation Demand Management	Referred to appropriate agency for further review and action

9.0 PROCESS AND CRITERIA TO GENERATE AND EVALUATE DETAILED PLANNING ALTERNATIVES

9.1 Process Overview for the Development, Assessment and Evaluation of Detailed Planning Alternatives For Provincial Roadways

The process for the identification, assessment and evaluation of the detailed planning alternatives for provincial roadways is the following:

1 Identify Detailed Planning Alternatives for Existing Provincial Highway and/or New Provincial Roadway Routes (provincial highway/provincial transitway)
- Description and rationale for detailed planning alternatives (presented in Report G).

2 Additional Information Obtained/Confirmed through Field Investigations
- Obtain additional information regarding environmental conditions/features within the analysis area through field investigation (inventory, survey and testing, as appropriate).

3 Identify Factors, Sub-factors, Criteria and Indicators for Evaluation of Detailed Planning Alternatives
- Each of the alternatives will be evaluated against the environmental and transportation factors and sub-factors identified in **Exhibit 9.1** at the end of this section.

4 Comparative Evaluation of Detailed Planning Alternatives by Reasoned Argument and Augmented by Arithmetic Methods (as appropriate)
- Each alternative will be evaluated using the reasoned argument and arithmetic methods (as appropriate) and the identified factors, criteria and measures (refer to preliminary listing of proposed factors and criteria provided in **Exhibit 9.1**).

5 Identify Recommended Detailed Planning Alternative for Existing Provincial Highway and/or New Provincial Routes (provincial highway/provincial transitway)
- Selection of recommended detailed planning alternative based on results of comparative evaluation and taking into consideration stakeholder input received through consultation and outreach program (to be presented in Report H).

9.2 Summary of Detailed Planning Alternatives for Provincial Roadways

Based on the selected Preliminary Planning Alternatives carried forward from the preliminary planning phase, the Highway 7&8 Transportation Corridor Planning and Class EA Study will consider the specific location / type / character and template "footprint" for the following categories of provincial roadway detailed planning alternatives:

- Improve existing Highway 7&8
  - specific location & type of geometrical improvements to existing highway
  - specific location, extent & direction of widening to existing highway

- New corridor
    - new provincial highway route location

These provincial roadway detailed planning alternatives are presented in more detail in Supporting Document #3 of Report A - Study Plan. The rationale for the detailed planning alternatives for provincial roadways will be presented in Report "G": Working Paper – Generation of Detailed Planning Alternatives for Provincial Roadways.

The following objectives and rationale for generating route alternatives will ensure not only that alternatives are efficient/direct and meet technical objectives/design requirements, but also minimize/avoid impacts to significant environmental and study area features to the extent possible.

Principle 1: Minimize impacts to significant natural features, functions, systems and communities

1. Avoid where possible, or minimize encroachment on or loss of water bodies and associated riparian zones;
2. Avoid where possible, or minimize encroachment on or loss of critical fish habitat features;
3. Avoid where possible, or minimize encroachment on or loss of species of conservation concern (vegetation, fish and wildlife);
4. Avoid where possible, or minimize encroachment on or loss of critical habitat of Species at Risk;
5. Avoid where possible, or minimize encroachment on or loss of encroachment into ecologically functional areas;
6. Avoid where possible, or minimize encroachment on or loss of important wildlife areas and travel corridors. Other areas to be considered are any identified wildlife management, rehabilitation and research program sites;
7. Avoid where possible, or minimize encroachment on or loss of Provincially Significant Wetlands (PSWs) and avoid impairment to wetland functions, including ecological function;
8. Avoid where possible, or minimize encroachment on or loss of all other evaluated and unevaluated wetlands;
9. Avoid where possible, or minimize encroachment on or loss of designated significant woodlands;
10. Avoid where possible, or minimize encroachment on or loss of other important woodlands;
11. Avoid where possible, or minimize encroachment on known groundwater recharge and discharge areas; as well as identified wellhead and source protection areas and areas susceptible to groundwater contamination;
12. Avoid where possible or minimize encroachment on, loss of, or 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

13. Avoid where possible, or minimize encroachment on loss of, or impairment of ecological function to special spaces (including recreational activity zones).

Principle 2: Minimize impacts to existing and planned (approved under the Planning Act) population and employment areas

1. Maximize separation distance from sensitive receptor locations;
2. Avoid where possible or minimize encroachment on, or loss of developed properties;
3. Minimize access impacts;
4. Maximize the access provided to major generators of economic activity;
5. Avoid where possible, or minimize encroachment on, or loss of prime agricultural areas and agricultural infrastructure;
6. Avoid where possible, or minimize encroachment on, or loss of mineral, petroleum and mineral aggregate resources;
7. Avoid operating and "non-operating" waste disposal sites; and
8. 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

1. Generate alternatives that are efficient and direct, while meeting standards for design; and
2. Select alternatives that address the transportation problems and transportation opportunities.

Exhibit 9.1 provides a preliminary listing of the proposed environmental and transportation factors and sub-factors to be considered for the assessment and evaluation of alternatives. **Exhibit 9.1** also provides preliminary evaluation criteria to be applied to these factors and sub-factors during the detailed planning phase. This preliminary listing will be refined and modified during consultation on the “proposed approach to upcoming work”.

9.3 Process for Assessment of Detailed Planning Alternatives for Provincial Roadways

The assessment of the detailed planning alternatives for provincial roadways identified will:

- be undertaken using a reasoned argument methodology and augmented by arithmetic methods as appropriate;
- consider the environmental and transportation factors, sub-factors and evaluation criteria identified in **Exhibit 9.1**; and
- consider potential impacts on the environment.

The alternatives will then be reviewed with agencies and the public through the outreach and consultation process. This outreach and consultation is critical to developing a reasonable set of detailed planning alternatives. Local residents can add valuable information to the database

gathered by the Project Team. Refinements to the alternatives will be integrated where warranted and a final set of detailed planning alternatives will be brought forward to the evaluation process.

9.4 Process for Evaluation and Selection of the Preferred Detailed Planning Alternatives for Provincial Roadways

After the various detailed planning alternatives are generated and refined based on consultation, the evaluation of the alternatives will commence.

The evaluation and selection of detailed planning alternatives for provincial roadways will use a similar process as applied to the preliminary planning alternatives. The advantages and disadvantages of the various detailed planning alternatives will be compared using a reasoned argument methodology to select a recommended alternative(s).

The trade-offs used to select a preferred detailed planning alternative(s) will reflect:

- Government legislation, policies and guidelines;
- Municipal policy (i.e. Official Plans);
- Public, Agencies, First Nations, Consultation Groups, and other stakeholder issues and concerns; and
- Project Team (staff from MTO and their Consultants) expertise.

During the study, the decision making process will be clearly documented to support a traceable process and to ensure that it is understandable to those who may be affected by the decisions. Details on the Reasoned Argument (trade-off) evaluation method are provided in Section 7.2 of Report A: Study Plan.

Factor-Specific Environmental Inputs to the Evaluation of Detailed Planning Alternatives

The data collected on the study area will assist in identifying the types of impacts each detailed planning alternative will have on each component of the environment, as indicated in **Exhibit 9.1**.

In addition, technical requirements and costs will be considered in the evaluation of detailed planning alternatives. Data collection for each of the environmental disciplines will be conducted consistent with the most up-to-date provincial policies and procedures. Each of these components will be defined by a set of evaluation criteria. Impacts will be quantified according to the list of criteria shown in **Exhibit 9.1**.

These criteria are intended to assist the factor specific environmental specialists in determining the overall impact of the various alternatives on the natural, socio-economic and cultural environment. In determining the overall impact, the specialists will consider how the various factors and criteria interact and function together. The evaluation criteria listed represent the minimum requirements in the process of evaluating alternative methods.

A description of the rationale associated with the evaluation criteria/indicators is outlined in Supporting Document #5 of Report A: Study Plan. The evaluation factors/sub-factors/criteria are subject to refinement and modification during the EA based on study findings, provincial policy and input received from stakeholders. Factor specific work plans for assessing potential environmental effects will be completed during the Class EA Study.

Exhibit 9.1: Evaluation Factors, Sub-factors, Criteria and Indicators for Assessment and Evaluation of Detailed Planning Alternatives

FACTOR / SUB-FACTOR	CRITERIA	INDICATORS FOR DETAILED PLANNING FOR PROVINCIAL ROADWAYS	RATIONALE FOR FACTOR AND SUB-FACTOR EVALUATION
1. Natural Environmental Factors			
1.1 Fisheries and Aquatic Ecosystems	1.1.1 Fish Habitat	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/disruption as applicable to the following: • critical fish habitat features • riparian areas • habitat rehabilitation goals	• The crossing of water bodies by transportation facilities has the potential to affect fish and aquatic habitat features through impediments to fish passage, loss of vegetation, changes to channel geomorphology (channel form and function), substrate and cover, changes to the water quality due to erosion and sedimentation, stormwater discharge and temperature changes. • PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements_ identified below. • PPS Policy 2.1.5 requires that development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements. In addition, policy 2.1.6 restricts development and site alteration on adjacent lands to natural heritage features (e.g. significant – wetlands, woodlands, valleylands etc.) unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions. • It is an objective of the PPS to protect, improve or restore the quality and quantity of surface water, including headwaters. Surface water features are an important part of the natural, economic and cultural landscape. PPS Policy 2.2.2 restricts development and site alteration in or near sensitive surface water features and groundwater features such that these features and their related hydrologic functions will be protected, improved or restored. • The Federal Fisheries Act prohibits the harmful alteration, disruption or destruction of fish habitat, the introduction of deleterious substances to fish habitat and the blockage of fish passage. Where impacts cannot be mitigated, a Fisheries Compensation Plan is prepared in consultation with the CA/DFO to address agency concerns/requirements. • Subsection 36(3) of the Fisheries Act prohibits the deposit of a deleterious substance, directly or indirectly, into waters frequented by fish.
	1.1.2 Fish Community	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption as applicable to the following: • fish species at risk (vulnerable, threatened or endangered fish species) • fish movement/migration • critical fish life stage processes (spawning, rearing, nursery, feeding) • long-term fish community management goals	
1.2 Terrestrial Ecosystems	1.2.1 Wildlife	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption as applicable to the following: • wildlife species at risk (vulnerable, threatened or endangered wildlife species) • wildlife of local and regional importance • migratory birds • critical wildlife habitat features • ecologically functional areas such as connective corridors or travel ways for movement/migration • important wildlife areas such as deeryards, heronries, waterfowl areas, important bird areas • wildlife management, rehabilitation/research program sites • interference with critical wildlife life stage processes (eg mating/rearing) etc	• PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements identified below. • The presence of species identified by COSEWIC and COSSARO as vulnerable, threatened or endangered (VTE) requires consideration in the generation of route alternatives. Species or populations may be under pressure or susceptible to stress as a result of development. Since habitat for these species is often limited, impacts to areas where the presence of species at risk is suspected or confirmed should be avoided or minimized. The assessment should have regard for the PPS objective that development and site alteration will not be permitted in significant portions of the habitat of Threatened and Endangered Species. The reported presence of Species of Conservation Concern (as defined by MNR in the Significant Wildlife Habitat Technical Guides (SWHTG – MNR, 2000) and TRCA species of concern will also be considered. • The general prohibitions under the Species at Risk Act, which apply to federally protect migratory bird and aquatic species at risk as well as to all endangered and threatened species on federal lands. • Section 6 of the Migratory Bird Regulations under the Migratory Birds Convention Act, 1994, which prohibits the incidental take of migratory birds and the disturbance and destruction of taking of the nest of a migratory bird. • PPS Policy 2.1.4 prohibits development and site alteration in significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E. The assessment should have regard for this objective. Wetlands serve ecological functions to varying degrees including groundwater recharge/discharge, flood attenuation, wildlife movement corridors, habitat for flora and fauna, and water filtration. • The Canadian Federal Policy on Wetland Conservation promotes the goal of no net loss of wetland function in areas where wetland loss has reached critical levels.
	1.2.2 Wetlands	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption as applicable to the following: • provincially significant wetlands, their buffer areas, and their wetland function • evaluated and un-evaluated wetlands, their wetland buffer areas, and their wetland function • wetland management, research and/or wetland conservation programs/areas	• PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements identified below. • It is important to recognize identified ecologically functional linkages between factors and sub-factors (within a natural heritage system) that contribute to landscape connectivity. The assessment should have regard for PPS Policy 2.1.2 which states that the diversity and connectivity of natural features in an area, and the long term ecological function and biodiversity of natural heritage systems, should be maintained, restored, or where possible improved, recognizing linkages between and among natural heritage features and areas, surface water features and groundwater features. The avoidance of wildlife corridors minimizes risks of wildlife mortality during operation of the facility. Secondary information on ecosystem linkages (aquatic and terrestrial) will be reviewed and supplemented by other available sources (including contacts with specialists, field findings).
	1.2.3 Forests (e.g. woodlands [forest stands, woodlots and interior forest habitat] and significant valley lands [valley and stream corridors])	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption as applicable to the following: • significant woodlands/valley lands • forest management/research program areas	• PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements identified below. • The PPS Policy 2.1.4 only permits development and site alteration in significant woodlands south and east of the Canadian Shield where it can be demonstrated that there will be no negative impacts on the natural features or their ecological function. The assessment should have regard for the PPS protection objectives. • The study area is located within the Carolinian Zone and may have important representations of Carolinian species assemblages. These natural heritage areas require protection.

Exhibit 9.1: Evaluation Factors, Sub-factors, Criteria and Indicators for Assessment and Evaluation of Detailed Planning Alternatives

FACTOR / SUB-FACTOR	CRITERIA	INDICATORS FOR DETAILED PLANNING FOR PROVINCIAL ROADWAYS	RATIONALE FOR FACTOR AND SUB-FACTOR EVALUATION
	1.2.4 Vegetation	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption as applicable to the following: • populations of vegetation species at risk (vulnerable, threatened or endangered species), species of conservation concern and significant regional/local flora/communities • areas/corridors supporting known populations of vegetation species at risk (vulnerable, threatened or endangered species), species of conservation concern and significant flora/communities • vegetation management, rehabilitation/research program sites	• Small degraded, isolated remnant woodlots and wetlands can have ecological value. Large natural and relatively undisturbed features have high ecological sensitivity and value.
	1.2.5 Designated/Special Areas (such as world biosphere reserves, heritage rivers, ESAs, ESPAs, ANSIs, environmental plan areas, conservation reserves; and the designated special areas of national parks, provincial parks, conservation areas, etc)	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption; • change in area character/ aesthetics; • nuisance impacts; • change to access / travel time; • change to facilities / utilities / services. To designated/special areas.	• PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements identified below. • Important habitat areas, that may not be associated with other features protected by other means (ANSIs, ESAs, PSWs), require consideration during the generation and evaluation of alternatives. These areas may be of local or regional significance to wildlife that is not necessarily at risk. Other areas may be identified as important habitat for wildlife species requiring larger habitat blocks or with specialized habitat requirements. The assessment should have regard for PPS Policy 2.1.4 which states that development and site alteration shall not be permitted in certain listed significant wetlands, woodlands, valleylands, wildlife habitat and areas of natural and scientific interest. Development and site alteration may be permitted in significant wildlife habitat if it can be demonstrated that there will be no negative impacts on the natural features or functions for which the area is identified. • Areas that have been designated as Environmentally Significant Areas, Areas of Natural and Scientific Interest or Significant Valleylands may have landforms or plant communities associated with the area that are designated locally, regionally or provincially significant, or provide important corridors. • ESAs are not explicitly included in the Provincial Policy Statement, but are often associated with other features subject to the policy statement (e.g. ANSIs, significant woodlands, significant habitat of endangered species or threatened species, significant wetlands, valleylands and wildlife habitat). They are also reflected in the MNR Land Use Guidelines, Conservation Authority Plans and municipal land use plans. • PPS Policy 2.1.6 provides for development and site alteration on adjacent lands to listed natural heritage features and areas, only where the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological function. • Policy 4.2.1.2 of the Greenbelt Plan 2005 states that the location and construction of infrastructure and expansions, extensions, operations and maintenance of infrastructure in the Protected Countryside are subject to specified criteria.
1.3 Groundwater	1.3.1 Areas of Ground water Recharge and Discharge	Potential and significance of alteration to areas of groundwater recharge and discharge due to physical intrusion or groundwater interception, draw-down, impoundment, obstruction, or soil compaction impacting groundwater base-flow and quality	• PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements identified below. • Section 2.2 of the PPS identifies that the quality and quantity of water (including groundwater) should be protected improved or restored. The assessment should have regard for this objective. Transportation facilities have the potential to impact groundwater resources through removal of recharge areas, interference with discharge areas/shallow groundwater zones, and introduction of contaminated runoff. Consequently, impacts to areas identified as being susceptible to groundwater contamination and/or interference should be avoided/minimized to the extent possible.
	1.3.2 Groundwater Source Areas and Wellhead Protection Areas	Potential and significance of alteration to groundwater source areas and wellhead protection areas due to physical intrusion, or groundwater interception, draw-down, impoundment, obstruction and by soil compaction	
	1.3.3 Large Volume Wells	Potential and significance of alteration to large volume wells due to physical intrusion or groundwater interception, draw-down, impoundment, obstruction and by soil compaction	
	1.3.4 Private Wells	Potential and significance of alteration to private well use due to physical intrusion, or groundwater interception, draw-down, impoundment, obstruction and by soil compaction	
	1.3.5 Groundwater-Sensitive Ecosystems (e.g. groundwater fed wetlands, coldwater streams)	Potential and significance of alteration to groundwater-sensitive ecosystems due to physical intrusion, or groundwater interception, draw-down, impoundment, obstruction and by soil compaction	
1.4 Surface Water	1.4.1 Watershed / Sub-Watershed Drainage Features/Patterns	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption. As applicable to the following: • watercourse crossings (permanent, intermittent and ephemeral) • floodplain or meander belts • riparian areas • sensitive headwater areas • watershed and subwatershed management plans	• Surface water features are an important part of the natural landscape in the Analysis Area. There are a number of permanent and intermittent watercourses flowing through the Analysis Area as well as a number of provincially and locally significant wetlands and various unnamed tributaries and agricultural swales present in the analysis area. Consequently, surface water quantity and quality could be negatively affected by the undertaking (e.g., reduction in surface water quantity, degradation of surface water quality, etc.) and therefore the ability to protect surface water quality, including the function of headwaters, need to be considered in the evaluation.
	1.4.2 Surface Water Quality and Quantity	Potential and significance of impacts on quality through direct and indirect discharges of contaminated and sediment-laden run-off	

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FACTOR / SUB-FACTOR	CRITERIA	INDICATORS FOR DETAILED PLANNING FOR PROVINCIAL ROADWAYS	RATIONALE FOR FACTOR AND SUB-FACTOR EVALUATION
		Potential and significance of impacts on hydrology due to changes in ground permeability, modifications to surface drainage patterns and alterations of water bodies	
			•
2. Land Use / Socio-Economic Environmental Factors			
2.1 Land Use Planning Policies, Goals, Objectives	2.1.1 First Nations Land Claims	Potential and significance of encroachment, severance, displacement to areas for which there are First Nations outstanding land claims	• It is important that First Nations People's land claims within the Analysis Area are documented • The Ontario Provincial Policy Statement notes that long-term prosperity and social well-being of Ontarians depends on maintaining strong communities, a clean and healthy environment and a strong economy. Transportation facilities play a key role in achieving these objectives. • There is a need to co-ordinate transportation planning with municipal land planning as established through Official Plans, Secondary Plans and Zoning by-laws as these specify land uses supported by residents, municipalities and the province. • The Greenbelt Plan notes that infrastructure is important to economic well-being, human health and quality of life in southern Ontario and the Greenbelt. • Policy 4.2.1 of the Greenbelt Plan states that, for lands within the protected countryside, as defined by the Greenbelt Plan, 2005, infrastructure must meet one of the following policies; it supports agriculture, recreation and tourism, rural settlement areas, resource use or the rural economic activity that exists and is permitted within the Greenbelt; or it serves the significant growth and economic development expected in southern Ontario beyond the Greenbelt by providing for the appropriate infrastructure connections among urban growth centers and between these centers and Ontario's borders.
	2.1.2 Provincial/Federal land use planning policies/goals/ objectives	Degree of compatibility with federal/provincial land use policies/goals/ objectives	
	2.1.3 Municipal (regional and local) land use planning policies/ goals/objectives (Official Plans)	Degree of compatibility with municipal Official Plans	
	2.1.4 Development Objectives of Private Property Owners	Potential to isolate property from current/future urban envelope Impact on future land use	
2.2 Land Use / Community	2.2.1 Indian Reserves	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption; • change in area character / aesthetics; • nuisance impacts; • change to access / travel time. to Indian Reserves	• It is important that potential and significance of impacts to Indian Reservations and sacred grounds be recognized and addressed in accordance with Ontario's New Approach to Aboriginal Affairs (Spring 2005) and the Grand River Notification Agreement • Property takings / displacements and changes / effects on local access have a significant impact on owners and tenants as well as the broader community. • Property takings / displacements and changes / effects on local access have a significant impact on owners and tenants as well as the broader community and customer/client base. • Disruption or displacement of institutional features may adversely affect the users of these features / facilities and the broader community.
	2.2.2 First Nations' Sacred Grounds	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption; • change in area character / aesthetics; • nuisance impacts; • change to access / travel time. To First Nations' sacred grounds	
	2.2.3 Urban and Rural Residential	Potential and significance of: • encroachment, severance, displacement, property acquisition; • long-term alteration/ disruption; • change in area character/ aesthetics; • nuisance impacts; • change to access / travel time; • change to facilities / utilities / services. To urban and rural residential areas (residents [owners/tenants] and community groups).	
	2.2.4 Commercial/Industrial	Potential and significance of: • encroachment, severance, displacement, property acquisition; • long-term alteration/ disruption; • change in area character/ aesthetics; • nuisance impacts; • change to access / travel time; • change to facilities / utilities / services. To commercial and industrial areas (business owners/tenants and customers).	
	2.2.5 Tourist Areas and Attractions (e.g. museums, theatres, etc.)	Potential and significance of: • encroachment, severance, displacement, property acquisition; • long-term alteration/ disruption; • change in area character/ aesthetics; • nuisance impacts; • change to access / travel time;	

Exhibit 9.1: Evaluation Factors, Sub-factors, Criteria and Indicators for Assessment and Evaluation of Detailed Planning Alternatives

FACTOR / SUB-FACTOR	CRITERIA	INDICATORS FOR DETAILED PLANNING FOR PROVINCIAL ROADWAYS	RATIONALE FOR FACTOR AND SUB-FACTOR EVALUATION
		• change to facilities / utilities / services. To tourist areas and attractions.	
2.2 Land Use / Community	2.2.6 Community Facilities / Institutions (e.g. hospitals, schools, places of worship, unique community features)	Potential and significance of: • encroachment, severance, displacement, property acquisition; • long-term alteration/ disruption; • change in area character/ aesthetics; • nuisance impacts; • change to access / travel time; • change to facilities / utilities / services. To community facilities and institutions.	
	2.2.7 Municipal Infrastructure and Public Service Facilities (e.g. sewage and water services, police/emergency services, local utilities)	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption; • change to access / travel time; • change to facilities / utilities / services. To municipal infrastructure and public service facilities.	
2.3 Noise Sensitive Areas (NSAs) (residential areas and sensitive institutional uses)	2.3.1 Highway Noise	Potential for significant traffic noise increases in NSAs	• The Ontario Ministry of the Environment (MOE) has published Noise Pollution Control (NPC) and Land Use (LU) planning guidelines. These MOE documents establish ambient noise criteria, based on one-hour average sound pressure levels (Leq), and evaluate ambient vibration levels based on either Peak or RMS velocity, as applicable. Noise levels generally rise with increased traffic volumes. • MOE/MTO Noise Protocol requires that highway noise be considered in all Provincial (MTO) Transportation projects
	2.3.2 Construction Noise	Not considered until the Preliminary Design phase	• The MOE/MTO Noise Protocol requires that construction noise be addressed on MTO construction projects • Construction noise may be subject to municipal (I.e., local) noise by-law
2.4 Agriculture	2.4.1 Agriculture - Canada Land Inventory Class 1,2,3 Land	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption; to Canada Land Inventory Class 1,2,3 Land	• PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements identified below. • Section 2.3 of the Provincial Policy Statement requires prime agricultural areas be protected for long-term use for agriculture. Prime agricultural areas include specialty crop areas and Classes 1, 2 and 3 soils in this order of priority. • Ontario Ministry of Agriculture and Food (OMAF) has provincial guidelines for protection of prime agricultural lands as well as agricultural structures or infrastructure
	2.4.2 Agricultural -Farm Infrastructure	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption; • nuisance impacts; to farm infrastructure (field tile drainage systems/outlets, irrigation systems, barns / silos/ structures, etc.	
	2.4.3 Agriculture – Operations on Individual Farms	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption; • nuisance impacts; to in-farm field operations (planting, harvesting, grazing, nutrient management, etc.)	
	2.4.4 Agriculture – Transportation Linkages between Multiple-Farm Operations	Potential to sever/disrupt transportation linkages between multiple-farm operations (movement between linked multiple-farm operations of equipment, materials, workers, etc.)	
2.5 Land Use / Resources	2.5.1 First Nations People's Treaty Rights or Use of Land and Resources for Traditional Purposes (e.g. hunting, fishing, harvesting of country foods, harvesting of medicinal plants)	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption; • nuisance impacts; • change to access / travel time. to First Nations' treaty rights or use of land and resources for traditional purposes	• It is important that potential and significance of impacts to Indian Reservations and sacred grounds be recognized and addressed in accordance with Ontario's New Approach to Aboriginal Affairs (Spring 2005) and the Grand River Notification Agreement • • Planning of transportation facilities must address First Nations People's treaty rights, and be conducted in accordance with Ontario's New Approach to Aboriginal Affairs (Spring 2005) and the Grand River Notification Agreement
	2.5.2 Parks and Recreational Areas (e.g. national/provincial parks, conservation areas, municipal parks,	Potential and significance of: • encroachment, severance, displacement, property acquisition; • long-term alteration/ disruption; • change in area character/ aesthetics;	• Disruption or displacement of recreational / community features may adversely affect the users of the facility/feature. Parks are generally lands in public ownership aimed at preserving significant and sometimes unique components of the environment, and providing recreational opportunities. These areas should be avoided to the extent possible however, in some cases, transportation facilities can be situated along park boundaries without adversely affecting the park. Frequently, parts are isolated islands surrounded by development and as such they can function as wildlife refuge areas or may facilitate wildlife movement opportunities. PPS, 2005,

Exhibit 9.1: Evaluation Factors, Sub-factors, Criteria and Indicators for Assessment and Evaluation of Detailed Planning Alternatives

FACTOR / SUB-FACTOR	CRITERIA	INDICATORS FOR DETAILED PLANNING FOR PROVINCIAL ROADWAYS	RATIONALE FOR FACTOR AND SUB-FACTOR EVALUATION
	public spaces, golf courses, trails, greenways and open space linkages)	• nuisance impacts; • change to access / travel time; • change to facilities / utilities / services. To parks and recreational areas.	Policy 1.5.1 states that healthy active communities shall be promoted by (d) considering the impacts of planning decisions on provincial parks, conservation reserves and conservation areas.
	2.5.3 Aggregates, Mineral Resources	Potential and significance of: • encroachment, severance, displacement, property acquisition; • long-term alteration/ disruption; • change to access / travel time; • change to facilities / utilities / services. To current/future extraction of aggregate and mineral resources.	• PPS Policy 1.6.6.4 stipulates that when planning for corridors and rights-of-way for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. The context is provided in other PPS policy statements identified below. • Sections 2.4 and 2.5 of the Provincial Policy Statement have the objective of protecting mineral and aggregate resources for the long term. The policy statement makes provisions for the protection of both known deposits and areas of potential. • MTO adheres to requirements of the Aggregates Act to protect aggregate resources while minimizing sterilization of mineral aggregate resources as much as possible.
2.6 Major Utility Transmission Corridors (e.g. railroads, hydro, gas, oil)		Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption; • change to access / travel time; • change to facilities / utilities / services. To major utility transmission corridors.	• Utility corridors are subject to regulations from owners and governing authorities for operation of utilities including National Energy Board, Ontario Energy Board, Transport Canada, Railway Safety Act, etc.
2.7 Contaminated Property and Waste Management (e.g. Landfills, Hazardous Waste Sites, "Brownfield" Areas, other known contaminated sites, and high-risk contamination areas)		Potential and significance of: • encroachment, severance, displacement; • long-term alteration/disruption; • change to access / travel time; • change to facilities / utilities / services. To contaminated property and waste management.	• Localized significant sources of property contamination can be associated with operating and closed waste disposal sites, the latter being of more significance due to their difficulty in accurately locating them. Consideration should be given to avoiding/ minimizing effects in the "area of influence" of waste disposal sites. • There is the potential that some of the lands in the project area may be contaminated due to the nature of existing and historical land use especially in older commercial/industrial areas and in areas with heavy industrial activity. Sources of potential property contamination in rural areas are most commonly associated with service stations; isolated pockets of commercial/industrial areas; unknown fill areas; scrap yards and other high-risk land uses. Impacts to these areas should be avoided / minimized to the extent possible.. • Appropriate assessments will be carried on these sites and the project will comply with the appropriate.
2.8 Landscape Composition	2.8.1 Scenic Composition (total aesthetic value of landscape components)	Potential and significance of change to scenic composition (total aesthetic value of landscape components).	• Visual impacts on adjacent land use and effects on the visual experiences for users of the facility will be considered.
	2.8.2 Sensitive Viewer Groups	Potential and significance of change vistas/outlooks for sensitive viewer groups.	
	2.8.3 Scenic value of views/vistas from the transportation facility	Potential and significance of views/vistas from the transportation facility.	
	2.8.4 Specimen Trees	Not considered until the Preliminary Design phase	
2.9 Air Quality	2.9.1 Regional Air Quality and Total Contaminant and Greenhouse Gas Emissions	Not considered after the Preliminary Planning Phase	• Air Quality impacts have the potential to affect human health. • Alternatives through or near urban areas create the potential for increased contaminant levels. • Dust emissions associated with construction related activities could cause temporary air quality issues. • Greenhouse gases contribute to global warming.
	2.9.2 Local Air Quality and Sensitive Receptors to Air Pollutants	Potential to affect sensitive receptors to air pollutants	
3. Cultural Environmental Factors			
3.1 Cultural Heritage – Built Heritage and Cultural Landscapes	3.1.1 Buildings or "Standing" Sites of Architectural or Heritage Significance or Ontario Heritage Foundation Easement Properties	Potential and significance of: • encroachment, severance, displacement, property acquisition; • long-term alteration/ disruption; • change in area character/ aesthetics; • nuisance impacts; • change to access / travel time; • change to facilities / utilities / services. To buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easements properties.	• A new transportation facility may result in the loss of built heritage features resulting in a depletion of the cultural heritage resources / heritage character in the area. • Impacts to built heritage features should be avoided to the extent possible, or as a secondary alternative relocation rather than demolition could be considered. • MTO is required to operate in accordance with Cemeteries Act • MTO is required to operate in accordance with Ontario Heritage Act
	3.1.2 Heritage Bridges	Potential for destruction or significant alteration of heritage bridges	

Exhibit 9.1: Evaluation Factors, Sub-factors, Criteria and Indicators for Assessment and Evaluation of Detailed Planning Alternatives

FACTOR / SUB-FACTOR	CRITERIA	INDICATORS FOR DETAILED PLANNING FOR PROVINCIAL ROADWAYS	RATIONALE FOR FACTOR AND SUB-FACTOR EVALUATION
	3.1.3 Areas of Historic 19th Century Settlement	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption; • change in area character/ aesthetics; • nuisance impacts; • change to access / travel time; • change to facilities / utilities / services. To areas of historic 19th century settlement.	
	3.1.4 Cultural Heritage Landscapes (collection of individual man-made features modifying pristine landscape)	Potential and significance of change to composition of cultural landscapes.	
	3.1.5 First Nations' Burial Sites	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption; • change in area character / aesthetics; • nuisance impacts; • change to access / travel time. to First Nations' burial sites.	
	3.1.6 Cemeteries	Potential and significance of: • encroachment, severance, displacement; • long-term alteration/ disruption; • • change in area character/ aesthetics; • nuisance impacts; • change to access / travel time; • change to facilities / utilities / services. To cemeteries.	
3.2 Cultural Heritage – Archaeology	3.2.1 Pre-Historic and Historic First Nations Sites	Potential for destruction or disturbance of pre-historic and historic First Nations archaeological sites of extreme local, provincial or national interest	• Disturbance or destruction of certain archaeological sites of extreme local, provincial or national interest represents a significant cultural loss. • Impacts to archaeological resources/sites should be avoided or minimized to the extent possible. • Significant archaeological sites shall be preserved and avoided in accordance with Ontario Ministry of Culture (OMC), and Aborignal People's policies and procedures, and all others shall be excavated to OMC standards
	3.2.2 Historic Euro-Canadian Archaeological Sites	Potential for destruction or disturbance of historic Euro-Canadian archaeological sites of extreme local, provincial or national interest	
4. Transportation Factors			
4.1 Area Transportation System Capacity and Efficiency	4.1 Federal/Provincial/Municipal transportation planning policies/goals/objectives	Not considered after the Preliminary Planning phase	• The Official Plans of municipalities within the Analysis Area, and the strategic growth policies and targets embodied in the Provincial Growth Plan, suggest that population and employment growth will continue over time and will be important to future economic prosperity. In order for this economic growth to be realized, an efficient transportation system to move both people and goods within and through the Analysis Area is considered fundamental. • The effectiveness of each alternative needs to be determined. • There is a need to determine how transportation solutions address future needs in relation to existing and proposed future transportation infrastructure. • There is a need to determine how well transportation solutions operate during peak periods. • Transportation agencies have developed design standards to ensure that safety objectives are reflected in all new/expanded infrastructure. These standards are not subject to modification or compromise to avoid/reduce impacts, costs, etc. • Goods movement between economic centres and growth areas incurs out-of-way travel and delay due to congestion through the Analysis Area. Reducing travel times, out-of-way travel and improving travel time reliability would lead to lower transportation costs and benefit the local, provincial and national economy. • There is a need to determine how well transportation solutions operate during peak periods. • There is a need to determine emergency access and safety issues related to transportation solutions. • There is a need to determine the flexibility of transportation solutions to address future needs beyond the forecasted planning horizon. • Physical conditions and staging issues can affect the feasibility of implementing transportation solutions. • There is the need identify the costs associated with possible transportation solutions. Construction costs can influence the feasibility of a given alternative
	4.2 Efficient movement of people	Potential to support the efficient movement of people between communities and regions based on Level of Service (LOS) and volume to capacity (v/c) on a network, screenline and critical link basis	
	4.3 Efficient movement of goods	Potential to support efficient movement of goods between urban growth centres and regional intermodal facilities based on road network and Highway 7&8 corridor performance measures (LOS and travel speed)	
4.2 System reliability / redundancy		Potential to support system reliability and redundancy for travel (people and goods) between regions and communities during adverse conditions	
4.3 Safety	4.3.1 Traffic Safety	Potential to improve traffic safety based on opportunity to reduce congestion on area road network (LOS and v/c) and reduce the frequency of intersections and entrances in the Highway 7&8 corridor	
	4.3.2 Emergency Access	Potential to support emergency access to/from existing and/or new provincial facilities.	
4.4 Mobility and Access	4.4.1 Modal integration, balance and efficiency	Potential to improve modal choice and increase mode split between communities, regions and intermodal facilities based on travel performance indicators (LOS, v/c, travel speed) at critical screenlines and for Highway 7&8 corridor.	
	4.4.2 Linkages to Population and Employment Centres	Potential to improve accessibility to urban growth centres for people and goods movement based on higher order network continuity and connectivity	

Exhibit 9.1: Evaluation Factors, Sub-factors, Criteria and Indicators for Assessment and Evaluation of Detailed Planning Alternatives

FACTOR / SUB-FACTOR	CRITERIA	INDICATORS FOR DETAILED PLANNING FOR PROVINCIAL ROADWAYS	RATIONALE FOR FACTOR AND SUB-FACTOR EVALUATION
	4.4.3 Recreation and Tourism Travel	Potential to support recreation and tourism travel within and to/from the Analysis Area by provision of higher order network (roads and transit) continuity and connectivity and through network performance indicators (LOS, v/c, travel speed)	
	4.4.4 Accommodation for pedestrians, cyclists and snowmobiles	Potential to accommodate pedestrians, cyclists within critical travel corridors in urbanized areas and snowmobiles in recognized rural trails	
4.5 Network Compatibility	4.5.1 Network Connectivity	Potential to improve transportation system connectivity within and to/from the analysis area	
	4.5.2 Flexibility for Future Expansion	Potential to address future transportation needs beyond the forecasted planning horizon	
4.6 Engineering	4.6.1 Constructability	Potential ease of implementation considering feasibility/difficulty of physical, property or environmental constraints	
	4.6.2 Compliance with Design Criteria	Conformity to applicable provincial safety and design standards	
4.7 Traffic Operations		Potential impact on traffic operations due to factors such as design features, private access, and transportation network connections	
4.8 Construction Cost (excludes property costs and engineering costs)		Relative road construction cost, excluding property and engineering costs	
NOTES:	Information to support the evaluation are enhanced by field investigation work as appropriate (the environmental information is documented in Report "F" – 2nd Part)		

10.0 SUMMARY OF INPUT RECEIVED ON PRELIMINARY PLANNING ALTERNATIVES AND MTO RESPONSES AND CHANGES

In the final copy of this document, this section will provide a summary of comments and input received on the draft *Report E: Transportation Corridor Needs Assessment* during the public review period, as well as an explanation of how this feedback was addressed in this version of the report by MTO.

APPENDIX A

SCREENING TABLES FOR LONG LIST OF CORRIDOR ALTERNATIVES

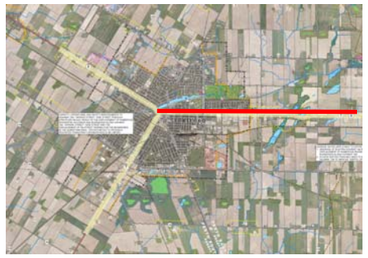
Screening Results – Section 1: Long List of Alternatives from West of Stratford to Highway 7

			CORRIDOR SCREENING			
Corridor Description		**Corridor Description**	Existing Corridor	North By-Pass Corridor	South By-Pass Corridor 1	South By-Pass Corridor 2
		Corridor Length	10.4 km	7.3 km	10.0 km	8.9 km
		Key Map				
Screening Criteria	Natural Environment Factors	**Terrestrial Ecosystems: Minimize direct loss of PSWs, ANSIs, ESAs and core woodlots**	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segments within core woodlots	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segments within core woodlot	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segments within core woodlot	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segments within core woodlot
		Fisheries and Aquatic Ecosystems, Surface Water: Minimize number of stream crossings	• 5 stream crossings at existing crossing locations	• 5 stream crossings	• 3 stream crossings	• 3 stream crossings
	Land Use and Socio-Economic Factors	**Land Use - Resources: Minimize loss of Canada Land Inventory Class 1,2,3 agricultural land**	• Least loss of agricultural lands; primarily utilizes existing corridor	• Majority of corridor within agricultural lands	• Relatively minor loss of agricultural lands; primarily utilizes existing local road corridors	• Majority of corridor within agricultural lands
		Land Use Planning Policies, Goals, Objectives: Minimize loss of approved development lands	• Majority of corridor within planned development areas but primarily utilizes existing corridor	• Moderate portion of corridor within planned development area	• No corridor segment within planned development area	• Minor portion of corridor within planned development area
		Land Use - Community, Industry: Minimize removal of existing development	• Majority of corridor within existing development areas; utilizes existing corridor but will require removal of some existing development adjacent to existing corridor	• Moderate portion of corridor within existing development areas	• Minor portion of corridor within existing development areas	• Minor portion of corridor within existing development areas
	Cultural Environmental Factors	**Built Heritage: Minimize loss of heritage buildings**	• Numerous heritage buildings potentially displaced	• Several heritage buildings potentially displaced	• Several heritage buildings potentially displaced	• Several heritage buildings potentially displaced
		Cultural Heritage Landscapes: Minimize loss of amenities in heritage downtown areas	• Significant loss of amenities in heritage downtown areas (e.g. on-street parking; sidewalks; etc.)	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas
	Transportation Factors	**Network Connectivity: Minimize out of way travel**	• Direct corridor, with no out of way travel	• Relatively direct corridor, with some out of way travel	• Relatively direct corridor, with some out of way travel	• Relatively direct corridor, with some out of way travel
		Mobility and Accessibility: Proximity of corridor to population centres	• Corridor situated close to population centres	• Corridor situated relatively close to population centres	• Corridor situated farther from population centres	• Corridor situated relatively close to population centres
Screening Results		**Recommendation**	**DO NOT CARRY FORWARD**	**DO NOT CARRY FORWARD**	**CARRY FORWARD**	**CARRY FORWARD**
		Rationale	• Higher number of stream crossings • Higher potential effects on existing development (i.e. along existing corridor) • Numerous heritage buildings potentially displaced • Significant loss of amenities in heritage downtown areas	• Higher number of stream crossings • Moderate potential effects on existing and planned development areas • Requires eastern section of north by-pass corridor and associated impacts (see next table)	• Fewer stream crossings • Fewer potential effects on existing and planned development areas • No loss of amenities in heritage downtown areas • Maximizes use of existing infrastructure • Relatively direct corridor	• Fewer stream crossings • Fewer potential effects on existing and planned development areas • No loss of amenities in heritage downtown areas • Relatively direct corridor

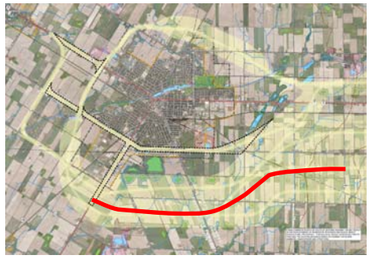
Screening Results – Section 1: Long List of Alternatives from West of Stratford to Highway 7

		CORRIDOR SCREENING	
Corridor Description	**Corridor Description**	South By-Pass Corridor 3 **(New Alternative)**	South By-Pass Corridor 4 **(New Alternative)**
	Corridor Length	10.0 km	10.0 km
	Key Map		
Screening Criteria – Natural Environment Factors	**Terrestrial Ecosystems: Minimize direct loss of PSWs, ANSIs, ESAs and core woodlots**	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segments within core woodlot	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segments within core woodlot
	Fisheries and Aquatic Ecosystems, Surface Water: Minimize number of stream crossings	• 3 stream crossings	• 3 stream crossings
Screening Criteria – Land Use and Socio-Economic Factors	**Land Use - Resources: Minimize loss of Canada Land Inventory Class 1,2,3 agricultural land**	• Relatively minor loss of agricultural lands; primarily utilizes existing local road corridors	• Moderate loss of agricultural lands; primarily utilizes existing local road corridors
	Land Use Planning Policies, Goals, Objectives: Minimize loss of approved development lands	• Minor portion of corridor within planned development area but primarily utilizes existing corridor	• Minor portion of corridor within planned development area but primarily utilizes existing corridor
	Land Use - Community, Industry: Minimize removal of existing development	• Portion of corridor within existing development areas	• Portion of corridor within existing development areas
Screening Criteria – Cultural Environmental Factors	**Built Heritage: Minimize loss of heritage buildings**	• Several heritage buildings potentially displaced	• Several heritage buildings potentially displaced
	Cultural Heritage Landscapes: Minimize loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas
Screening Criteria – Transportation Factors	**Network Connectivity: Minimize out of way travel**	• Direct corridor, with limited out of way travel	• Direct corridor, with limited out of way travel
	Mobility and Accessibility: Proximity of corridor to population centres	• Corridor situated close to population centres	• Corridor situated close to population centres
Screening Results	**Recommendation**	**CARRY FORWARD**	**CARRY FORWARD**
	Rationale	• Fewer stream crossings • Fewer potential effects on existing and planned development areas • No loss of amenities in heritage downtown areas • Maximizes use of existing infrastructure • Direct corridor	• Fewer stream crossings • Fewer potential effects on existing and planned development areas • No loss of amenities in heritage downtown areas • Primarily utilizes existing infrastructure • Direct corridor

Screening Results – Section 2: Long List of Alternatives from Highway 7 to East of Stratford

			CORRIDOR SCREENING			
Corridor Description		**Corridor Description**	Existing Corridor	North By-Pass Corridor 1	North By-Pass Corridor 2	South By-Pass Corridor 1
		Corridor Length	7.2 km	6.2 km	6.7 km	10.1 km
		Key Map				
Screening Criteria	Natural Environment Factors	**Terrestrial Ecosystems: Minimize direct loss of PSWs, ANSIs, ESAs and core woodlots**	• Two corridor segments within PSWs, ANSIs (Little Lakes) • No corridor segments within ESAs • No corridor segments within core woodlots	• Two corridor segments within PSWs, ANSIs (Little Lakes) • No corridor segments within ESAs • No corridor segments within core woodlots	• Two corridor segments within PSWs, ANSIs (Little Lakes) • No corridor segments within ESAs • No corridor segments within core woodlots	• One corridor segment within ESA (Stratford Wetland Complex) • No corridor segments within PSWs, ANSIs • No corridor segments within core woodlots
		Fisheries and Aquatic Ecosystems, Surface Water: Minimize number of stream crossings	• 3 stream crossings at existing crossing locations	• 5 stream crossings	• 5 stream crossings, 3 at existing crossing locations	• 4 stream crossings, 1 at existing crossing location
	Land Use and Socio-Economic Factors	**Land Use - Resources: Minimize loss of Canada Land Inventory Class 1,2,3 agricultural land**	• Least loss of agricultural lands; primarily utilizes existing corridor	• Majority of corridor within agricultural lands; greater loss of Class 1 agricultural lands	• Majority of corridor within agricultural lands; greater loss of Class 1 agricultural lands	• Majority of corridor within agricultural lands; moderate loss of Class 1 agricultural lands
		Land Use Planning Policies, Goals, Objectives: Minimize loss of approved development lands	• Majority of corridor within planned development areas but primarily utilizes existing corridor	• No corridor segments within planned development areas	• Moderate portion of corridor within planned development areas	• No corridor segments within planned development areas; buffer between urban area and corridor
		Land Use - Community, Industry: Minimize removal of existing development	• Majority of corridor within existing development areas; utilizes existing corridor but will require removal of some existing development adjacent to existing corridor	• Minor portion of corridor within existing development areas	• Moderate portion of corridor within existing development areas	• Minor portion of corridor within existing development areas
	Cultural Environmental Factors	**Built Heritage: Minimize loss of heritage buildings**	• Numerous heritage buildings potentially displaced	• Minimal impact to heritage buildings	• Minimal impact to heritage buildings	• Minimal impact to heritage buildings
		Cultural Heritage Landscapes: Minimize loss of amenities in heritage downtown areas	• Significant loss of amenities in heritage downtown areas (e.g. on-street parking; sidewalks; etc.)	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas
	Transportation Factors	**Network Connectivity: Minimize out of way travel**	• Direct corridor, with no out of way travel	• Relatively direct corridor, with some out of way travel	• Relatively direct corridor, with some out of way travel	• Relatively direct corridor, with some out of way travel
		Mobility and Accessibility: Proximity of corridor to population centres	• Corridor situated close to population centres	• Corridor situated farther from population centres	• Corridor situated relatively close to population centres	• Corridor situated relatively close to population centres
Screening Results		**Recommendation**	**DO NOT CARRY FORWARD**	**DO NOT CARRY FORWARD**	**DO NOT CARRY FORWARD**	**CARRY FORWARD**
		Rationale	• Two corridor segments within PSWs, ANSIs • Higher potential effects on existing development (i.e. along existing corridor) • Numerous heritage buildings potentially displaced • Significant loss of amenities in heritage downtown areas	• Two corridor segments within PSWs, ANSIs • Higher number of stream crossings • Greater loss of Class 1 agricultural lands • Situated farther from population centres	• Two corridor segments within PSWs, ANSIs • Higher number of stream crossings • Greater loss of Class 1 agricultural lands • Moderate potential effects on existing and planned development areas • Situated farther from population centres	• No corridor segments within PSWs, ANSIs; one corridor segment within ESA • Fewer stream crossings • Fewer potential effects on existing and planned development areas; buffer between urban area and corridor • Minimal impact to heritage buildings • No loss of amenities in heritage downtown areas • Situated relatively close to population centres

Screening Results – Section 2: Long List of Alternatives from Highway 7 to East of Stratford

			CORRIDOR SCREENING			
Corridor Description		**Corridor Description**	South By-Pass Corridor 2	South By-Pass Corridor 3	South By-Pass Corridor 4	South By-Pass Corridor 5
		Corridor Length	10.0 km	11.6 km	10.8 km	10.7 km
		Key Map				
Screening Criteria	Natural Environment Factors	**Terrestrial Ecosystems: Minimize direct loss of PSWs, ANSIs, ESAs and core woodlots**	• One corridor segment within ESA (Stratford Wetland Complex) • No corridor segments within PSWs, ANSIs • No corridor segments within core woodlots	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segment within core woodlots	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segments within core woodlot	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segments within core woodlot
		Fisheries and Aquatic Ecosystems, Surface Water: Minimize number of stream crossings	• 4 stream crossings	• 6 stream crossings	• 5 stream crossings	• 7 stream crossings
	Land Use and Socio-Economic Factors	**Land Use - Resources: Minimize loss of Canada Land Inventory Class 1,2,3 agricultural land**	• Majority of corridor within agricultural lands; moderate loss of Class 1 agricultural lands	• Majority of corridor within agricultural lands; greater loss of Class 1 agricultural lands	• Majority of corridor within agricultural lands; greater loss of Class 1 agricultural lands	• Majority of corridor within agricultural lands; greater loss of Class 1 agricultural lands
		Land Use Planning Policies, Goals, Objectives: Minimize loss of approved development lands	• No corridor segments within planned development areas; buffer between urban area and corridor	• No corridor segments within planned development areas	• No corridor segments within planned development areas	• No corridor segments within planned development areas
		Land Use - Community, Industry: Minimize removal of existing development	• Minor portion of corridor within existing development areas	• Moderate portion of corridor within existing development areas	• Moderate portion of corridor within existing development areas	• Moderate portion of corridor within existing development areas
	Cultural Environmental Factors	**Built Heritage: Minimize loss of heritage buildings**	• Minimal impact to heritage buildings	• Minimal impact to heritage buildings	• Minimal impact to heritage buildings	• Minimal impact to heritage buildings
		Cultural Heritage Landscapes: Minimize loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas
	Transportation Factors	**Network Connectivity: Minimize out of way travel**	• Relatively direct corridor, with some out of way travel	• Relatively direct corridor, with some out of way travel	• Relatively direct corridor, with some out of way travel	• Relatively direct corridor, with some out of way travel
		Mobility and Accessibility: Proximity of corridor to population centres	• Corridor situated relatively close to population centres	• Corridor situated farther from population centres	• Corridor situated farther from population centres	• Corridor situated farther from population centres
Screening Results		**Recommendation**	**CARRY FORWARD**	**DO NOT CARRY FORWARD**	**DO NOT CARRY FORWARD**	**DO NOT CARRY FORWARD**
		Rationale	• No corridor segments within PSWs, ANSIs; one corridor segment within ESA • Fewer stream crossings • Fewer potential effects on existing and planned development areas; buffer between urban area and corridor • Minimal impact to heritage buildings • No loss of amenities in heritage downtown areas • Situated relatively close to population centres	• Higher number of stream crossings • Greater loss of Class 1 agricultural lands • Moderate potential effects on existing development areas • Situated farther from population centres	• Higher number of stream crossings • Greater loss of Class 1 agricultural lands • Moderate potential effects on existing development areas • Situated farther from population centres	• Higher number of stream crossings • Greater loss of Class 1 agricultural lands • Moderate potential effects on existing development areas • Situated farther from population centres

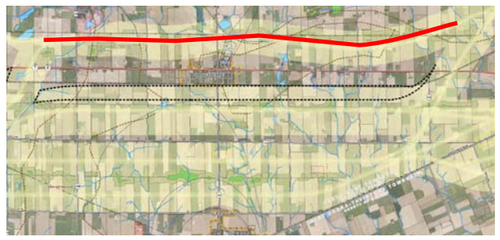
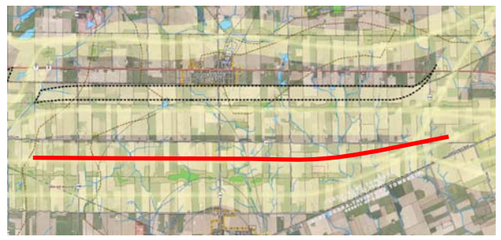
Screening Results – Section 2: Long List of Alternatives from Highway 7 to East of Stratford

		CORRIDOR SCREENING	
Corridor Description	**Corridor Description**	South By-Pass Corridor 6 **(New Alternative)**	South By-Pass Corridor 7 **(New Alternative)**
	Corridor Length	9.0 km	9.0 km
	Key Map		
Screening Criteria – Natural Environment Factors	**Terrestrial Ecosystems: Minimize direct loss of PSWs, ANSIs, ESAs and core woodlots**	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segments within core woodlots	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segment within core woodlots
	Fisheries and Aquatic Ecosystems, Surface Water: Minimize number of stream crossings	• 2 stream crossings	• 2 stream crossings
Screening Criteria – Land Use and Socio-Economic Factors	**Land Use - Resources: Minimize loss of Canada Land Inventory Class 1,2,3 agricultural land**	• Portion of corridor within agricultural lands; moderate loss of Class 1 agricultural lands	• Portion of corridor within agricultural lands; moderate loss of Class 1 agricultural lands
	Land Use Planning Policies, Goals, Objectives: Minimize loss of approved development lands	• Majority of corridor within planned development areas but primarily utilizes existing corridors	• Majority of corridor within planned development areas but primarily utilizes existing corridors
	Land Use - Community, Industry: Minimize removal of existing development	• Majority of corridor within existing development areas; primarily utilizes existing corridors but will require removal of some existing development adjacent to existing corridor	• Majority of corridor within existing development areas; primarily utilizes existing corridors but will require removal of some existing development adjacent to existing corridor
Screening Criteria – Cultural Environmental Factors	**Built Heritage: Minimize loss of heritage buildings**	• Minimal impact to heritage buildings	• Minimal impact to heritage buildings
	Cultural Heritage Landscapes: Minimize loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas
Screening Criteria – Transportation Factors	**Network Connectivity: Minimize out of way travel**	• Direct corridor, with limited out of way travel	• Direct corridor, with limited out of way travel
	Mobility and Accessibility: Proximity of corridor to population centres	• Corridor situated close to population centres	• Corridor situated close to population centres
Screening Results	**Recommendation**	**CARRY FORWARD**	**CARRY FORWARD**
	Rationale	• No corridor segments within PSWs, ANSIs, ESAs • Fewer stream crossings • Moderate loss of Class 1 agricultural lands • Moderate potential effects on existing and planned development areas • Minimal impact to heritage buildings • No loss of amenities in heritage downtown areas • Direct corridor • Situated close to population centres	• No corridor segments within PSWs, ANSIs, ESAs • Fewer stream crossings • Moderate loss of Class 1 agricultural lands • Moderate potential effects on existing and planned development areas • Minimal impact to heritage buildings • No loss of amenities in heritage downtown areas • Direct corridor • Situated close to population centres

Screening Results – Section 3: Long List of Alternatives from East of Stratford to West of New Hamburg

			CORRIDOR SCREENING		
Corridor Description		**Corridor Description**	Existing Corridor	North By-Pass Corridor	South By-Pass Corridor
		Corridor Length	12.3 km	13.0 km	12.5 km
		Key Map			
Screening Criteria	Natural Environment Factors	**Terrestrial Ecosystems: Minimize direct loss of PSWs, ANSIs, ESAs and core woodlots**	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segments within core woodlots	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segments within core woodlots	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segments within core woodlots
		Fisheries and Aquatic Ecosystems, Surface Water: Minimize number of stream crossings	• 7 stream crossings at existing crossing locations	• 9 stream crossings, 4 at existing crossing locations	• 8 stream crossings, 3 at existing crossing locations
	Land Use and Socio-Economic Factors	**Land Use - Resources: Minimize loss of Canada Land Inventory Class 1,2,3 agricultural land**	• Least loss of agricultural lands; primarily utilizes existing corridor	• Portion of corridor within agricultural lands	• Portion of corridor within agricultural lands; utilizes lands previously disturbed adjacent to railway corridor
		Land Use Planning Policies, Goals, Objectives: Minimize loss of approved development lands	• Portion of corridor within planned development areas but primarily utilizes existing corridor	• Portion of corridor within planned development areas	• No corridor segment within planned development areas
		Land Use - Community, Industry: Minimize removal of existing development	• Portion of corridor within existing development area (Shakespeare); utilizes existing corridor but will require removal of some existing development adjacent to existing corridor	• Portion of corridor within existing development area (Shakespeare); outside Shakespeare, utilizes existing corridor but will require removal of some existing development adjacent to existing corridor	• Primarily utilizes existing corridor but will require removal of some existing development adjacent to existing corridor
	Cultural Environmental Factors	**Built Heritage: Minimize loss of heritage buildings**	• Several heritage buildings potentially impacted, including Fryfogel Inn	• Several heritage buildings potentially impacted	• Several heritage buildings potentially impacted, including Fryfogel Inn
		Cultural Heritage Landscapes: Minimize loss of amenities in heritage downtown areas	• Significant loss of amenities in heritage downtown areas (e.g. on-street parking; sidewalks; etc.)	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas
	Transportation Factors	**Network Connectivity: Minimize out of way travel**	• Direct corridor, with no out of way travel	• Relatively direct corridor, with limited out of way travel	• Relatively direct corridor, with limited out of way travel
		Mobility and Accessibility: Proximity of corridor to population centres	• Corridor situated close to population centres	• Corridor situated relatively close to population centres	• Corridor situated relatively close to population centres
Screening Results		**Recommendation**	**CARRY FORWARD**	**DO NOT CARRY FORWARD**	**CARRY FORWARD**
		Rationale	• No corridor segments within PSWs, ANSIs, ESAs, core woodlots • Fewer stream crossings; utilizes existing crossing locations • Least loss of agricultural lands • No out of way travel • Situated close to population centres	• Higher number of stream crossings • Moderate loss of agricultural lands • Higher potential effects on existing and planned development areas	• Fewer stream crossings; utilizes several existing crossing locations • Minor loss of agricultural lands; utilizes lands previously disturbed adjacent to railway corridor • Lower potential effects on existing development; no effects on planned development • Limited out of way travel • Situated close to population centres

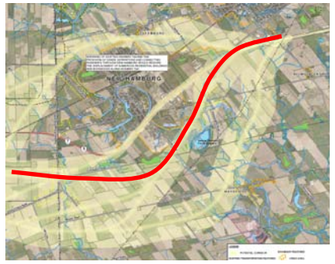
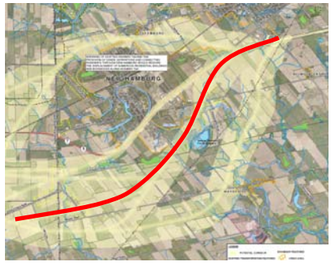
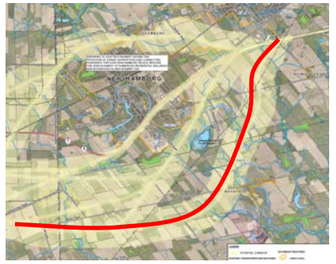
Screening Results – Section 3: Long List of Alternatives from East of Stratford to West of New Hamburg

		CORRIDOR SCREENING			
Corridor Description	**Corridor Description**	North Corridor	South Corridor 1	South Corridor 2	South Corridor 3
	Corridor Length	12.3 km	12.3 km	12.5 km	12.7 km
	Key Map				
Screening Criteria – Natural Environment Factors	**Terrestrial Ecosystems: Minimize direct loss of PSWs, ANSIs, ESAs and core woodlots**	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segments within core woodlots	• No corridor segments within PSWs, ANSIs, ESAs • Two corridor segments within core woodlots	• No corridor segments within PSWs, ANSIs, ESAs • Five corridor segments within core woodlots	• No corridor segments within PSWs, ANSIs, ESAs • Five corridor segments within core woodlots
	Fisheries and Aquatic Ecosystems, Surface Water: Minimize number of stream crossings	• 6 stream crossings	• 6 stream crossings	• 12 stream crossings	• 14 stream crossings
Screening Criteria – Land Use and Socio-Economic Factors	**Land Use - Resources: Minimize loss of Canada Land Inventory Class 1,2,3 agricultural land**	• Majority of corridor within agricultural lands	• Majority of corridor within agricultural lands; utilizes lands previously disturbed adjacent to railway corridor	• Majority of corridor within agricultural lands	• Majority of corridor within agricultural lands
	Land Use Planning Policies, Goals, Objectives: Minimize loss of approved development lands	• No corridor segment within planned development area	• No corridor segment within planned development area	• No corridor segment within planned development area	• No corridor segment within planned development area
	Land Use - Community, Industry: Minimize removal of existing development	• No corridor segment within existing development area but may displace individual residential buildings and farm buildings	• No corridor segment within existing development area but may displace individual residential buildings and farm buildings	• No corridor segment within existing development area but may displace individual residential buildings and farm buildings	• No corridor segment within existing development area but may displace individual residential buildings and farm buildings
Screening Criteria – Cultural Environmental Factors	**Built Heritage: Minimize loss of heritage buildings**	• Minimal impact to heritage buildings	• Minimal impact to heritage buildings	• Minimal impact to heritage buildings	• Minimal impact to heritage buildings
	Cultural Heritage Landscapes: Minimize loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas
Screening Criteria – Transportation Factors	**Network Connectivity: Minimize out of way travel**	• Relatively direct corridor, with some out of way travel depending upon destination	• Relatively direct corridor, with limited out of way travel	• Relatively direct corridor, with some out of way travel depending upon destination	• Relatively direct corridor, with some out of way travel depending upon destination
	Mobility and Accessibility: Proximity of corridor to population centres	• Corridor situated relatively close to population centres	• Corridor situated relatively close to population centres	• Corridor situated farther from population centres	• Corridor situated farther from population centres
Screening Results	**Recommendation**	**DO NOT CARRY FORWARD**	**CARRY FORWARD**	**DO NOT CARRY FORWARD**	**DO NOT CARRY FORWARD**
	Rationale	• Greater loss of agricultural lands • Higher potential effects on existing and planned development areas	• Fewer stream crossings • Moderate loss of agricultural lands; utilizes lands previously disturbed adjacent to railway corridor • Lower potential effects on existing development; no effects on planned development • Minimal impact to heritage buildings • Limited out of way travel; situated close to population centres	• Five corridor segments within core woodlots • Higher number of stream crossings • Greater loss of agricultural lands • Some out of way travel • Situated farther from population centres	• Five corridor segments within core woodlots • Higher number of stream crossings • Greater loss of agricultural lands • Some out of way travel • Situated farther from population centres

Screening Results: – Section 4: Long List of Alternatives from West of New Hamburg to East of New Hamburg

			CORRIDOR SCREENING			
Corridor Description		**Corridor Description**	Existing Corridor	North By-Pass Corridor 1	North By-Pass Corridor 2	South By-Pass Corridor 1
		Corridor Length	8.5 km	8.5 km	8.0 km	8.5 km
		Key Map				
Screening Criteria	Natural Environment Factors	**Terrestrial Ecosystems: Minimize direct loss of PSWs, ANSIs, ESAs and core woodlots**	• No corridor segments within PSWs, ANSIs, ESAs • No corridor segment within core woodlots	• Potential effects on New Hamburg Oxbow PSW • No corridor segments within ANSIs, ESAs • One corridor segment within core woodlot	• Potential effects on New Hamburg Oxbow PSW • No corridor segments within ANSIs, ESAs • One corridor segment within core woodlot	• Potential effects on New Hamburg Oxbow PSW • No corridor segments within ANSIs, ESAs • Two corridor segments within core woodlots
		Fisheries and Aquatic Ecosystems, Surface Water: Minimize number of stream crossings	• 5 stream crossings at existing crossing locations	• 7 stream crossings	• 6 stream crossings	• 6 stream crossings
	Land Use and Socio-Economic Factors	**Land Use - Resources: Minimize loss of Canada Land Inventory Class 1,2,3 agricultural land**	• Least loss of agricultural lands; primarily utilizes existing corridor	• Majority of corridor within agricultural lands	• Majority of corridor within agricultural lands	• Portion of corridor within agricultural lands
		Land Use Planning Policies, Goals, Objectives: Minimize loss of approved development lands	• Majority of corridor within planned development areas but does utilize existing corridor	• Portion of corridor within planned development area	• Portion of corridor within planned development area	• No corridor segment within planned development area
		Land Use - Community, Industry: Minimize removal of existing development	• Majority of corridor within existing development areas but does utilize existing corridor; may displace numerous residential buildings and businesses • Corridor serves existing business community	• Portion of corridor within existing development area; may also displace individual residential buildings and farm buildings	• Portion of corridor within existing development area; may also displace individual residential buildings and farm buildings	• Portion of corridor segment within existing development area; may also displace individual residential buildings and farm buildings
	Cultural Environmental Factors	**Built Heritage: Minimize loss of heritage buildings**	• Minimal impact to heritage buildings	• Minimal impact to heritage buildings	• Minimal impact to heritage buildings	• Several heritage buildings potentially impacted
		Cultural Heritage Landscapes: Minimize loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas
	Transportation Factors	**Network Connectivity: Minimize out of way travel**	• Relatively short and direct corridor	• Relatively short and direct corridor, with some out of way travel	• Relatively short and direct corridor, with some out of way travel	• Relatively short and direct corridor, with some out of way travel
		Mobility and Accessibility: Proximity of corridor to population centres	• Corridor situated close to population centres	• Corridor situated relatively close to population centres	• Corridor relatively close to population centres	• Corridor situated relatively close population centres
Screening Results		**Recommendation**	**CARRY FORWARD**	**DO NOT CARRY FORWARD**	**DO NOT CARRY FORWARD**	**CARRY FORWARD**
		Rationale	• No corridor segments within PSWs, ANSIs, ESAs, core woodlots • Fewer stream crossings; utilizes existing crossing locations • Least loss of agricultural lands • Moderate potential effects on existing and planned development areas; corridor serves existing business community • Relatively short and direct corridor • Situated close to population centres	• Potential impacts to wetland complex • One corridor segment within core woodlot • Moderate number of stream crossings • Greater loss of agricultural lands • Higher potential effects on existing and planned development areas	• Potential impacts to wetland complex • One corridor segment within core woodlot • Moderate number of stream crossings • Greater loss of agricultural lands • Higher potential effects on existing and planned development areas	• Potential impacts to wetland complex • Two corridor segments within core woodlots • Moderate number of stream crossings • Moderate loss of agricultural lands • Moderate potential effects on existing development areas; minor potential effects on planned development areas • Relatively short and direct route • Situated relatively close to population centres

Screening Results: – Section 4: Long List of Alternatives from West of New Hamburg to East of New Hamburg

			CORRIDOR SCREENING			
Corridor Description		**Corridor Description**	South By-Pass Corridor 2	South By-Pass Corridor 3	South By-Pass Corridor 4	South By-Pass Corridor 5
		Corridor Length	10.5 km	9.0 km	9.0 km	10.5 km
		Key Map				
Screening Criteria	Natural Environment Factors	**Terrestrial Ecosystems: Minimize direct loss of PSWs, ANSIs, ESAs and core woodlots**	• Potential impacts to New Hamburg Oxbow and Haysville PSWs • No corridor segments within ANSIs, ESAs • One corridor segment within core woodlot	• Potential impacts to New Hamburg Oxbow PSW • No corridor segments within ANSIs, ESAs • One corridor segment within core woodlot	• Potential impacts to New Hamburg Oxbow PSW • No corridor segments within ANSIs, ESAs • No corridor segments within core woodlots	• Potential impacts to Haysville PSW • No corridor segments within ANSIs, ESAs • No corridor segment within core woodlots
		Fisheries and Aquatic Ecosystems, Surface Water: Minimize number of stream crossings	• 7 stream crossings	• 6 stream crossings	• 6 stream crossings	• 7 stream crossings
	Land Use and Socio-Economic Factors	**Land Use - Resources: Minimize loss of Canada Land Inventory Class 1,2,3 agricultural land**	• Entire corridor within agricultural lands	• Majority of corridor within agricultural lands	• Majority of corridor within agricultural lands	• Entire corridor within agricultural lands
		Land Use Planning Policies, Goals, Objectives: Minimize loss of approved development lands	• No corridor segment within planned development area	• No corridor segment within planned development area	• No corridor segment within planned development area	• No corridor segment within planned development area
		Land Use - Community, Industry: Minimize removal of existing development	• No corridor segment within existing development area but may displace individual residential buildings and farm buildings	• Portion of corridor segment within existing development area; may also displace individual residential buildings and farm buildings	• Portion of corridor within existing development area but may displace individual residential buildings and farm buildings	• No corridor segment within existing development area but may displace individual residential buildings and farm buildings
	Cultural Environmental Factors	**Built Heritage: Minimize loss of heritage buildings**	• Several heritage buildings potentially impacted	• Several heritage buildings potentially impacted	• Several heritage buildings potentially impacted	• Several heritage buildings potentially impacted
		Cultural Heritage Landscapes: Minimize loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas	• No loss of amenities in heritage downtown areas
	Transportation Factors	**Network Connectivity: Minimize out of way travel**	• Relatively long and indirect corridor, with significant out of way travel	• Relatively long and indirect corridor, with moderate out of way travel	• Relatively long and indirect corridor, with moderate out of way travel	• Relatively long and indirect corridor, with significant out of way travel
		Mobility and Accessibility: Proximity of corridor to population centres	• Corridor situated farther from population centres	• Corridor situated father from population centres	• Corridor situated farther from population centres	• Corridor situated farther from population centres
Screening Results		**Recommendation**	**DO NOT CARRY FORWARD**	**DO NOT CARRY FORWARD**	**DO NOT CARRY FORWARD**	**DO NOT CARRY FORWARD**
		Rationale	• Potential impacts to wetland complexes • One corridor segment within core woodlot • Higher number of stream crossings • Greater loss of agricultural lands • Relatively long and indirect route • Situated farther from population centres	• Potential impacts to wetland complex • One corridor segment within core woodlot • Moderate number of stream crossings • Greater loss of agricultural lands • Relatively long and indirect route • Situated farther from population centres	• Potential impacts to wetland complex • No corridor segments within core woodlot • Moderate number of stream crossings • Greater loss of agricultural lands • Relatively long and indirect route • Situated farther from population centres	• Potential impacts to wetland complex • No corridor segments within core woodlot • Higher number of stream crossings • Greater loss of agricultural lands • Relatively long and indirect route • Situated farther from population centres

APPENDIX B

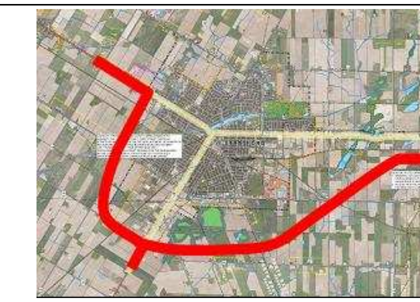
ASSESSMENT AND EVALUATION TABLES FOR SHORT LIST OF CORRIDOR ALTERNATIVES

Highway 7&8 Transportation Corridor Planning and Class EA Study

EVALUATION OF SHORT LIST OF CORRIDOR ALTERNATIVES (Preliminary Planning Alternatives)

Note – Evaluation of the short list of corridor alternatives is based on a qualitative assessment of each corridor (high, medium or low) and is based on secondary source information presented In Report F, Part 1 (June, 2008)
Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment

SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 1 OF 2)

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1A/2A (Stratford South Bypass Corridor 1 West and Bypass Corridor 1 East of Erie) Nodes: 1-1, 1-2, 1-4, 1-7, 1-8, 1-9/2-2, 2-4, 2-6 Plus Erie Street 2-1, 2-2	**CORRIDOR ALTERNATIVE 1A/2B** (Stratford South Bypass Corridor 1 West of Erie and Bypass Corridor 2 East of Erie) Nodes: 1-1, 1-2, 1-4, 1-7, 1-8, 1-9/2-2, 2-4, 2-5 Plus Erie Street 2-1, 2-2	**CORRIDOR ALTERNATIVE 1B/2A** (Stratford South Bypass Corridor 2 West and Bypass Corridor 1 East of Erie) Nodes: 1-1, 1-2, 1-3, 1-5, 1-8, 1-10/2-1, 2-4, 2-6	**CORRIDOR ALTERNATIVE 1B/2B** (Stratford South Bypass Corridor 2 West of Erie, & Bypass Corridor 2 East of Erie) Nodes: 1-1, 1-2, 1-3, 1-5, 1-8, 1-10/2-1, 2-4, 2-5
KEY MAP						
1. NATURAL ENVIRONMENT FACTORS						
1.1 Fisheries and Aquatic Ecosystems	1.1.1 Fish Habitat And 1.1.2 Fish Community	Potential to affect fish species and their habitat	**High** potential to affect fish species and their habitat • Potential to impact permanent warmwater fish habitat of the Avon River and Trout Creek in the Thames River Watershed. Corridor intersects 11 tributaries of the Avon River; of which 3 are warmwater and 8 have no data or an unassigned thermal regime.	**High** potential to affect fish species and their habitat • Potential to impact permanent warmwater fish habitat of the Avon River and Trout Creek in the Thames River Watershed. Corridor intersects 12 tributaries of the Avon River; of which 3 are warmwater and 9 have no data or an unassigned thermal regime.	**High** potential to affect fish species and their habitat • Potential to impact permanent warmwater fish habitat of the Avon River and Trout Creek in the Thames River Watershed. Corridor intersects 11 tributaries of the Avon River, of which 3 are warmwater and 8 have no data or an unassigned thermal regime	**High** potential to affect fish species and their habitat • Potential to impact permanent warmwater fish habitat of the Avon River and Trout Creek in the Thames River Watershed. Corridor intersects 12 tributaries of the Avon River; of which 3 are warmwater and 9 have no data or an unassigned thermal regime.
1.2 Terrestrial Ecosystems	1.2.1 Wildlife	Potential to affect wildlife species at risk (special concern, endangered or threatened wildlife species), and provincially rare (S1 – S3) species and their habitat	**Low** potential to affect wildlife and their habitat • No special concern, endangered or threatened wildlife species • No provincially rare species (S1 – S3) • New corridor would be a new barrier to wildlife movement south of Stratford	**Low** potential to affect wildlife and their habitat • No special concern, endangered or threatened wildlife species • No provincially rare species (S1 – S3) • New corridor would be a new barrier to wildlife movement south of Stratford	**Low** potential to affect wildlife and their habitat • No special concern, endangered or threatened wildlife species • No provincially rare species (S1 – S3) • New corridor would be a new barrier to wildlife movement south of Stratford	**Low** potential to affect wildlife and their habitat • No special concern, endangered or threatened wildlife species • No provincially rare species (S1 – S3) • New corridor would be a new barrier to wildlife movement south of Stratford
	1.2.2 Wetlands	Potential to affect provincially (PSW) and locally (LSW) significant wetlands.	**High** potential to affect PSW and LSW wetlands. • Little Lakes Swamp Complex PSW and Stratford Complex LSW both located within the corridor.	**High** potential to affect PSW and LSW wetlands. • Little Lakes Swamp Complex PSW and Stratford Complex LSW both located within the corridor.	**High** potential to affect PSW and LSW wetlands. • Little Lakes Swamp Complex PSW and Stratford Complex LSW both located within the corridor.	**High** potential to affect PSW and LSW wetlands. • Little Lakes Swamp Complex PSW and Stratford Complex LSW both located within the corridor.
	1.2.3 Forests	Potential to affect woodlands, especially larger core woodlands and interior habitat	**High** potential to affect woodlands • 11 woodlands potentially affected, 1 of which is larger with identified core/interior habitat	**High** potential to affect woodlands • 11 woodlands potentially affected, 2 of which are larger with identified core/interior habitat	**High** potential to affect woodlands 17 woodlands potentially affected, 1 of which is larger with identified core/interior habitat	**High** potential to affect woodlands • 17 woodlands potentially affected, 2 of which are larger with identified core/interior habitat
	1.2.4 Vegetation	Potential to affect populations of rare vegetation, including species at risk, provincially rare species and provincially rare vegetation communities	**Low** potential to affect populations of rare vegetation • No rare or SAR identified within the corridor • New corridor would result in much higher removal of vegetation south of Stratford.	**Low** potential to affect populations of rare vegetation • No rare or SAR identified within the corridor • New corridor would result in much higher removal of vegetation south of Stratford.	**Low** potential to affect populations of rare vegetation • No rare or SAR identified within the corridor • New corridor would result in much higher removal of vegetation south of Stratford.	**Low** potential to affect populations of rare vegetation • No rare or SAR identified within the corridor • New corridor would result in much higher removal of vegetation south of Stratford.
	1.2.5 Designated/Special Areas	Potential to affect designated/special areas	**Medium** potential to affect designated/special areas • Potential to cross the Little Lakes Bog and Swamp Forest Complex ANSI	**Medium** potential to affect designated/special areas • Forest Complex ANSI	**Medium** potential to affect designated/special areas • Potential to cross the Little Lakes Bog and Swamp Forest Complex ANSI	**Medium** potential to affect designated/special areas • Potential to cross the Little Lakes Bog and Swamp Forest Complex ANSI
1.3 Groundwater	1.3.1 Areas of Groundwater Recharge and Discharge	Potential to affect volume of groundwater at recharge and discharge areas (depends on presence of low permeability, i.e. till or fine grained glaciolacustrine sediments, or high permeability, i.e. sand, gravels, fractured bedrock, soils at surface)	**Low** potential to affect volume of groundwater at recharge and discharge areas. • Surface runoff is interpreted to exceed infiltration • No temporary or long-term change to	**Low** potential to affect volume of groundwater at recharge and discharge areas. • Surface runoff is interpreted to exceed infiltration • No temporary or long-term change to	**Low** potential to affect volume of groundwater at recharge and discharge areas. • Surface runoff is interpreted to exceed infiltration • No temporary or long-term change to	**Low** potential to affect volume of groundwater at recharge and discharge areas. • Surface runoff is interpreted to exceed infiltration • No temporary or long-term change to

LEGEND

MOST PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED	NO SIGNIFICANT DIFFERENCE	SELECTED CORRIDOR

Highway 7&8 Transportation Corridor Planning and Class EA Study
EVALUATION OF SHORT LIST OF CORRIDOR ALTERNATIVES (Preliminary Planning Alternatives)
Note – Evaluation of the short list of corridor alternatives is based on a qualitative assessment of each corridor (high, medium or low) and is based on secondary source information presented In Report F, Part 1 (June, 2008)
Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment

SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 1 OF 2)

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1A/2A (Stratford South Bypass Corridor 1 West and Bypass Corridor 1 East of Erie) Nodes: 1-1, 1-2, 1-4, 1-7, 1-8, 1-9/2-2, 2-4, 2-6 Plus Erie Street 2-1, 2-2	**CORRIDOR ALTERNATIVE 1A/2B (Stratford South Bypass Corridor 1 West of Erie and Bypass Corridor 2 East of Erie) Nodes: 1-1, 1-2, 1-4, 1-7, 1-8, 1-9/2-2, 2-4, 2-5 Plus Erie Street 2-1, 2-2**	**CORRIDOR ALTERNATIVE 1B/2A (Stratford South Bypass Corridor 2 West and Bypass Corridor 1 East of Erie) Nodes: 1-1, 1-2, 1-3, 1-5, 1-8, 1-10/2-1, 2-4, 2-6**	**CORRIDOR ALTERNATIVE 1B/2B (Stratford South Bypass Corridor 2 West of Erie, & Bypass Corridor 2 East of Erie) Nodes: 1-1, 1-2, 1-3, 1-5, 1-8, 1-10/2-1, 2-4, 2-5**
			groundwater recharge or discharge is anticipated due to the small surface area affected by highway construction in the corridor.	groundwater recharge or discharge is anticipated due to the small surface area affected by highway construction in the corridor.	groundwater recharge or discharge is anticipated due to the small surface area affected by highway construction in the corridor.	groundwater recharge or discharge is anticipated due to the small surface area affected by highway construction in the corridor.
		Potential to affect quality of groundwater at recharge and discharge areas (depends on attenuation capacity of soils, and, rate of groundwater infiltration and/or discharge)	**Low** potential to affect groundwater quality at recharge and discharge areas. • Rate of groundwater infiltration is low, with no significant surficial aquifer units within the corridor.	**Low** potential to affect groundwater quality at recharge and discharge areas. • Rate of groundwater infiltration is low, with no significant surficial aquifer units within the corridor.	**Low** potential to affect groundwater quality at recharge and discharge areas. • Rate of groundwater infiltration is low, with no significant surficial aquifer units within the corridor.	**Low** potential to affect groundwater quality at recharge and discharge areas. • Rate of groundwater infiltration is low, with no significant surficial aquifer units within the corridor.
	1.3.2 Groundwater Source and Wellhead Protection Areas (WHPAs)	Potential to affect groundwater wellhead protection areas (i.e., is corridor upgradient of or within a delineated wellhead protection area)	**Low** potential to affect groundwater wellhead protection area. • Corridor is located downgradient of wellhead capture zones.	**Low** potential to affect groundwater wellhead protection area. • Corridor is located downgradient of wellhead capture zones.	**Low** potential to affect groundwater wellhead protection area. • Corridor is located downgradient of wellhead capture zones.	**Low** potential to affect groundwater wellhead protection area. • Corridor is located downgradient of wellhead capture zones.
	1.3.3 Large Volume Wells	Potential to affect large volume wells	**Low** potential to affect large volume wells • Corridor is located downgradient of large volume wells.	**Low** potential to affect large volume wells • Corridor is located downgradient of large volume wells.	**Low** potential to affect large volume wells • Corridor is located downgradient of large volume wells.	**Low** potential to affect large volume wells • Corridor is located downgradient of large volume wells.
	1.3.4 Private Wells	To be considered in the detailed planning and preliminary design phases				
	1.3.5 Groundwater-Sensitive Ecosystems	To be considered in the detailed planning and preliminary design phases				
1.4 Surface Water	1.4.1 Watershed / Sub-Watershed Drainage Features/Patterns	Potential to affect permanent watercourses	**Medium** potential to affect permanent watercourses • Potential to impact the Avon River and Trout Creek in Thames River Watershed. • Corridor intersects 11 tributaries of the Avon River.	**Medium** potential to affect permanent watercourses • Potential to impact the Avon River and Trout Creek in Thames River Watershed. • Corridor intersects 12 tributaries of the Avon River.	**High** potential to affect permanent watercourses • Potential to impact the Avon River and Trout Creek in Thames River Watershed. • Corridor intersects 11 tributaries of the Avon River and crosses confluence of three watercourses.	**High** potential to affect permanent watercourses • Potential to impact the Avon River and Trout Creek in Thames River Watershed. • Corridor intersects 12 tributaries of the Avon River and crosses confluence of three watercourses.
	1.4.2 Surface Water Quality and Quantity	To be considered in the detailed planning and preliminary design phases				
SUMMARY OF NATURAL ENVIRONMENT			Key natural environment conditions that differentiate Corridor 1A/2A from the other corridor alternatives in Sections 1 and 2are the following: • high potential to affect fish species and their habitat; • high potential l to affect provincially (PSW) and locally (LSW) significant wetlands • high potential to affect woodlands; • medium potential to affect permanent watercourses;	Key natural environment conditions that differentiate Corridor 1A/2A from the other corridor alternatives in Sections 1 and 2 are the following: • high potential to affect fish species and their habitat; • high potential to affect provincially (PSW) and locally (LSW) significant wetlands • high potential to affect woodlands; • medium potential to affect permanent watercourses;	Key natural environment conditions that differentiate Corridor 1B/2A from the other corridor alternatives in Sections 1 and 2 are the following: • high potential to affect fish species and their habitat; • high potential to affect provincially (PSW) and locally (LSW) significant wetlands • high potential to affect woodlands; • high potential to affect permanent watercourses;	Key natural environment conditions that differentiate Corridor 1B/2B from the other corridor alternatives in Sections 1 and 2 are the following: • high potential to affect fish species and their habitat; • high potential to affect provincially (PSW) and locally (LSW) significant wetlands • high potential to affect woodlands; • high potential to affect permanent watercourses
			Summary provided on Part 2 of Table			

LEGEND

MOST PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED	NO SIGNIFICANT DIFFERENCE	SELECTED CORRIDOR

Highway 7&8 Transportation Corridor Planning and Class EA Study
EVALUATION OF SHORT LIST OF CORRIDOR ALTERNATIVES (Preliminary Planning Alternatives)
Note – Evaluation of the short list of corridor alternatives is based on a qualitative assessment of each corridor (high, medium or low) and is based on secondary source information presented In Report F, Part 1 (June, 2008)
Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment

SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 1 OF 2)

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1A/2A (Stratford South Bypass Corridor 1 West and Bypass Corridor 1 East of Erie) Nodes: 1-1, 1-2, 1-4, 1-7, 1-8, 1-9/2-2, 2-4, 2-6 Plus Erie Street 2-1, 2-2	**CORRIDOR ALTERNATIVE 1A/2B (Stratford South Bypass Corridor 1 West of Erie and Bypass Corridor 2 East of Erie) Nodes: 1-1, 1-2, 1-4, 1-7, 1-8, 1-9/2-2, 2-4, 2-5 Plus Erie Street 2-1, 2-2**	**CORRIDOR ALTERNATIVE 1B/2A (Stratford South Bypass Corridor 2 West and Bypass Corridor 1 East of Erie) Nodes: 1-1, 1-2, 1-3, 1-5, 1-8, 1-10/2-1, 2-4, 2-6**	**CORRIDOR ALTERNATIVE 1B/2B (Stratford South Bypass Corridor 2 West of Erie, & Bypass Corridor 2 East of Erie) Nodes: 1-1, 1-2, 1-3, 1-5, 1-8, 1-10/2-1, 2-4, 2-5**
2. LAND USE / SOCIO-ECONOMIC ENVIRONMENT FACTORS						
2.1 Land Use Planning Policies, Goals, Objectives	2.1.1 First Nation Land Claims	Potential to affect areas for which there are First Nation outstanding land claims	Five filed land claims that may apply to this analysis area	Five filed land claims that may apply to this analysis area	Five filed land claims that may apply to this analysis area	Five filed land claims that may apply to this analysis area
	2.1.2 Provincial/Federal land use planning policies/goals/ objectives	Potential to support federal/provincial land use policies/goals/objectives NOTES PPS Policy 1.6.6.4 stipulates that when planning for corridors for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. PPS Policy 2.3 requires prime agricultural areas be protected for long-term use. Prime agricultural areas include specialty crop areas and Classes 1, 2, and 3 soils in this order of priority.	**Medium** potential to support federal/provincial land used policies/goals/objectives. • Corridor consists of existing and new corridor components; existing roadway components would minimize impacts relative to PPS Policies 1.6.6.4 and 2.3 while new corridor components would have significant impacts relative to PPS Policies 1.6.6.4 and 2.3. • There are no location-specific federal or provincial land use policies for Sections 1/2.	**Medium** potential to support federal/provincial land used policies/goals/objectives. • Corridor consists of existing and new corridor components; existing roadway components would minimize impacts relative to PPS Policies 1.6.6.4 and 2.3 while new corridor components would have significant impacts relative to PPS Policies 1.6.6.4 and 2.3. • There are no location-specific federal or provincial land use policies for Sections 1/2.	**Low** potential to support federal/provincial land used policies/goals/objectives. • Corridor is predominantly new corridor components, which would have significant impacts relative to PPS Policies 1.6.6.4 and 2.3. • There are no location-specific federal or provincial land use policies for Sections 1/2.	**Low** potential to support federal/provincial land used policies/goals/objectives. • Corridor is predominantly new corridor components, which would have significant impacts relative to PPS Policies 1.6.6.4 and 2.3. • There are no location-specific federal or provincial land use policies for Sections 1/2.
	2.1.3 Municipal (regional and local) land use planning policies/ goals/objectives (Official Plans)	Potential to support municipal Official Plans	**Medium** potential to support municipal Official Plans. • Corridor within County of Perth and City of Stratford. • West of Erie Street, all lands designated for Agricultural use, aside from section along Perth Line 29 that traverses the south edge of an Industrial area. • East of Erie Street, small section of corridor crosses Industrial area of Stratford. Balance of lands designated for Agricultural use.	**Medium** potential to support municipal Official Plans. • Corridor within County of Perth and City of Stratford. • West of Erie Street, all lands designated for Agricultural use, aside from section along Perth Line 29 that traverses the south edge of an Industrial area. • East of Erie Street, small section of corridor crosses Industrial area of Stratford. Balance of lands designated for Agricultural use.	**Low** potential to support municipal Official Plans. • Corridor within County of Perth and City of Stratford. • West of Erie Street, largely designated for Agricultural use. The section on Highway 8 between Perth Road 125 and O'Loane Avenue crosses a small portion of land designated for Aggregate/Pit Area; the section between Highway 8 and Lorne Avenue is adjacent to Urban Fringe; the section between O'Loane Avenue and Erie Street traverses the south edge of an Industrial area in City of Stratford • East of Erie Street, small section of corridor crosses Industrial area of Stratford. Balance of lands designated for Agricultural use.	**Low** potential to support municipal Official Plans. • Corridor within County of Perth and City of Stratford. • West of Erie Street, largely designated for Agricultural use. The section on Highway 8 between Perth Road 125 and O'Loane Avenue crosses a small portion of land designated for Aggregate/Pit Area; the section between Highway 8 and Lorne Avenue is adjacent to Urban Fringe; the section between O'Loane Avenue and Erie Street traverses the south edge of an Industrial area in City of Stratford • East of Erie Street, small section of corridor crosses Industrial area of Stratford. Balance of lands designated for Agricultural use.
	2.1.4 Development Objectives of Private Property Owners	To be considered in the detailed planning and preliminary design phases				
2.2 Land Use / Community	2.2.1 Indian Reserves	Potential to affect Indian Reserves	No Indian reserves within the analysis area.	No Indian reserves within the analysis area.	No Indian reserves within the analysis area.	No Indian reserves within the analysis area.
	2.2.2 First Nation Sacred Grounds	To be considered in the detailed planning and preliminary design phases				
	2.2.3 Urban and Rural Residential	Potential to affect urban and rural residential areas	**Low** potential to affect urban and rural residential areas • some individual residential properties along existing roads.	**Low** potential to affect urban and rural residential areas • some individual residential properties along existing roads	**Medium** potential to affect urban and rural residential areas • borders the west edge of residential area on O'Loane Avenue	**Medium** potential to affect urban and rural residential areas • borders the west edge of residential area on O'Loane Avenue

LEGEND

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Highway 7&8 Transportation Corridor Planning and Class EA Study
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	2.2.4 Commercial/Industrial	Potential to affect commercial and industrial areas	**Medium** potential to affect commercial and industrial areas. • Portion of the corridor along Perth Line 29 borders the southern edge of an industrial area. • Wwesterly limit of the corridor on Highway 7 is on the edge of an existing industrial area. Industrial development. • Some out-of-way travel between this corridor and the commercial and industrial area on Lorne Avenue	**Medium** potential to affect commercial and industrial areas. • Portion of the corridor along Perth Line 29 borders the southern edge of an industrial area. • Westerly limit of the corridor on Highway 7 is on the edge of an existing industrial area. Industrial development. • Some out-of-way travel between this corridor and the commercial and industrial area on Lorne Avenue	**High** potential to affect commercial and industrial areas. • Corridor intrudes into the southwest corner of the industrial area between O'Loane Avenue and Erie Street. • Westerly limit of the corridor on Highway 7 is on the edge of an existing industrial area. Industrial development. • Some out-of-way travel between this corridor and the commercial and industrial area on Lorne Avenue	**High** potential to affect commercial and industrial areas. • Corridor intrudes into the southwest corner of the industrial area between O'Loane Avenue and Erie Street. • The westerly limit of the corridor on Highway 7 is on the edge of an existing industrial area. Industrial development. • Some out-of-way travel between this corridor and the commercial and industrial area on Lorne Avenue
	2.2.5 Tourist Areas and Attractions (e.g. museums, theatres, etc.)	Potential to affect tourist areas and attractions	**Low** potential to affect tourist areas and attractions • No tourist areas or attractions within or adjacent to this corridor	**Low** potential to affect tourist areas and attractions • No tourist areas or attractions within or adjacent to this corridor	**Low** potential to affect tourist areas and attractions • No tourist areas or attractions within or adjacent to this corridor	**Low** potential to affect tourist areas and attractions • No tourist areas or attractions within or adjacent to this corridor
	2.2.6 Community Facilities / Institutions (e.g. hospitals, schools, places of worship, unique community features)	Potential to affect community facilities and institutions	**Low** potential to affect community facilities and institutions • No community facilities or institutions within or adjacent to this corridor	**Low** potential to affect community facilities and institutions • No community facilities or institutions within or adjacent to this corridor	**Low** potential to affect community facilities and institutions • No community facilities within or adjacent to this corridor	**Low** potential to affect community facilities and institutions • No community facilities within or adjacent to this corridor
	2.2.7 Municipal Infrastructure and Public Service Facilities	To be considered in the detailed planning and preliminary design phases				
2.3 Noise Sensitive Areas (NSAs) (residential areas and sensitive institutional uses)	2.3.1 Highway Noise	Potential for increased traffic noise in NSAs	**Low** potential to impact NSAs • Few NSAs adjacent to corridor	**Low** potential to impact NSAs • Few NSAs adjacent to corridor	**Medium** potential to impact NSAs • NSA east of O'Loane	**Medium** potential to impact NSAs • NSA east of O'Loane
	2.3.2 Construction Noise	Not considered until the preliminary design phase				
2.4 Agriculture	2.4.2 Agriculture - Canada Land Inventory Class (CLII) 1,2,3 Land	Potential to affect specialty crop areas and/or areas of Canada Land Inventory Classes 1, 2 and 3 soils: NOTES: CLI Class 1 - no significant growth limitations CLI Class 2 - moderate growth limitations CLI Class 3 - moderately severe growth limitations	**High** potential to affect specialty crop areas and/or areas of Canada Land Inventory Classes 1, 2 and 3 soils. • West of Erie Street, corridor is all existing roadway, and is outside of an urban setting. • The portion of the corridor along Highway 8 and along Perth Road 125 north of Lorne Avenue is within the Huron Clay Loam soil series which is 60% CLI Class 1 soils and 40% CLI Class 3 soils. • The portion of the corridor south of Lorne Avenue west of Erie Street is predominantly within the Perth Silt Loam soil series, which is 100% CLI Class 1 soils. There are also a few areas of Brookston Silt Loam soil series, which is 100% CLI Class 2 soils. • East of Erie Street, corridor is predominantly new corridor, and is outside of an urban setting. • The portion of the corridor west of Perth Road	**High** potential to affect specialty crop areas and/or areas of Canada Land Inventory Classes 1, 2 and 3 soils. • West of Erie Street, corridor is all existing roadway, and is outside of an urban setting. • The portion of the corridor along Highway 8 and along Perth Road 125 north of Lorne Avenue is within the Huron Clay Loam soil series which is 60% CLI Class 1 soils and 40% CLI Class 3 soils. • The portion of the corridor south of Lorne Avenue west of Erie Street is predominantly within the Perth Silt Loam soil series, which is 100% CLI Class 1 soils. There are also a few areas of Brookston Silt Loam soil series, which is 100% CLI Class 2 soils. • East of Erie Street, corridor is predominantly new corridor, and is outside of an urban setting.	**High** potential to affect specialty crops and/or areas of Class 1, 2 and 3 soils. • Corridor is predominantly new corridor, and is outside of an urban setting. • The portion of the corridor along Highway 8 is within the Huron Clay Loam soil series which is 60% CLI) Class 1 soils and 40% CLI Class 3 soils (moderately • The portion of the corridor between Highway 8 and Lorne Avenue is situated within the Brookston Silt Loam soil series, which is 100% CLI Class 2 soils. • The portion of the corridor south of Lorne Avenue (west of Erie Street) is predominantly within the Perth Silt Loam soil series, which is 100% CLI Class 1 soils. There are also a few areas of Brookston Silt Loam soil series, which is 100% CLI Class 2 soils. • The portion of the corridor west of Perth Road	**High** potential to affect specialty crops and/or areas of Class 1, 2 and 3 soils. • Corridor is predominantly new corridor, and is outside of an urban setting. • The portion of the corridor along Highway 8 is within the Huron Clay Loam soil series which is 60% CLI) Class 1 soils and 40% CLI Class 3 soils (moderately • The portion of the corridor between Highway 8 and Lorne Avenue is situated within the Brookston Silt Loam soil series, which is 100% CLI Class 2 soils. • The portion of the corridor south of Lorne Avenue (west of Erie Street) is predominantly within the Perth Silt Loam soil series, which is 100% CLI Class 1 soils. There are also a few areas of Brookston Silt Loam soil series, which is 100% CLI Class 2 soils. • The portion of the corridor west of Perth Road

LEGEND

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			111 and south of Lorne Avenue is predominantly within Perth Silt Loam soils, which is 100% CLI Class 1 soils. A small pocket of Muck (organic material) is situated east of Highway 7 is considered a CLI Class 0. There is also Brookston Silt Loam between Highway 7 and Perth Road 111, which is 100% CLI Class 2 soils. A thin strip of Bottom Land soil series is located within the corridor south of Perth 33 Line, which is CLI Class 5 soil series (heavy severe limitations). There is some Brookston Clay Loam soils east of Perth Road 111 and north of Lorne Avenue, which is 100% comprised of CLI Class 2 soils. • The portion of the corridor east of Perth Road 111 and north of Lorne Avenue is within Perth Silt Loam, Huron Clay Loam, Muck and Brookston Silt Loam soil. Huron Clay Loam soil is 60% CLI Class 1 soils and 40% CLI Class 3 soils. A small portion of Muck is situated north of Lorne Avenue, which is CLI Class 0 (does not support agricultural growth). A portion of Brookston Silt Loam soil series, which is 100% CLI Class 2 soils, is located at the easterly end of this corridor.	• The portion of the corridor west of Perth Road 111 and south of Lorne Avenue is predominantly within Perth Silt Loam soils, which is 100% CLI Class 1 soils. A small pocket of Muck (organic material) is situated east of Highway 7 is considered a CLI Class 0. There is also Brookston Silt Loam between Highway 7 and Perth Road 111, which is 100% CLI Class 2 soils. A thin strip of Bottom Land soil series is located within the corridor south of Perth 33 Line, which is CLI Class 5 soil series (heavy severe limitations). There is some Brookston Clay Loam soils east of Perth Road 111 and north of Lorne Avenue, which is 100% comprised of CLI Class 2 soils. • The portion of the corridor east of Perth Road 111 and north of Lorne Avenue is within Perth Silt Loam, Huron Clay Loam, Muck and Brookston Silt Loam soil. Huron Clay Loam soil is 60% CLI Class 1 soils and 40% CLI Class 3 soils. A small portion of Muck is situated north of Lorne Avenue, which is CLI Class 0 (does not support agricultural growth). A portion of Brookston Silt Loam soil series, which is 100% CLI Class 2 soils, is located at the easterly end of this corridor.	111 and south of Lorne Avenue is predominantly within Perth Silt Loam soils, which is 100% CLI Class 1 soils. A small pocket of Muck (organic material) situated east of Highway 7 is considered a CLI Class 0. There is also Brookston Silt Loam between Highway 7 and Perth Road 111, which is 100% CLI Class 2 soils. A thin strip of Bottom Land soil series is located within the corridor south of Perth 33 Line, which is CLI Class 5 soils (heavy severe limitations). There is some Brookston Clay Loam soils east of Perth Road 111 and north of Lorne Avenue, which is 100% comprised of CLI Class 2 soils. • The portion of the corridor east of Perth Road 111 and north of Lorne Avenue is within Perth Silt Loam soil series as well as a small portion of Huron Clay Loam soil series, which 60% CLI Class 1 soils and 40% CLI Class 3 soils. A small portion of Muck exists at the northern corridor limits.	111 and south of Lorne Avenue is predominantly within Perth Silt Loam soils, which is 100% CLI Class 1 soils. A small pocket of Muck (organic material) is situated east of Highway 7 is considered a CLI Class 0. There is also Brookston Silt Loam between Highway 7 and Perth Road 111, which is 100% CLI Class 2 soils. A thin strip of Bottom Land soil series is located within the corridor south of Perth 33 Line, which is CLI Class 5 soil series (heavy severe limitations). There is some Brookston Clay Loam soils east of Perth Road 111 and north of Lorne Avenue, which is 100% comprised of CLI Class 2 soils. • The portion of the corridor east of Perth Road 111 and north of Lorne Avenue is within Perth Silt Loam, Huron Clay Loam, Muck and Brookston Silt Loam soil. Huron Clay Loam soil is 60% CLI Class 1 soils and 40% CLI Class 3 soils. A small portion of Muck is situated north of Lorne Avenue, which is CLI Class 0 (does not support agricultural growth). A portion of Brookston Silt Loam soil series, which is 100% CLI Class 2 soils, is located at the easterly end of this corridor.
	2.4.2 Agricultural - Farm Infrastructure	Potential to affect farm infrastructure (field tile drainage systems/outlets, irrigation systems, barns/silos/structures, etc.) NOTES: The broader issue of wells is addressed under the groundwater factor The broader issue of drainage along and across transportation rights-of-way is addressed as part of "drainage and hydrology engineering" that is undertaken for the selected alternative.	**High** potential to affect farm infrastructure • Much of the corridor is new corridor, which may result in considerable disruption / diversion of field tile drainage systems, irrigation systems, and farm buildings within an individual farm. • Improvements to existing roadways may result in the loss of small amounts of farm frontage, but will cause minimal disruption/diversion of field tile drainage systems, and irrigation systems within an individual farm and since most farm buildings are set back from the highway, minimal impact to farm buildings.	**High** potential to affect farm infrastructure • Much of the corridor is new corridor, which may result in considerable disruption / diversion of field tile drainage systems, irrigation systems, and farm buildings within an individual farm. • Improvements to existing roadways may result in the loss of small amounts of farm frontage, but will cause minimal disruption/diversion of field tile drainage systems, and irrigation systems within an individual farm and since most farm buildings are set back from the highway, minimal impact to farm buildings.	**High** potential to affect farm infrastructure • Much of the corridor is new corridor, which may result in considerable disruption / diversion of field tile drainage systems, irrigation systems, and farm buildings within an individual farm. • Some of the corridor involves improvements to existing roadway, which may result in the loss of small amounts of farm frontage, but will cause minimal disruption / diversion of field tile drainage systems, and irrigation systems within an individual farm and since most farm buildings are set back from the highway, minimal impact to farm buildings.	**High** potential to affect farm infrastructure • Much of the corridor is new corridor, which may result in considerable disruption / diversion of field tile drainage systems, irrigation systems, and farm buildings within an individual farm. • Some of the corridor involves improvements to existing roadway, which may result in the loss of small amounts of farm frontage, but will cause minimal disruption / diversion of field tile drainage systems, and irrigation systems within an individual farm and since most farm buildings are set back from the highway, minimal impact to farm buildings.
	2.4.3 Agriculture – Operations on Individual Farms	Potential to sever/disrupt in-farm field operations (planting, harvesting, grazing, nutrient management, etc)	**High** potential to affect in-farm field operations. • Corridor is a combination of existing roadways and new corridor. • Improvements to existing roadways may result in the loss of small amounts of farm frontage, but will cause minimal disruption of planting, harvesting, grazing, nutrient management etc within an individual farm. • New corridor segments may result in major severance / disruption of planting, harvesting, grazing, nutrient management within an individual farm.	**High** potential to affect in-farm field operations. • Corridor is a combination of existing roadways and new corridor. • Improvements to existing roadways may result in the loss of small amounts of farm frontage, but will cause minimal disruption of planting, harvesting, grazing, nutrient management etc within an individual farm. • New corridor segments may result in major severance / disruption of planting, harvesting, grazing, nutrient management within an individual farm.	**High** potential to affect in-farm field operations • Corridor is predominantly new corridor, which may result in major severance / disruption of planting, harvesting, grazing, nutrient management within an individual farm.	**High** potential to affect in-farm field operations • Corridor is predominantly new corridor, which may result in major severance / disruption of planting, harvesting, grazing, nutrient management within an individual farm.

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	2.4.4 Agriculture – Transportation Linkages between Multiple-Farm Operations	Potential to sever/disrupt transportation linkages between multiple-farm operations (movement between linked multiple-farm operations of equipment, materials, workers, etc) NOTES: The generic issue of shipments to/from farms is covered under the broader transportation sub-factor "movement of goods". The generic issue of farm resident/worker movement to/from farms is covered under the broader transportation sub-factor "movement of people". Movement of equipment, materials and workers between multiple-farm operations will occur in the context of increased overall traffic on roadways within the analysis area regardless of the alternative selected.	**High** potential to sever/disrupt transportation linkages between multiple-farm operations. • Corridor is a combination of existing roadways and new corridor. • Improvements to existing highway will not cause out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms. • Corridor involves conversion of existing rural roads from local to inter-regional traffic use, which will cause interference with movement of agricultural equipment along those roads. • New corridor segments may result in some out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms.	**High** potential to sever/disrupt transportation linkages between multiple-farm operations. • Corridor is a combination of existing roadways and new corridor. • Improvements to existing highway will not cause out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms. • Corridor involves conversion of existing rural roads from local to inter-regional traffic use, which will cause interference with movement of agricultural equipment along those roads. • New corridor segments may result in some out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms.	**High** potential to sever/disrupt transportation linkages between multiple-farm operations. • Corridor is predominantly new corridor, which may result in some out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms.	**High** potential to sever/disrupt transportation linkages between multiple-farm operations. • Corridor is predominantly new corridor, which may result in some out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms.
2.5 Land Use / Resources	2.5.1First Nation Treaty Rights or Use of Land and Resources for Traditional Purposes (e.g. hunting, fishing, harvesting of country foods, harvesting of medicinal plants)	Potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes NOTE: The protection of the natural environment is important to the continued use of lands for traditional First Nations activities.	**Medium** potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Corridor is predominantly new corridor.	**Medium** potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Corridor is predominantly new corridor	**Medium** potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Corridor is predominantly new corridor	**Medium** potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Corridor is predominantly new corridor
	2.5.2 Parks and Recreational Areas (e.g. national/provincial parks, conservation areas, municipal parks, public spaces, golf courses, trails, greenways and open space linkages)	Potential to affect parks and recreational areas.	**Low** potential to affect parks and recreational areas • No parks or recreational areas located within or adjacent to this corridor.	**Low** potential to affect parks and recreational areas • No parks or recreational areas located within or adjacent to this corridor.	**Low** potential to affect parks and recreational areas • No parks or recreational areas located within or adjacent to this corridor.	**Low** potential to affect parks and recreational areas • No parks or recreational areas located within or adjacent to this corridor.
	2.5.3 Aggregates, Mineral Resources	Potential to affect aggregate and mineral resources sites	**Low** potential to affect aggregate and mineral resources sites • No aggregate or mineral resource sites located within or adjacent to this corridor.	**Low** potential to affect aggregate and mineral resources sites • No aggregate or mineral resource sites located within or adjacent to this corridor.	**High** potential to affect aggregate and mineral resources sites • Section on Highway 8 between Perth Road 125 and O'Loane Avenue passes through an area zoned for aggregate extraction.	**High** potential to affect aggregate and mineral resources sites • Section on Highway 8 between Perth Road 125 and O'Loane Avenue passes through an area zoned for aggregate extraction.
2.6 Major Utility Transmission Corridors (e.g. railroads, hydro, gas, oil)		Potential to affect major utility transmission corridors	**High** potential to affect major utility transmission corridors • Three railway crossings; three major hydro transmission line crossings.	**High** potential to affect major utility transmission corridors • Two railway crossings; three major hydro transmission line crossings.	**High** potential to affect major utility transmission corridors • Three railway crossings; three major hydro transmission line crossings.	**High** potential to affect major utility transmission corridors • Two railway crossings; three major hydro transmission line crossings.
2.7 Contaminated Property and Waste Management (e.g. Landfills, hazardous waste sites,		Potential to affect landfills (open and closed), hazardous waste sites "brownfield" areas, and other known contaminated sites	**Low** potential to affect known contaminated sites • Closed waste site at Highway 8 / Perth Road 125 is outside the corridor.	**Low** potential to affect known contaminated sites • Closed waste site at Highway 8 / Perth Road 125 is outside the corridor.	**Low** potential to affect known contaminated sites • Closed waste site at Highway 8 / Perth Road 125 is outside the corridor.	**Low** potential to affect known contaminated sites • Closed waste site at Highway 8 / Perth Road 125 is outside the corridor.

LEGEND

MOST PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED	NO SIGNIFICANT DIFFERENCE	SELECTED CORRIDOR

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SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 1 OF 2)

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1A/2A (Stratford South Bypass Corridor 1 West and Bypass Corridor 1 East of Erie) Nodes: 1-1, 1-2, 1-4, 1-7, 1-8, 1-9/2-2, 2-4, 2-6 Plus Erie Street 2-1, 2-2	**CORRIDOR ALTERNATIVE 1A/2B (Stratford South Bypass Corridor 1 West of Erie and Bypass Corridor 2 East of Erie) Nodes: 1-1, 1-2, 1-4, 1-7, 1-8, 1-9/2-2, 2-4, 2-5 Plus Erie Street 2-1, 2-2**	**CORRIDOR ALTERNATIVE 1B/2A (Stratford South Bypass Corridor 2 West and Bypass Corridor 1 East of Erie) Nodes: 1-1, 1-2, 1-3, 1-5, 1-8, 1-10/2-1, 2-4, 2-6**	**CORRIDOR ALTERNATIVE 1B/2B (Stratford South Bypass Corridor 2 West of Erie, & Bypass Corridor 2 East of Erie) Nodes: 1-1, 1-2, 1-3, 1-5, 1-8, 1-10/2-1, 2-4, 2-5**
former industrial areas and other known contaminated sites)						
2.8 Landscape Composition	2.8.1 Scenic Composition	To be considered in the detailed planning and preliminary design phases				
	2.8.2 Sensitive Viewer Groups	To be considered in the detailed planning and preliminary design phases				
	2.8.3 Scenic Value of Views/Vistas from the transportation facility	To be considered in the detailed planning and preliminary design phases				
	2.8.4 Specimen Trees	To be considered in the detailed planning and preliminary design phases				
2.9 Air Quality	2.9.1 Regional Air Quality and Total Contaminant / Greenhouse Gas Emissions	Potential to reduce the regional air quality consequences of traffic congestion	**High** potential to reduce regional air quality consequences of traffic congestion • Few intersections, few other existing traffic sources.	**High** potential to reduce regional air quality consequences of traffic congestion • Few intersections, few other existing traffic sources.	**High** potential to reduce regional air quality consequences of traffic congestion • Few intersections, few other contributing traffic sources.	**High** potential to reduce regional air quality consequences of traffic congestion • Few intersections, few other contributing traffic sources.
	2.9.2 Local Air Quality and Sensitive Receptors to Air Pollutants	Potential to affect local receptors sensitive to air pollutants	**Low** potential to affect local receptors sensitive to air pollutants • Few sensitive receptors within 0.5 km.	**Low** potential to affect local receptors sensitive to air pollutants • Few sensitive receptors within 0.5 km.	**Medium** potential to affect local receptors sensitive to air pollutants • Critical and several sensitive receptors within 0.5 km. • Passes within 0.5 km of 3 schools; and within 1 km of the Stratford General Hospital, and two retirement homes	**Medium** potential to affect local receptors sensitive to air pollutants • Critical and several sensitive receptors within 0.5 km. • Passes within 0.5 km of 3 schools; and within 1 km of the Stratford General Hospital, and two retirement homes
SUMMARY OF LAND USE/SOCIO ECONOMIC ENVIRONMENT			Key land use / socio-economic conditions that differentiate Corridor 1A/2A from the other corridor alternatives in Sections 1 and 2are the following: • Medium potential to support provincial land use policies; • Medium potential to support municipal official plans; • Low potential to affect urban and residential area; • Medium potential to affect commercial and industrial areas; • Low potential to affect noise sensitive areas; • High potential to affect Canada Land Inventory Classes 1, 2 and 3 soils; • High potential to affect farm infrastructure; • High potential to affect in-farm field operations; • High potential to sever/disrupt transportation linkages between multiple-farm operations; • Low potential to affect parks and recreational areas; • Low potential to affect aggregate and mineral resources sites; • High potential to affect major utility transmission corridors; • Low potential to affect known contaminated sites; • High potential to reduce regional air quality consequences of traffic congestion; and • Low potential to affect local receptors sensitive	Key land use / socio-economic conditions that differentiate Corridor 1A/2B from the other corridor alternatives in Sections 1 and 2are the following: • Medium potential to support provincial land use policies; • Medium potential to support municipal official plans; • Low potential to affect urban and residential area; • Medium potential to affect commercial and industrial areas; • Low potential to affect noise sensitive areas; • High potential to affect Canada Land Inventory Classes 1, 2 and 3 soils; • High potential to affect farm infrastructure; • High potential to affect in-farm field operations; • High potential to sever/disrupt transportation linkages between multiple-farm operations; • Low potential to affect parks and recreational areas; • Low potential to affect aggregate and mineral resources sites; • High potential to affect major utility transmission corridors; • Low potential to affect known contaminated sites; • High potential to reduce regional air quality consequences of traffic congestion; and • Low potential to affect local receptors sensitive	Key land use / socio-economic conditions that differentiate Corridor 1B/2A from the other corridor alternatives in Sections 1 and 2 are the following: • Low potential to support provincial land use policies; • Low potential to support municipal official plans; • Medium potential to affect urban and residential area; • High potential to affect commercial and industrial areas; • Medium potential to affect noise sensitive areas; • High potential to affect Canada Land Inventory Classes 1, 2 and 3 soils; • High potential to affect farm infrastructure; • High potential to affect in-farm field operations; • High potential to sever/disrupt transportation linkages between multiple-farm operations; • Low potential to affect parks and recreational areas; • High potential to affect aggregate and mineral resources sites; • High potential to affect major utility transmission corridors; • Low potential to affect known contaminated sites; • High potential to reduce regional air quality consequences of traffic congestion; and	Key land use / socio-economic conditions that differentiate Corridor 1B/2B from the other corridor alternatives in Sections and 2 are the following: • Low potential to support provincial land use policies; • Low potential to support municipal official plans; • Medium potential to affect urban and residential area; • High potential to affect commercial and industrial areas; • Medium potential to affect noise sensitive areas; • High potential to affect Canada Land Inventory Classes 1, 2 and 3 soils; • High potential to affect farm infrastructure; • High potential to affect in-farm field operations; • High potential to sever/disrupt transportation linkages between multiple-farm operations; • Low potential to affect parks and recreational areas; • High potential to affect aggregate and mineral resources sites; • High potential to affect major utility transmission corridors; • Low potential to affect known contaminated sites; • High potential to reduce regional air quality consequences of traffic congestion; and

LEGEND

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SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 1 OF 2)

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1A/2A (Stratford South Bypass Corridor 1 West and Bypass Corridor 1 East of Erie) Nodes: 1-1, 1-2, 1-4, 1-7, 1-8, 1-9/2-2, 2-4, 2-6 Plus Erie Street 2-1, 2-2	**CORRIDOR ALTERNATIVE 1A/2B** (Stratford South Bypass Corridor 1 West of Erie and Bypass Corridor 2 East of Erie) Nodes: 1-1, 1-2, 1-4, 1-7, 1-8, 1-9/2-2, 2-4, 2-5 Plus Erie Street 2-1, 2-2	**CORRIDOR ALTERNATIVE 1B/2A** (Stratford South Bypass Corridor 2 West and Bypass Corridor 1 East of Erie) Nodes: 1-1, 1-2, 1-3, 1-5, 1-8, 1-10/2-1, 2-4, 2-6	**CORRIDOR ALTERNATIVE 1B/2B** (Stratford South Bypass Corridor 2 West of Erie, & Bypass Corridor 2 East of Erie) Nodes: 1-1, 1-2, 1-3, 1-5, 1-8, 1-10/2-1, 2-4, 2-5
			to air pollutants.	to air pollutants.	• Medium potential to affect local receptors sensitive to air pollutants.	• Medium potential to affect local receptors sensitive to air pollutants.
			Summary provided on Part 2 of Table			
3. CULTURAL ENVIRONMENT FACTORS						
3.1 Cultural Heritage – Built Heritage and Cultural Landscapes	3.1.1 Buildings or "Standing" Sites of Architectural or Heritage Significance or Ontario Heritage Foundation Easement Properties	Potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easements properties	**Low** potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties. • Concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to Perth Road 125	**Low** potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties. • Concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to Perth Road 125	**Low** potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties. • Concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to Perth Road 125	**Low** potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties. • Concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to Perth Road 125
	3.1.2 Heritage Bridges	Potential to affect heritage bridges	**Medium** potential to affect heritage bridges	**Medium** potential to affect heritage bridges	**Medium** potential to affect heritage bridges	**Medium** potential to affect heritage bridges
	3.1.3 Areas of Historic 19th Century Settlement	Potential to affect areas of historic 19th century settlement	**Low** potential to affect areas of historic 19th century settlement. • No areas of concentrated 19th century development.	**Low** potential to affect areas of historic 19th century settlement. • No areas of concentrated 19th century development.	**Low** potential to affect areas of historic 19th century settlement. • No areas of concentrated 19th century development.	**Low** potential to affect areas of historic 19th century settlement. • No areas of concentrated 19th century development.
	3.1.4 Cultural Heritage Landscapes	To be considered in the detailed planning and preliminary design phases				
	3.1.5 First Nations Burial Sites	To be considered in the detailed planning and preliminary design phases				
	3.1.6 Cemeteries	Potential to affect cemeteries	**Medium** potential to affect cemeteries • Cemetery north of Highway 7&8 between Perth Roads 109 and 110	**Low** potential to affect cemeteries • No cemeteries identified	**Medium** potential to affect cemeteries • Cemetery north of Highway 7&8 between Perth Roads 109 and 110	**Low** potential to affect cemeteries • No cemeteries identified
3.2 Cultural Heritage - Archaeology	3.2.1 Pre-Historic and Historic First Nations' Archaeological Sites	Potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest	**High** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest. • Some of corridor uses existing roads with land previously disturbed by construction. Remainder is in "green field" area with little previous disturbance through construction.	**High** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest. • Some of corridor uses existing roads with land previously disturbed by construction. Remainder is in "green field" area with little previous disturbance through construction.	**High** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest. • Corridor is predominantly new corridor in "green field" area with little previous disturbance through construction.	**High** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest. • Corridor is predominantly new corridor in "green field" area with little previous disturbance through construction.
	3.2.2 Historic Euro-Canadian Archaeological Sites	Potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest	**High** potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest. • Some of corridor uses existing roads with land previously disturbed by construction. Remainder is in "green field" area with little previous disturbance through construction. • Potential historic Euro-Canadian archaeological sites associated with concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to Perth Road 125	**High** potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest. • Some of corridor uses existing roads with land previously disturbed by construction. Remainder is in "green field" area with little previous disturbance through construction. • Potential historic Euro-Canadian archaeological sites associated with concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to Perth Road 125	**High** potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest. • Corridor is predominantly new corridor in "green field" area with little previous disturbance through construction • Potential historic Euro-Canadian archaeological sites associated with concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to west of O'Loane Avenue	**High** potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest. • Corridor is predominantly new corridor in "green field" area with little previous disturbance through construction • Potential historic Euro-Canadian archaeological sites associated with concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to west of O'Loane Avenue

LEGEND

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FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1A/2A (Stratford South Bypass Corridor 1 West and Bypass Corridor 1 East of Erie) Nodes: 1-1, 1-2, 1-4, 1-7, 1-8, 1-9/2-2, 2-4, 2-6 Plus Erie Street 2-1, 2-2	**CORRIDOR ALTERNATIVE 1A/2B (Stratford South Bypass Corridor 1 West of Erie and Bypass Corridor 2 East of Erie) Nodes: 1-1, 1-2, 1-4, 1-7, 1-8, 1-9/2-2, 2-4, 2-5 Plus Erie Street 2-1, 2-2**	**CORRIDOR ALTERNATIVE 1B/2A (Stratford South Bypass Corridor 2 West and Bypass Corridor 1 East of Erie) Nodes: 1-1, 1-2, 1-3, 1-5, 1-8, 1-10/2-1, 2-4, 2-6**	**CORRIDOR ALTERNATIVE 1B/2B (Stratford South Bypass Corridor 2 West of Erie, & Bypass Corridor 2 East of Erie) Nodes: 1-1, 1-2, 1-3, 1-5, 1-8, 1-10/2-1, 2-4, 2-5**
SUMMARY OF CULTURAL ENVIRONMENT			Key cultural environment conditions that differentiate Corridor 1A/2A from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to affect cemeteries; • High potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest; and • High potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest.	Key cultural environment conditions that differentiate Corridor 1A/2B from the other corridor alternatives in Sections 1 and 2 are the following: • Low potential to affect cemeteries; • High potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest; and • High potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest.	Key cultural environment conditions that differentiate Corridor 1B/2A from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to affect cemeteries; • High potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest; and • High potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest.	Key cultural environment conditions that differentiate Corridor 1B/2B from the other corridor alternatives in Sections 1 and 2 are the following: • Low potential to affect cemeteries; • High potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest; and • High potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest.
			Summary provided on Part 2 of Table			
4. AREA ECONOMY FACTORS– Deleted due to duplication of considerations addressed in Factors 2.2.4, 2.2.5, 5.1.2, 5.1.3, and 5.4.3 (deletion eliminated double-counting).						
5. TRANSPORTATION FACTORS						
5.1 Area Transportation System Capacity and Efficiency	5.1.1 Federal/Provincial/Municipal transportation planning policies/goals/objectives	Potential to support federal/provincial/ municipal transportation planning policies/goals/objectives NOTES: PPS Policy 1.6.5.1 stipulates that transportation systems should be provided which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs. PPS Policy 1.6.5.2 stipulates that efficient use shall be made of existing and planned infrastructure	**Medium** potential to support federal/provincial/municipal transportation planning policies/goals • Provides transportation system that meets objectives of PPS policy 1.6.5.1. Corridor has both existing roadway and new corridor components. • Existing roadway segments would not be as efficient or effective in moving people and goods as a new corridor segments • Corridor has both existing roadway and new corridor components, and the latter would not meet the objectives of PPS policy 1.6.5.2.	**Medium** potential to support federal/provincial/municipal transportation planning policies/goals • Provides transportation system that meets objectives of PPS policy 1.6.5.1. Corridor has both existing roadway and new corridor components. • Existing roadway segments would not be as efficient or effective in moving people and goods as a new corridor segments • Corridor has both existing roadway and new corridor components, and the latter would not meet the objectives of PPS policy 1.6.5.2.	**Medium** potential to support federal/provincial/municipal transportation planning policies/goals/objectives • Provides transportation system that meets objectives of PPS policy 1.6.5.1. Corridor is predominantly new corridor, which would be more efficient and more effective in moving people and goods than use of existing roadway/highway. • Corridor is predominantly new corridor, which would not meet the objectives of PPS policy 1.6.5.2.	**Medium** potential to support federal/provincial/municipal transportation planning policies/goals/objectives • Provides transportation system that meets objectives of PPS policy 1.6.5.1. Corridor is predominantly new corridor, which would be more efficient and more effective in moving people and goods than use of existing roadway/highway. • Corridor is predominantly new corridor, which would not meet the objectives of PPS policy 1.6.5.2.
	5.1.2 Efficient movement of people	Potential to support the efficient movement of people between communities and regions based on Level of Service (LOS) and volume to capacity (v/c) on a network, screenline and critical link basis	**Medium** potential to support efficient movement of people • Corridor has both existing roadway and new corridor components but has good level of service because it has few intersections and driveways. • Some out-of-way travel for local access from Stratford to corridor.	**Medium** potential to support efficient movement of people • Corridor has both existing roadway and new corridor components but has good level of service because it has few intersections and driveways. • Some out-of-way travel for local access from Stratford to corridor.	**High** potential to support efficient movement of people • Corridor is predominantly new corridor with high level of service due to few intersections and no driveways. • Some out-of-way travel for local access from Stratford to corridor.	**High** potential to support efficient movement of people • Corridor is predominantly new corridor with high level of service due to few intersections and no driveways. • Some out-of-way travel for local access from Stratford to corridor.
	5.1.3 Efficient movement of goods	Potential to support efficient movement of goods between urban growth centres and regional intermodal facilities based on road network and Highway 7&8 corridor performance measures (LOS and travel speed)	**Medium** potential to support efficient movement of goods • Corridor has both existing roadway and new corridor components but has good level of service because it has few intersections and driveways. • Some out-of-way travel for local access from Stratford to corridor.	**Medium** potential to support efficient movement of goods • Corridor has both existing roadway and new corridor components but has good level of service because it has few intersections and driveways. • Some out-of-way travel for local access from Stratford to corridor.	**High** potential to support efficient movement of goods • Corridor is predominantly new corridor with high level of service due to few intersections and no driveways. • Some out-of-way travel for local access from Stratford to corridor.	**High** potential to support efficient movement of goods • Corridor is predominantly new corridor with high level of service due to few intersections and no driveways. • Some out-of-way travel for local access from Stratford to corridor.
5.2 Area Transportation System Reliability / Redundancy		Potential to support system reliability and redundancy for travel (people and goods) between regions and communities during	**Medium** potential to support system reliability and redundancy • Corridor has both existing roadway and new	**Medium** potential to support system reliability and redundancy • Corridor has both existing roadway and new	**High** potential to support system reliability and redundancy • Corridor is predominantly new corridor, which	**High** potential to support system reliability and redundancy • Corridor is predominantly new corridor, which

LEGEND

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		adverse conditions	corridor components. The former does not provide new connection between regions and communities during adverse conditions.	corridor components. The former does not provide new connection between regions and communities during adverse conditions.	provides new connection between regions and communities during adverse conditions.	provides new connection between regions and communities during adverse conditions.
5.3 Safety	5.3.1 Traffic Safety	Potential to improve traffic safety based on opportunity to reduce congestion on area road network (LOS and v/c) and reduce the frequency of intersections and entrances in the Highway 7&8 corridor	**Medium** potential to improve traffic safety • Corridor has both existing roadway and new corridor components. • Few access points associated with private entrances, and limited number of access points at intersections. • West of Erie Street, corridor involves no additional lanes to provide for good passing opportunity, a wider platform to accommodate evasive moves during potential accidents, or accommodate safer left turns into private entrances. • East of Erie Street, four lanes east of Erie Street provide for good passing opportunity, and provide a wider platform to accommodate evasive moves during potential accidents.	**Medium** potential to improve traffic safety • Corridor has both existing roadway and new corridor components. • Few access points associated with private entrances, and limited number of access points at intersections. • West of Erie Street, corridor involves no additional lanes to provide for good passing opportunity, a wider platform to accommodate evasive moves during potential accidents, or accommodate safer left turns into private entrances. • East of Erie Street, four lanes east of Erie Street provide for good passing opportunity, and provide a wider platform to accommodate evasive moves during potential accidents.	**Medium** potential to improve traffic safety • Corridor is predominantly new corridor, with no access points associated with private entrances, and limited number of access points at intersection / interchange locations. • West of Erie Street, corridor involves no additional lanes to provide for good passing opportunity, a wider platform to accommodate evasive moves during potential accidents, or accommodate safer left turns into private entrances. • East of Erie Street, four lanes provide for good passing opportunity, and provide a wider platform to accommodate evasive moves during potential accidents.	**Medium** potential to improve traffic safety • Corridor is predominantly new corridor, with no access points associated with private entrances, and limited number of access points at intersection / interchange locations. • West of Erie Street, corridor involves no additional lanes to provide for good passing opportunity, a wider platform to accommodate evasive moves during potential accidents, or accommodate safer left turns into private entrances. • East of Erie Street, four lanes provide for good passing opportunity, and provide a wider platform to accommodate evasive moves during potential accidents.
	5.3.2 Emergency Access	To be considered in the detailed planning and preliminary design phases				
5.4 Mobility and Accessibility	5.4.1 Modal integration, balance and efficiency	Potential to improve modal choice and increase mode split for person trips between communities, regions and major transit station areas based on connection to concentrations of population, travel performance indicators (LOS, v/c, travel speed) at critical screenlines and on potential to provide higher order transit service in the Highway 7&8 corridor.	**Medium** potential to improve modal integration, balance and efficiency • Transit in corridor not supported by bypass of Stratford. • Does not use existing corridor east of Erie Street so there is the opportunity to provide higher order transit service. • This study does not consider potential for transit market west of Stratford to Lake Huron.	**Medium** potential to improve modal integration, balance and efficiency • Transit in corridor not supported by bypass of Stratford. • Does not use existing corridor east of Erie Street so there is the opportunity to provide higher order transit service. • This study does not consider potential for transit market west of Stratford to Lake Huron.	**Medium** potential to improve modal integration, balance and efficiency • Transit in corridor not supported by bypass of Stratford. • Does not use existing corridor east of Erie Street so there is the opportunity to provide higher order transit service. • This study does not consider potential for transit market west of Stratford to Lake Huron.	**Medium** potential to improve modal integration, balance and efficiency • Transit in corridor not supported by bypass of Stratford. • Does not use existing corridor east of Erie Street so there is the opportunity to provide higher order transit service. • This study does not consider potential for transit market west of Stratford to Lake Huron.
	5.4.2 Linkages to Population and Employment Centres	Potential to improve linkages to population and employment centres for people and goods movement	**Medium** potential to improve linkages to population and employment centres • Bypass of Strafford is in close proximity, with access to Stratford by 5 major access points.	**Medium** potential to improve linkages to population and employment centres • Bypass of Strafford is in close proximity, with access to Stratford by 5 major access points.	**Medium** potential to improve linkages to population and employment centres • Bypass of Strafford is in close proximity, with access to Stratford by 5 major access points.	**Medium** potential to improve linkages to population and employment centres • Bypass of Strafford is in close proximity, with access to Stratford by 5 major access points.
	5.4.3 Recreation and Tourism Travel	Potential to support recreation and tourism travel within and to/from the Analysis Area by provision of higher order network (roads and transit) continuity and connectivity and through network performance indicators (LOS, v/c, travel speed)	**Medium** potential to support recreation and tourism travel • Stratford with its tourist attractions is bypassed, but tourist travel through the analysis area is facilitated, with several points of access to Stratford.	**Medium** potential to support recreation and tourism travel • Stratford with its tourist attractions is bypassed, but tourist travel through the analysis area is facilitated, with several points of access to Stratford.	**Medium** potential to support recreation and tourism travel • Stratford with its tourist attractions is bypassed, but tourist travel through the analysis area is facilitated, with several points of access to Stratford.	**Medium** potential to support recreation and tourism travel • Stratford with its tourist attractions is bypassed, but tourist travel through the analysis area is facilitated, with several points of access to Stratford.
	5.4.4 Accommodation for pedestrians, cyclists and snowmobiles	Potential to accommodate pedestrians, cyclists within critical travel corridors in urbanized areas and snowmobiles in recognized rural trails	**Low** potential to support pedestrians and cyclists • Rural area does not support justification for sidewalks. • No designated bicycle or snowmobile trails identified.	**Low** potential to support pedestrians and cyclists • Rural area does not support justification for sidewalks. • No designated bicycle or snowmobile trails identified.	**Low** potential to support pedestrians and cyclists • Rural area does not support justification for sidewalks. • No designated bicycle or snowmobile trails identified.	**Low** potential to support pedestrians and cyclists • Rural area does not support justification for sidewalks. • No designated bicycle or snowmobile trails identified.
5.5 Network Compatibility	5.5.1 Network Connectivity	Potential to improve transportation system connectivity within and to/from the analysis area	**High** potential to improve transportation system connectivity	**High** potential to improve transportation system connectivity	**High** potential to improve transportation system connectivity	**High** potential to improve transportation system connectivity

LEGEND

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SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 1 OF 2)

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1A/2A (Stratford South Bypass Corridor 1 West and Bypass Corridor 1 East of Erie) Nodes: 1-1, 1-2, 1-4, 1-7, 1-8, 1-9/2-2, 2-4, 2-6 Plus Erie Street 2-1, 2-2	**CORRIDOR ALTERNATIVE 1A/2B (Stratford South Bypass Corridor 1 West of Erie and Bypass Corridor 2 East of Erie) Nodes: 1-1, 1-2, 1-4, 1-7, 1-8, 1-9/2-2, 2-4, 2-5 Plus Erie Street 2-1, 2-2**	**CORRIDOR ALTERNATIVE 1B/2A (Stratford South Bypass Corridor 2 West and Bypass Corridor 1 East of Erie) Nodes: 1-1, 1-2, 1-3, 1-5, 1-8, 1-10/2-1, 2-4, 2-6**	**CORRIDOR ALTERNATIVE 1B/2B (Stratford South Bypass Corridor 2 West of Erie, & Bypass Corridor 2 East of Erie) Nodes: 1-1, 1-2, 1-3, 1-5, 1-8, 1-10/2-1, 2-4, 2-5**
	5.5.2 Flexibility for Future Expansion	Potential to address future transportation needs beyond the forecasted planning horizons	**Medium** potential for future expansion • Corridor is outside the Stratford urban boundary • Future expansion of existing roadway segments is constrained by the right-of-way width; new corridor segments could accommodate future expansion.	**Medium** potential for future expansion • Corridor is outside the Stratford urban boundary • Future expansion of existing roadway segments is constrained by the right-of-way width; new corridor segments could accommodate future expansion.	**High** potential for future expansion. • Corridor is outside Stratford urban boundary, and since it is predominantly new corridor, the right-of-way could accommodate future expansion.	**High** potential for future expansion. • Corridor is outside Stratford urban boundary, and since it is predominantly new corridor, the right-of-way could accommodate future expansion.
5.6 Engineering	5.6.1 Constructability	Potential constructability issues considering physical, property or environmental constraints	**Medium** potential for constructability issues • Utilizes existing roadways; three railway crossings; Avon River crossing	**Medium** potential for constructability issues • Utilizes existing roadways; two railway crossings; Avon River crossing	**Medium** potential for constructability issues • Utilizes existing roadways; three railway crossings; Avon River crossing	**Medium** potential for constructability issues • Utilizes existing roadways; two railway crossings; Avon River crossing
	5.6.2 Compliance with Design Criteria	To be considered in the detailed planning and preliminary design phases				
5.7 Traffic Operations		Potential for negative impact on traffic operations due to factors such as design features, private access, and transportation network connections	**Medium** potential for negative impact on traffic operations. • Corridor has both existing roadway and new corridor components; existing roadway segments are in rural areas with relatively few private entrances and intersections.	**Medium** potential for negative impact on traffic operations. • Corridor has both existing roadway and new corridor components; existing roadway segments are in rural areas with relatively few private entrances and intersections.	**Low** potential for negative impact on traffic operations. • Corridor predominantly does not utilize existing roadways.	**Low** potential for negative impact on traffic operations. • Corridor predominantly does not utilize existing roadways.
SUMMARY OF TRANSPORTATION		**It should be noted that the process utilized to generate corridor alternatives ensures that each corridor is capable of satisfying transportation criteria.**	Key transportation issues that differentiate Corridor 1A/2A from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to support efficient movement of people; • Medium potential to support efficient movement of goods; • Medium potential to support system reliability / redundancy (people and goods) between regions and communities during adverse conditions; • Medium potential to improve linkages to population and employment centres; • Low potential to support pedestrians and cyclists; • Medium potential for future expansion; • Medium potential for constructability issues; • Medium potential for negative impact on traffic operations.	Key transportation issues that differentiate Corridor 1A/2B from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to support efficient movement of people; • Medium potential to support efficient movement of goods; • Medium potential to support system reliability / redundancy (people and goods) between regions and communities during adverse conditions; • Medium potential to improve linkages to population and employment centres; • Low potential to support pedestrians and cyclists; • Medium potential for future expansion; • Medium potential for constructability issues; • Medium potential for negative impact on traffic operations.	Key transportation issues that differentiate Corridor 1B/2A from the other corridor alternatives in Sections 1 and 2 are the following: • High potential to support efficient movement of people; • High potential to support efficient movement of goods; • High potential to support system reliability / redundancy (people and goods) between regions and communities during adverse conditions; • Medium potential to improve linkages to population and employment centres; • Low potential to support pedestrians and cyclists; • High potential for future expansion; • Medium potential for constructability issues; • Low potential for negative impact on traffic operations.	Key transportation issues that differentiate Corridor 1B/2B from the other corridor alternatives in Sections 1 and 2 are the following: • High potential to support efficient movement of people; • High potential to support efficient movement of goods; • High potential to support system reliability / redundancy (people and goods) between regions and communities during adverse conditions; • Medium potential to improve linkages to population and employment centres; • Low potential to support pedestrians and cyclists; • High potential for future expansion; • Medium potential for constructability issues; • Low potential for negative impact on traffic operations.
			Summary provided on Part 2 of Table			
SUMMARY OF EVALUATION			Summary provided on Part 2 of Table			

LEGEND

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SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 2 OF 2)

FACTORS/SUB -FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1C/2C (Stratford Lorne Avenue Corridor 1 east and west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3	**CORRIDOR ALTERNATIVE 1C/2D** (Stratford Lorne Avenue Corridor 1 east of Erie Street and Corridor 2 west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3, 2-4	**CORRIDOR ALTERNATIVE 1D/2C** (Stratford Lorne Avenue Corridor 2 west of Erie Street and Corridor 1 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3	**CORRIDOR ALTERNATIVE 1D/2D** (Stratford Lorne Avenue Corridor 2 west Erie Street and Corridor 2 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3
KEY MAP						
1. NATURAL ENVIRONMENT FACTORS						
1.1 Fisheries and Aquatic Ecosystems	1.1.1 Fish Habitat And 1.1.2 Fish Community	Potential to affect fish species and their habitat	**Medium** potential to affect fish species and their habitat • Potential to impact permanent warmwater fish habitat of the Avon River and Trout Creek in the Thames River Watershed. Corridor intersects 7 tributaries of the Avon River, primarily at existing crossing locations, of which 4 are warmwater and has 3 have no data or an unassigned thermal regime.	**Medium** potential to affect fish species and their habitat • Potential to impact permanent warmwater fish habitat of the Avon River and Trout Creek in the Thames River Watershed. Corridor intersects 10 tributaries of the Avon River, primarily at existing crossing locations, of which 4 are warmwater and has 6 have no data or an unassigned thermal regime	**Medium** potential to affect fish species and their habitat • Potential to impact permanent warmwater fish habitat of the Avon River and Trout Creek in the Thames River Watershed. Corridor intersects 6 tributaries of the Avon River, of which 3 are warmwater and 3 have no data or an unassigned thermal regime.	**High** potential to affect fish species and their habitat • Potential to impact permanent warmwater fish habitat of the Avon River and Trout Creek in the Thames River Watershed. Corridor intersects 9 tributaries of the Avon River, of which 3 are warmwater and 6 have no data or an unassigned thermal regime
1.2 Terrestrial Ecosystems	1.2.1 Wildlife	Potential to affect wildlife species at risk (special concern, endangered or threatened wildlife species), and provincially rare (S1 – S3) species and their habitat	**Low** potential to affect wildlife and their habitat • No special concern, endangered or threatened wildlife species • No provincially rare species (S1 – S3)	**Low** potential to affect wildlife and their habitat • No special concern, endangered or threatened wildlife species • No provincially rare species (S1 – S3)	**Low** potential to affect wildlife and their habitat • No special concern, endangered or threatened wildlife species • No provincially rare species (S1 – S3)	**Low** potential to affect wildlife and their habitat • No special concern, endangered or threatened wildlife species • No provincially rare species (S1 – S3)
	1.2.2 Wetlands	Potential to affect provincially (PSW) and locally (LSW) significant wetlands.	**Medium** potential to affect PSW and LSW wetlands. • Little Lakes Swamp Complex PSW located within corridor	**Medium** potential to affect PSW and LSW wetlands • Little Lakes Swamp Complex PSW located within corridor	**Medium** potential to affect PSW and LSW wetlands. • Little Lakes Swamp Complex PSW located within corridor	**Medium** potential to affect PSW and LSW wetlands • Little Lakes Swamp Complex PSW located within corridor
	1.2.3 Forests	Potential to affect woodlands, especially larger core woodlands and interior habitat	**Low** potential to affect woodlands • 4 woodlands potentially affected • None with core areas or interior habitat	**Medium** potential to affect woodlands • 6 woodlands potentially affected • 1 of which is larger with identified core/interior habitat	**Low** potential to affect woodlands • 5 woodlands potentially affected • None with core areas or interior habitat	**Medium** potential to affect woodlands • 7 woodlands potentially affected • 1 of which is larger with identified core/interior habitat
	1.2.4 Vegetation	Potential to affect populations of rare vegetation, including species at risk, provincially rare species and provincially rare vegetation communities	**Low** potential to affect populations of rare vegetation • No rare or SAR identified within the corridor	**Low** potential to affect populations of rare vegetation • No rare or SAR identified within the corridor	**Low** potential to affect populations of rare vegetation • No rare or SAR identified within the corridor	**Low** potential to affect populations of rare vegetation • No rare or SAR identified within the corridor
	1.2.5 Designated/Special Areas	Potential to affect designated/special areas	**Medium** potential to affect designated/special areas • Does not cross any ESA or ANSI west of Erie Street • Potential to cross the Little Lakes Bog and Swamp Forest Complex ANSI	**Medium** potential to affect designated/special areas • Does not cross any ESA or ANSI west of Erie Street • Potential to cross the Little Lakes Bog and Swamp Forest Complex ANSI	**Medium** potential to affect designated/special areas • Does not cross any ESA or ANSI west of Erie Street • Potential to cross the Little Lakes Bog and Swamp Forest Complex ANSI	**Medium** potential to affect designated/special areas • Does not cross any ESA or ANSI west of Erie Street • Potential to cross the Little Lakes Bog and Swamp Forest Complex ANSI
1.3 Groundwater	1.3.1 Areas of Groundwater Recharge and Discharge	Potential to affect volume of groundwater at recharge and discharge areas (depends on presence of low permeability, i.e. till or fine grained glaciolacustrine sediments, or high permeability, i.e. sand, gravels, fractured bedrock, soils at surface)	**Low** potential to affect volume of groundwater at recharge and discharge areas. • Surface runoff is interpreted to exceed infiltration • No temporary or long-term change to	**Low** potential to affect volume of groundwater at recharge and discharge areas. • Surface runoff is interpreted to exceed infiltration • No temporary or long-term change to	**Low** potential to affect volume of groundwater at recharge and discharge areas. • Surface runoff is interpreted to exceed infiltration • No temporary or long-term change to	**Low** potential to affect volume of groundwater at recharge and discharge areas. • Surface runoff is interpreted to exceed infiltration • No temporary or long-term change to

LEGEND

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SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 2 OF 2)

FACTORS/SUB -FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1C/2C (Stratford Lorne Avenue Corridor 1 east and west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3	**CORRIDOR ALTERNATIVE 1C/2D (Stratford Lorne Avenue Corridor 1 east of Erie Street and Corridor 2 west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3, 2-4**	**CORRIDOR ALTERNATIVE 1D/2C (Stratford Lorne Avenue Corridor 2 west of Erie Street and Corridor 1 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3**	**CORRIDOR ALTERNATIVE 1D/2D (Stratford Lorne Avenue Corridor 2 west Erie Street and Corridor 2 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3**
			groundwater recharge or discharge is anticipated due to the small surface area affected by highway construction in the corridor.	groundwater recharge or discharge is anticipated due to the small surface area affected by highway construction in the corridor.	groundwater recharge or discharge is anticipated due to the small surface area affected by highway construction in the corridor.	groundwater recharge or discharge is anticipated due to the small surface area affected by highway construction in the corridor.
		Potential to affect quality of groundwater at recharge and discharge areas (depends on attenuation capacity of soils, and, rate of groundwater infiltration and/or discharge)	**Low** potential to affect groundwater quality at recharge and discharge areas. • Rate of groundwater infiltration is low, with no significant surficial aquifer units within the corridor.	**Low** potential to affect groundwater quality at recharge and discharge areas. • Rate of groundwater infiltration is low, with no significant surficial aquifer units within the corridor.	**Low** potential to affect groundwater quality at recharge and discharge areas. • Rate of groundwater infiltration is low, with no significant surficial aquifer units within the corridor.	**Low** potential to affect groundwater quality at recharge and discharge areas. • Rate of groundwater infiltration is low, with no significant surficial aquifer units within the corridor.
	1.3.2 Groundwater Source and Wellhead Protection Areas (WHPAs)	Potential to affect groundwater wellhead protection areas (i.e., is corridor upgradient of or within a delineated wellhead protection area)	**Low** potential to affect groundwater wellhead protection area. • Corridor west of Erie Street is within the capture zone of two municipal wells. However, these wells are both located within the bedrock, protected by low permeability Silty Till. • Corridor east of Erie Street is within the capture zone of one municipal well. However, this well is located within the bedrock, which is protected by low permeability Silty Till.	**Low** potential to affect groundwater wellhead protection area. • Corridor west of Erie Street is within the capture zone of two municipal wells. However, these wells are both located within the bedrock, protected by low permeability Silty Till. • Corridor east of Erie Street is within the capture zone of one municipal well. However, this well is located within the bedrock, which is protected by low permeability Silty Till.	**Low** potential to affect groundwater wellhead protection area. • Corridor west of Erie Street is within the capture zone of two municipal wells. However, these wells are both located within the bedrock, protected by low permeability Silty Till. • Corridor east of Erie Street is within the capture zone of one municipal well. However, this well is located within the bedrock, which is protected by low permeability Silty Till.	**Low** potential to affect groundwater wellhead protection area. • Corridor west of Erie Street is within the capture zone of two municipal wells. However, these wells are both located within the bedrock, protected by low permeability Silty Till. • Corridor east of Erie Street is within the capture zone of one municipal well. However, this well is located within the bedrock, which is protected by low permeability Silty Till.
	1.3.3 Large Volume Wells	Potential to affect large volume wells	**Low** potential to affect large volume wells • Corridor west of Erie Street is located within the capture zone of two municipal wells. However these wells are both located within the bedrock, which is confined above by low permeability Silty Till. • Corridor east of Erie Street is located within the capture zone of one municipal well. However this well is located within the bedrock, which is protected by low permeability Silty Till.	**Low** potential to affect large volume wells • Corridor west of Erie Street is located within the capture zone of two municipal wells. However these wells are both located within the bedrock, which is confined above by low permeability Silty Till. • Corridor east of Erie Street is located within the capture zone of one municipal well. However this well is located within the bedrock, which is protected by low permeability Silty Till.	**Low** potential to affect large volume wells • Corridor west of Erie Street is located within the capture zone of two municipal wells. However these wells are both located within the bedrock, which is confined above by low permeability Silty Till. • Corridor east of Erie Street is located within the capture zone of one municipal well. However this well is located within the bedrock, which is protected by low permeability Silty Till.	**Low** potential to affect large volume wells • Corridor west of Erie Street is located within the capture zone of two municipal wells. However these wells are both located within the bedrock, which is confined above by low permeability Silty Till. • Corridor east of Erie Street is located within the capture zone of one municipal well. However this well is located within the bedrock, which is protected by low permeability Silty Till.
	1.3.4 Private Wells	To be considered in the detailed planning and preliminary design phases				
	1.3.5 Groundwater-Sensitive Ecosystems	To be considered in the detailed planning and preliminary design phases				
1.4 Surface Water	1.4.1 Watershed / Sub-Watershed Drainage Features/Patterns	Potential to affect permanent watercourses	**Medium** potential to affect permanent watercourses • Potential to impact the Avon River in the Thames River Watershed west of Erie Street. Corridor intersects 4 tributaries of the Avon River. • Potential to impact Trout Creek in the Thames River Watershed east of Erie Street. Proposed corridor intersects 3 tributaries of the Avon River.	**Medium** potential to affect permanent watercourses • Potential to impact the Avon River in the Thames River Watershed west of Erie Street. Corridor intersects 4 tributaries of the Avon River. • Potential to impact Trout Creek in the Thames River Watershed east of Erie Street. Proposed corridor intersects 6 tributaries of the Avon River.	**High** potential to affect permanent watercourses • Potential to impact the Avon River in the Thames River Watershed west of Erie Street. Corridor intersects 3 tributaries of the Avon River and crosses confluence of three watercourses. • Potential to impact Trout Creek in the Thames River Watershed east of Erie Street. Proposed corridor intersects 3 tributaries of the Avon River.	**High** potential to affect permanent watercourses • Potential to impact the Avon River in the Thames River Watershed west of Erie Street. Corridor intersects 3 tributaries of the Avon River and crosses confluence of three watercourses. • Potential to impact Trout Creek in the Thames River Watershed east of Erie Street. Proposed corridor intersects 6 tributaries of the Avon River.
	1.4.2 Surface Water Quality and Quantity	To be considered in the detailed planning and preliminary design phases				
SUMMARY OF NATURAL ENVIRONMENT			Key natural environment conditions that differentiate Corridor 1C/2C from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to affect fish species and their habitat;	Key natural environment conditions that differentiate Corridor 1C/2D from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to affect fish species and their habitat;	Key natural environment conditions that differentiate Corridor 1D/2C from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to affect fish species and their habitat;	Key natural environment conditions that differentiate Corridor 1D/2D from the other corridor alternatives in Sections1 and 2 are the following: • High potential to affect fish species and their habitat;

LEGEND

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			• Medium potential to affect provincially (PSW) and locally (LSW) significant wetlands • Low potential to affect woodlands; • Medium potential to affect permanent watercourses	• Medium potential to affect provincially (PSW) and locally (LSW) significant wetlands • Medium potential to affect woodlands; • Medium potential to affect permanent watercourses	• Medium potential to affect provincially (PSW) and locally (LSW) significant wetlands • Low potential to affect woodlands; • High potential to affect permanent watercourses	• Medium potential to affect provincially (PSW) and locally (LSW) significant wetlands • Medium potential to affect woodlands; • High potential to affect permanent watercourses
			Corridors 1C/2C and 1C/2D are primarily composed of existing roadway components. As a result: • They have lower potential impacts to the natural environment, primarily because of the relatively low "footprint" impact; • The potential impacts to fisheries and aquatic ecosystems and to watershed features tend to be of a nature that can be spanned/bridged; and • The potential impacts to forests and vegetation tend to be "edge effects" and therefore relatively low. Therefore, from a natural environment perspective, Corridors 1C/2C and 1C/2D are both preferred for Sections 1 and 2.			
2. LAND USE / SOCIO-ECONOMIC ENVIRONMENT FACTORS						
2.1 Land Use Planning Policies, Goals, Objectives	2.1.1 First Nation Land Claims	Potential to affect areas for which there are First Nation outstanding land claims	Five filed land claims that may apply to this analysis area	Five filed land claims that may apply to this analysis area	Five filed land claims that may apply to this analysis area	Five filed land claims that may apply to this analysis area
	2.1.2 Provincial/Federal land use planning policies/goals/ objectives	Potential to support federal/provincial land use policies/goals/objectives NOTES: PPS Policy 1.6.6.4 stipulates that when planning for corridors for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. PPS Policy 2.3 requires prime agricultural areas be protected for long-term use. Prime agricultural areas include specialty crop areas and Classes 1,2, and 3 soils in this order of priority.	**Medium** potential to support federal/provincial land use policies/goals/objectives. • Corridor has existing roadway and new corridor components, and the latter would have impacts east of Romeo Street relative to PPS Policies 1.6.6.4 and 2.3. • There are no location-specific federal or provincial land use policies for Section 2.	**Medium** potential to support federal/provincial land use policies/goals/objectives. • Corridor has existing roadway and new corridor components, and the latter would have impacts east of Romeo Street relative to PPS Policies 1.6.6.4 and 2.3. • There are no location-specific federal or provincial land use policies for Section 2.	**Medium** potential to support federal/provincial land use policies/goals/objectives. • Corridor has existing roadway and new corridor components, and the latter would have impacts east of Romeo Street relative to PPS Policies 1.6.6.4 and 2.3. • There are no location-specific federal or provincial land use policies for Section 2.	**Medium** potential to support federal/provincial land use policies/goals/objectives. • Corridor has existing roadway and new corridor components, and the latter would have impacts east of Romeo Street relative to PPS Policies 1.6.6.4 and 2.3. • There are no location-specific federal or provincial land use policies for Section 2.
	2.1.3 Municipal (regional and local) land use planning policies/ goals/objectives (Official Plans)	Potential to support municipal Official Plans	**High** potential to support municipal Official Plans. • Corridor within County of Perth and City of Stratford. • Portions of lands along Lorne Avenue west of Erie Street within City of Stratford and designated for Open Space, Urban Residential, and Industrial use. Balance of lands designated for Agricultural use • Corridor east of Erie Street crosses through lands designated industrial and Residential and Commercial between nodes 2-2 and 2-3, and part of 2-3 to 2-4. Corridor adjacent to Urban Fringe at east side of Stratford. All other lands designated for Agricultural use.	**High** potential to support municipal Official Plans. • Corridor within County of Perth and City of Stratford. • Portions of lands along Lorne Avenue west of Erie Street within City of Stratford and designated for Open Space, Urban Residential, and Industrial use. Balance of lands designated for Agricultural use • Corridor east of Erie Street crosses through lands designated industrial and Residential and Commercial between nodes 2-2 and 2-3, and part of 2-3 to 2-4. Corridor adjacent to Urban Fringe at east side of Stratford. All other lands designated for Agricultural use.	**Medium** potential to support municipal Official Plans. • Corridor within County of Perth and City of Stratford. • The section on Highway 8 between Perth Road 125 and O'Loane Avenue crosses a small portion of land designated for Aggregate/Pit Area; the section between Highway 8 and Lorne Avenue is adjacent to Urban Fringe; portions of lands along Lorne Avenue west of Erie Street within City of Stratford and designated for Open Space, Urban Residential, and Industrial use • Corridor east of Erie Street crosses through	**Medium** potential to support municipal Official Plans. • Study area within County of Perth and City of Stratford. The section on Highway 8 between Perth Road 125 and O'Loane Avenue crosses a small portion of land designated for Aggregate/Pit Area; the section between Highway 8 and Lorne Avenue is adjacent to Urban Fringe; portions of lands along Lorne Avenue west of Erie Street within City of Stratford and designated for Open Space, Urban Residential, and Industrial use • Corridor east of Erie Street crosses through lands designated industrial and Residential

LEGEND

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Highway 7&8 Transportation Corridor Planning and Class EA Study
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Note – Evaluation of the short list of corridor alternatives is based on a qualitative assessment of each corridor (high, medium or low) and is based on secondary source information presented In Report F, Part 1 (June, 2008)
Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment

SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 2 OF 2)

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1C/2C (Stratford Lorne Avenue Corridor 1 east and west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3	**CORRIDOR ALTERNATIVE 1C/2D** (Stratford Lorne Avenue Corridor 1 east of Erie Street and Corridor 2 west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3, 2-4	**CORRIDOR ALTERNATIVE 1D/2C** (Stratford Lorne Avenue Corridor 2 west of Erie Street and Corridor 1 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3	**CORRIDOR ALTERNATIVE 1D/2D** (Stratford Lorne Avenue Corridor 2 west Erie Street and Corridor 2 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3
					lands designated industrial and Residential and Commercial between nodes 2-2 and 2-3, and part of 2-3 to 2-4. Corridor adjacent to Urban Fringe at east side of Stratford. All other lands designated for Agricultural use.	and Commercial between nodes 2-2 and 2-3, and part of 2-3 to 2-4. Corridor adjacent to Urban Fringe at east side of Stratford. All other lands designated for Agricultural use.
	2.1.4 Development Objectives of Private Property Owners	To be considered in the detailed planning and preliminary design phases				
2.2 Land Use / Community	2.2.1 Indian Reserves	Potential to affect Indian Reserves	No Indian reserves within the analysis area.	No Indian reserves within the analysis area.	No Indian reserves within the analysis area.	No Indian reserves within the analysis area.
	2.2.2 First Nation Sacred Grounds	To be considered in the detailed planning and preliminary design phases				
	2.2.3 Urban and Rural Residential	Potential to affect urban and residential areas	**High** potential to affect urban and residential areas • Borders south edge of the residential and urban areas on Lorne Avenue between O'Loane Avenue and Erie Street. • Borders the southern edge of an existing residential area along Lorne Avenue east of Erie Street	**High** potential to affect urban and residential areas • Borders south edge of the residential and urban areas on Lorne Avenue between O'Loane Avenue and Erie Street. • Borders the southern edge of an existing residential area along Lorne Avenue east of Erie Street	**High** potential to affect urban and residential areas • Borders south edge of the residential and urban areas on Lorne Avenue between O'Loane Avenue and Erie Street. • Borders the southern edge of an existing residential area along Lorne Avenue east of Erie Street	**High** potential to affect urban and residential areas • Borders south edge of the residential and urban areas on Lorne Avenue between O'Loane Avenue and Erie Street. • Borders the southern edge of an existing residential area along Lorne Avenue east of Erie Street
	2.2.4 Commercial/Industrial	Potential to affect commercial and industrial areas	**Low** potential to affect commercial and industrial areas. • The portion of the corridor along Lorne Avenue borders the northern edge of an industrial area west of Erie Street. However, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section. • The portion of the corridor along Highway 7 passes through an existing industrial area. • The portion of the corridor along Lorne Avenue east of Erie Street borders the northern edge of an existing commercial area. However, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section. • Corridor passes through the commercial and industrial area, providing direct access, so improved corridor could be a benefit.	**Low** potential to affect commercial and industrial areas. • The portion of the corridor along Lorne Avenue borders the northern edge of an industrial area west of Erie Street. However, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section. • The portion of the corridor along Highway 7 passes through an existing industrial area. • The portion of the corridor along Lorne Avenue east of Erie Street borders the northern edge of an existing commercial area. However, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section. • Corridor passes through the commercial and industrial area, providing direct access, so improved corridor could be a benefit.	**Low** potential to affect commercial and industrial areas. • The portion of the corridor along Lorne Avenue borders the northern edge of an industrial area west of Erie Street. However, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section. • The portion of the corridor along Highway 7 passes through an existing industrial area. • The portion of the corridor along Lorne Avenue east of Erie Street borders the northern edge of an existing commercial area. However, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section. • Corridor passes through the commercial and industrial area, providing direct access, so improved corridor could be a benefit.	**Low** potential to affect commercial and industrial areas. • The portion of the corridor along Lorne Avenue borders the northern edge of an industrial area west of Erie Street. However, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section. • The portion of the corridor along Highway 7 passes through an existing industrial area. • The portion of the corridor along Lorne Avenue east of Erie Street borders the northern edge of an existing commercial area. However, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section. • Corridor passes through the commercial and industrial area, providing direct access, so improved corridor could be a benefit.
	2.2.5 Tourist Areas and Attractions (e.g. museums, theatres, etc.)	Potential to affect tourist areas and attractions	**Low** potential to affect tourist areas and attractions • No tourist areas or attractions within or adjacent to this corridor	**Low** potential to affect tourist areas and attractions • No tourist areas or attractions within or adjacent to this corridor	**Low** potential to affect tourist areas and attractions • No tourist areas or attractions within or adjacent to this corridor	**Low** potential to affect tourist areas and attractions • No tourist areas or attractions within or adjacent to this corridor
	2.2.6 Community Facilities / Institutions (e.g. hospitals, schools, places of worship, unique community features)	Potential to affect community facilities and institutions	**Low** potential to affect community facilities and institutions • No community facilities or institutions within or adjacent to this corridor west of Hwy 7 • Community centre west of Dunlop is south of Lorne Avenue, which has an existing right-of-way width that can accommodate a 4/5 lane cross section.	**Low** potential to affect community facilities and institutions • No community facilities or institutions within or adjacent to this corridor west of Hwy 7 • Community centre west of Dunlop is south of Lorne Avenue, which has an existing right-of-way width that can accommodate a 4/5 lane cross section.	**Low** potential to affect community facilities and institutions • No community facilities or institutions within or adjacent to this corridor west of Hwy 7 • Community centre west of Dunlop is south of Lorne Avenue, which has an existing right-of-way width that can accommodate a 4/5 lane cross section.	**Low** potential to affect community facilities and institutions • No community facilities or institutions within or adjacent to this corridor west of Hwy 7 • Community centre west of Dunlop is south of Lorne Avenue, which has an existing right-of-way width that can accommodate a 4/5 lane cross section.
	2.2.7 Municipal Infrastructure and Public Service Facilities	To be considered in the detailed planning and preliminary design phases				

LEGEND

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Note – Evaluation of the short list of corridor alternatives is based on a qualitative assessment of each corridor (high, medium or low) and is based on secondary source information presented In Report F, Part 1 (June, 2008)
Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment

SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 2 OF 2)

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1C/2C **(Stratford Lorne Avenue Corridor 1 east and west of Erie Street)** **Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-6** **Plus Erie Street 2-1, 2-2, 2-3**	**CORRIDOR ALTERNATIVE 1C/2D** **(Stratford Lorne Avenue Corridor 1 east of Erie Street and Corridor 2 west of Erie Street)** **Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-5** **Plus Erie Street 2-1, 2-2, 2-3, 2-4**	**CORRIDOR ALTERNATIVE 1D/2C** **(Stratford Lorne Avenue Corridor 2 west of Erie Street and Corridor 1 east of Erie Street)** **Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-6** **Plus Erie Street 2-1, 2-2, 2-3**	**CORRIDOR ALTERNATIVE 1D/2D** **(Stratford Lorne Avenue Corridor 2 west Erie Street and Corridor 2 east of Erie Street)** **Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-5** **Plus Erie Street 2-1, 2-2, 2-3**
2.3 Noise Sensitive Areas (NSAs) (residential areas and sensitive institutional uses)	2.3.1 Highway Noise	Potential for increased traffic noise in NSAs	**High** potential to impact NSAs • NSA north of Lorne Avenue between O'Loane Avenue and Erie Street • Corridor borders NSA north of Lorne Avenue that extends from Erie Street to east of Downie Street	**High** potential to impact NSAs • NSA north of Lorne Avenue between O'Loane Avenue and Erie Street • Corridor borders NSA north of Lorne Avenue that extends from Erie Street to east of Downie Street	**High** potential to impact NSAs • NSAs east of O'Loane Avenue, and NSAs north of Lorne Avenue between O'Loane Avenue and Erie Street • Corridor borders NSA north of Lorne Avenue that extends from Erie Street to east of Downie Street	**High** potential to impact NSAs • NSAs east of O'Loane Avenue, and NSAs north of Lorne Avenue between O'Loane Avenue and Erie Street • Corridor borders NSA north of Lorne Avenue that extends from Erie Street to east of Downie Street
	2.3.2 Construction Noise	Not considered until the preliminary design phase				
2.4 Agriculture	2.4.1 Agriculture - Canada Land Inventory Class (CLII) 1,2,3 Land	Potential to affect specialty crop areas and/or areas of Canada Land Inventory Classes 1, 2 and 3 soils: NOTES: CLI Class 1 - no significant growth limitations CLI Class 2 - moderate growth limitations CLI Class 3 - moderately severe growth limitations	**Medium** potential to affect specialty crop areas and/or areas of Canada Land Inventory Classes 1, 2 and 3 soils. • Corridor is both existing roadway within and outside an urban setting (western section), and new corridor outside of an urban setting (eastern section). • The portion of the corridor along Highway 8 and Perth Road 125 is within the Huron Clay Loam soil series which is 60% CLI Class 1 soils and 40% CLI Class 3 soils. • The portion of the corridor along Lorne Ave west of Hwy 7 is within 3 soil types. Huron Silt Loam is 60% CLI Class 1 soils and 40% CLI Class 3 soils; Perth Silt Loam is 100% CLI Class 1 soils; and Brookston Silt Loam is 100% CLI Class 2 soils. • The portion of the corridor west of Perth Road 111 and south of Lorne Avenue is situated within Perth Silt Loam, which is 100% comprised of CLI Class 1 soils. This portion of the corridor also includes Brookston Silt Loam soil series, which is 100% CLI Class 2 soils. East of Perth Road 109 there is a pocket of Bottom Land soil, which is CLI Class 5 soils (heavy severe limitations). In addition, at Lorne Avenue, there is an isolated pocket of Brookston Clay Loam soil, which is 100% CLI Class 2 soils. • The portion of the corridor east of Perth Road 111 and north of Lorne Avenue is within Perth Silt Loam soil series as well as a small portion of Huron Clay Loam soil series, which 60% CLI Class 1 soils and 40% CLI Class 3 soils. A small portion of Muck exists at the northern corridor limits.	**Medium** potential to affect specialty crop areas and/or areas of Canada Land Inventory Classes 1, 2 and 3 soils. • Corridor is both existing roadway within and outside an urban setting (western section), and new corridor outside of an urban setting (eastern section). • Corridor is all existing roadway and is both outside and inside of an urban setting. • The portion of the corridor along Highway 8 and Perth Road 125 is within the Huron Clay Loam soil series which is 60% CLI Class 1 soils and 40% CLI Class 3 soils. • The portion of the corridor along Lorne Ave west of Hwy 7 is within 3 soil types. Huron Silt Loam is 60% CLI Class 1 soils and 40% CLI Class 3 soils; Perth Silt Loam is 100% CLI Class 1 soils; and Brookston Silt Loam is 100% CLI Class 2 soils. • The portion of the corridor west of Perth Road 111 and south of Lorne Avenue is situated within Perth Silt Loam, which is 100% comprised of CLI Class 1 soils. 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	2.4.2 Agricultural - Farm Infrastructure	Potential to affect farm infrastructure (field tile drainage systems/outlets, irrigation systems, barns/silos/structures, etc.) NOTES: The broader issue of wells is addressed under the groundwater factor	**Medium** potential to affect farm infrastructure • Portion of the corridor involves widening of existing roadway (primarily within Stratford), which may result in the loss of small amounts of farm frontage, but will cause minimal disruption / diversion of field tile drainage systems, and irrigation systems within an individual farm, and since most farm buildings	**Medium** potential to affect farm infrastructure • Portion of the corridor involves widening of existing roadway (primarily within Stratford), which may result in the loss of small amounts of farm frontage, but will cause minimal disruption / diversion of field tile drainage systems, and irrigation systems within an individual farm, and since most farm buildings	**Medium** potential to affect farm infrastructure • Portion of the corridor involves widening of existing roadway (primarily within Stratford), which may result in the loss of small amounts of farm frontage, but will cause minimal disruption / diversion of field tile drainage systems, and irrigation systems within an individual farm, and since most farm buildings	**Medium** potential to affect farm infrastructure • Portion of the corridor involves widening of existing roadway (primarily within Stratford), which may result in the loss of small amounts of farm frontage, but will cause minimal disruption / diversion of field tile drainage systems, and irrigation systems within an individual farm, and since most farm buildings

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		The broader issue of drainage along and across transportation rights-of-way is addressed as part of "drainage and hydrology engineering" that is undertaken for the selected alternative.	are set back from the highway, minimal impact to farm buildings. • Portion of the corridor is new corridor, which may result in considerable disruption / diversion of field tile drainage systems, irrigation systems, and farm buildings within an individual farm.	are set back from the highway, minimal impact to farm buildings. • Portion of the corridor is new corridor, which may result in considerable disruption / diversion of field tile drainage systems, irrigation systems, and farm buildings within an individual farm.	are set back from the highway, minimal impact to farm buildings. • Portion of the corridor is new corridor, which may result in considerable disruption / diversion of field tile drainage systems, irrigation systems, and farm buildings within an individual farm.	are set back from the highway, minimal impact to farm buildings. • Portion of the corridor is new corridor, which may result in considerable disruption / diversion of field tile drainage systems, irrigation systems, and farm buildings within an individual farm.
	2.4.3 Agriculture – Operations on Individual Farms	Potential to sever/disrupt in-farm field operations (planting, harvesting, grazing, nutrient management, etc)	**Medium** potential to affect in-farm field operations • Portion of the corridor involves widening of existing roads (primarily within Stratford), which may result in the loss of small amounts of farm frontage, but will cause minimal disruption of planting, harvesting, grazing, nutrient management within an individual farm. • Portion of the corridor is new corridor, which may result in major severance / disruption of planting, harvesting, grazing, nutrient management within an individual farm.	**Medium** potential to affect in-farm field operations • Portion of the corridor involves widening of existing roads (primarily within Stratford), which may result in the loss of small amounts of farm frontage, but will cause minimal disruption of planting, harvesting, grazing, nutrient management within an individual farm. • Portion of the corridor is new corridor, which may result in major severance / disruption of planting, harvesting, grazing, nutrient management within an individual farm.	**Medium** potential to affect in-farm field operations • Portion of the corridor involves widening of existing roads (primarily within Stratford), which may result in the loss of small amounts of farm frontage, but will cause minimal disruption of planting, harvesting, grazing, nutrient management within an individual farm. • Portion of the corridor is new corridor, which may result in major severance / disruption of planting, harvesting, grazing, nutrient management within an individual farm.	**Medium** potential to affect in-farm field operations • Portion of the corridor involves widening of existing roads (primarily within Stratford), which may result in the loss of small amounts of farm frontage, but will cause minimal disruption of planting, harvesting, grazing, nutrient management within an individual farm. • Portion of the corridor is new corridor, which may result in major severance / disruption of planting, harvesting, grazing, nutrient management within an individual farm.
	2.4.4 Agriculture – Transportation Linkages between Multiple-Farm Operations	Potential to sever/disrupt transportation linkages between multiple-farm operations (movement between linked multiple-farm operations of equipment, materials, workers, etc) NOTES: The generic issue of shipments to/from farms is covered under the broader transportation sub-factor "movement of goods". The generic issue of farm resident/worker movement to/from farms is covered under the broader transportation sub-factor "movement of people". Movement of equipment, materials and workers between multiple-farm operations will occur in the context of increased overall traffic on roadways within the analysis area regardless of the alternative selected.	**Medium** potential to sever/disrupt transportation linkages between multiple-farm operations. • Portion of the corridor involves widening of existing roads, which will not cause out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms; but it may make movements across the existing roadway more difficult. • Corridor involves conversion of existing rural roads from local to inter-regional traffic use, which will cause interference with movement of agricultural equipment along those roads. • Portion of the corridor is new corridor, which may result in some out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms.	**Medium** potential to sever/disrupt transportation linkages between multiple-farm operations. • Portion of the corridor involves widening of existing roads, which will not cause out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms; but it may make movements across the existing roadway more difficult. • Corridor involves conversion of existing rural roads from local to inter-regional traffic use, which will cause interference with movement of agricultural equipment along those roads. • Portion of the corridor is new corridor, which may result in some out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms.	**Medium** potential to sever/disrupt transportation linkages between multiple-farm operations. • Portion of the corridor involves widening of existing roads, which will not cause out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms; but it may make movements across the existing roadway more difficult. • Corridor involves conversion of existing rural roads from local to inter-regional traffic use, which will cause interference with movement of agricultural equipment along those roads. • Portion of the corridor is new corridor, which may result in some out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms.	**Medium** potential to sever/disrupt transportation linkages between multiple-farm operations. • Portion of the corridor involves widening of existing roads, which will not cause out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms; but it may make movements across the existing roadway more difficult. • Corridor involves conversion of existing rural roads from local to inter-regional traffic use, which will cause interference with movement of agricultural equipment along those roads. • Portion of the corridor is new corridor, which may result in some out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms.
2.5 Land Use / Resources	2.5.1First Nation Treaty Rights or Use of Land and Resources for Traditional Purposes (e.g. hunting, fishing, harvesting of country foods, harvesting of medicinal plants)	Potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes NOTE: The protection of the natural environment is important to the continued use of lands for traditional First Nations activities.	**Medium** potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Corridor has existing roadway and new corridor components	**Medium** potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Corridor has existing roadway and new corridor components	**Medium** potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Corridor has existing roadway and new corridor components	**Medium** potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Corridor has existing roadway and new corridor components.
	2.5.2 Parks and Recreational Areas (e.g. national/provincial parks, conservation areas, municipal parks,	Potential to affect parks and recreational areas.	**Medium** potential to affect parks and recreational areas • Corridor borders southern boundary of Lorne Park. • Stratford Municipal Golf Course is north of	**Medium** potential to affect parks and recreational areas • Corridor borders southern boundary of Lorne Park. • Stratford Municipal Golf Course is north of	**Medium** potential to affect parks and recreational areas • Corridor borders southern boundary of Lorne Park. • Stratford Municipal Golf Course is north of	**Medium** potential to affect parks and recreational areas • Corridor borders southern boundary of Lorne Park. • Stratford Municipal Golf Course is north of

LEGEND

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Highway 7&8 Transportation Corridor Planning and Class EA Study
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Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment

SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 2 OF 2)

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1C/2C (Stratford Lorne Avenue Corridor 1 east and west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3	**CORRIDOR ALTERNATIVE 1C/2D (Stratford Lorne Avenue Corridor 1 east of Erie Street and Corridor 2 west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3, 2-4**	**CORRIDOR ALTERNATIVE 1D/2C (Stratford Lorne Avenue Corridor 2 west of Erie Street and Corridor 1 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3**	**CORRIDOR ALTERNATIVE 1D/2D (Stratford Lorne Avenue Corridor 2 west Erie Street and Corridor 2 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3**
	public spaces, golf courses, trails, greenways and open space linkages)		Lorne Avenue, however, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section.	Lorne Avenue, however, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section.	Lorne Avenue, however, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section.	Lorne Avenue, however, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section.
	2.5.3 Aggregates, Mineral-Resources	Potential to affect aggregate and mineral resources sites	**Low** potential to affect aggregate and mineral resources sites • No aggregate or mineral resource sites located within or adjacent to this corridor.	**Low** potential to affect aggregate and mineral resources sites • No aggregate or mineral resource sites located within or adjacent to this corridor.	**High** potential to affect aggregate and mineral resources sites • Section on Highway 8 between Perth Road 125 and O'Loane Avenue passes through an area zoned for aggregate extraction.	**High** potential to affect aggregate and mineral resources sites • Section on Highway 8 between Perth Road 125 and O'Loane Avenue passes through an area zoned for aggregate extraction.
2.6 Major Utility Transmission Corridors (e.g. railroads, hydro, gas, oil)		Potential to affect major utility transmission corridors	**Medium** potential to affect major utility transmission corridors • Three railway crossings; three major hydro transmission line crossings, one line situated on south side of Lorne Avenue from Oak Street to Downie Street; municipal trunk storm and sanitary sewers under Lorne Avenue	**Medium** potential to affect major utility transmission corridors • Three railway crossings; three major hydro transmission line crossings, one line situated on south side of Lorne Avenue from Oak Street to Downie Street; municipal trunk storm and sanitary sewers under Lorne Avenue	**Medium** potential to affect major utility transmission corridors • Three railway crossings; three major hydro transmission line crossings, one line situated on south side of Lorne Avenue from Oak Street to Downie Street; municipal trunk storm and sanitary sewers under Lorne Avenue	**Medium** potential to affect major utility transmission corridors • Three railway crossings; three major hydro transmission line crossings, one line situated on south side of Lorne Avenue from Oak Street to Downie Street; municipal trunk storm and sanitary sewers under Lorne Avenue
2.7 Contaminated Property and Waste Management (e.g. Landfills, hazardous waste sites, former industrial areas and other known contaminated sites)		Potential to affect landfills (open and closed), hazardous waste sites "brownfield" areas, and other known contaminated sites.	**Medium** potential to affect known contaminated sites • Closed waste site at Highway 8 / Perth Road 125 is outside the corridor. • There is a scrap yard on the northwest corner of Lorne Avenue and Romeo Street, and there is a waste disposal site north of Lorne Avenue and east of Romeo Street. However, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section.	**Medium** potential to affect known contaminated sites • Closed waste site at Highway 8 / Perth Road 125 is outside the corridor. • There is a scrap yard on the northwest corner of Lorne Avenue and Romeo Street, and there is a waste disposal site north of Lorne Avenue and east of Romeo Street. However, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section.	**Medium** potential to affect known contaminated sites • Closed waste site at Highway 8 / Perth Road 125 is outside the corridor. • There is a scrap yard on the northwest corner of Lorne Avenue and Romeo Street, and there is a waste disposal site north of Lorne Avenue and east of Romeo Street. However, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section.	**Medium** potential to affect known contaminated sites • Closed waste site at Highway 8 / Perth Road 125 is outside the corridor. • There is a scrap yard on the northwest corner of Lorne Avenue and Romeo Street, and there is a waste disposal site north of Lorne Avenue and east of Romeo Street. However, the existing Lorne Avenue right-of-way width can accommodate a 4/5 lane cross-section.
2.8 Landscape Composition	2.8.1 Scenic Composition	To be considered in the detailed planning and preliminary design phases				
	2.8.2 Sensitive Viewer Groups	To be considered in the detailed planning and preliminary design phases				
	2.8.3 Scenic Value of Views/Vistas from the transportation facility	To be considered in the detailed planning and preliminary design phases				
	2.8.4 Specimen Trees	To be considered in the detailed planning and preliminary design phases				
2.9 Air Quality	2.9.1 Regional Air Quality and Total Contaminant / Greenhouse Gas Emissions	Potential to reduce the regional air quality consequences of traffic congestion	**Low** potential to reduce regional air quality consequences of traffic congestion • Several suburban intersections; other existing traffic sources.	**Low** potential to reduce regional air quality consequences of traffic congestion • Several suburban intersections; other existing traffic sources.	**Low** potential to reduce the regional air quality consequences of traffic congestion • Several suburban intersections and other contributing traffic sources.	**Low** potential to reduce the regional air quality consequences of traffic congestion • Several suburban intersections and other contributing traffic sources.
	2.9.2 Local Air Quality and Sensitive Receptors to Air Pollutants	Potential to affect local receptors sensitive to air pollutants	**High** potential to affect local receptors sensitive to air pollutants • Critical receptors as well as sensitive receptors within 0.5 km.	**High** potential to affect local receptors sensitive to air pollutants • Critical receptors as well as sensitive receptors within 0.5 km.	**High** potential to affect local receptors sensitive to air pollutants • Critical receptors as well as sensitive receptors within 0.5 km. • Passes within 0.6 km of 3 schools and is within 1 km of the Stratford General Hospital. . More sensitive receptors than Corridors 1A and 1B.	**High** potential to affect local receptors sensitive to air pollutants • Critical receptors as well as sensitive receptors within 0.5 km. • Passes within 0.6 km of 3 schools and is within 1 km of the Stratford General Hospital. . More sensitive receptors than Corridors 1A and 1B.

LEGEND

MOST PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED	NO SIGNIFICANT DIFFERENCE	SELECTED CORRIDOR

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SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 2 OF 2)

FACTORS/SUB -FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES CORRIDOR ALTERNATIVE 1C/2C (Stratford Lorne Avenue Corridor 1 east and west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3	CORRIDOR ALTERNATIVE 1C/2D (Stratford Lorne Avenue Corridor 1 east of Erie Street and Corridor 2 west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3, 2-4	CORRIDOR ALTERNATIVE 1D/2C (Stratford Lorne Avenue Corridor 2 west of Erie Street and Corridor 1 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3	CORRIDOR ALTERNATIVE 1D/2D (Stratford Lorne Avenue Corridor 2 west Erie Street and Corridor 2 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3
SUMMARY OF LAND USE/SOCIO ECONOMIC ENVIRONMENT			Key land use / socio-economic conditions that differentiate Corridor 1C/2C from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to support provincial land use policies; • High potential to support municipal official plans; • High potential to affect urban and residential area; • Low potential to affect commercial and industrial areas; • High potential to affect noise sensitive areas; • Medium potential to affect Canada Land Inventory Classes 1, 2 and 3 soils; • Medium potential to affect farm infrastructure; • Medium potential to affect in-farm field operations; • Medium potential to sever/disrupt transportation linkages between multiple-farm operations; • Medium potential to affect parks and recreational areas; • Low potential to affect aggregate and mineral resources sites; • Medium potential to affect major utility transmission corridors; • Medium potential to affect known contaminated sites; • Low potential to reduce regional air quality consequences of traffic congestion; and • High potential to affect local receptors sensitive to air pollutants.	Key land use / socio-economic conditions that differentiate Corridor 1C/2D from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to support provincial land use policies; • High potential to support municipal official plans; • High potential to affect urban and residential area; • Low potential to affect commercial and industrial areas; • High potential to affect noise sensitive areas; • Medium potential to affect Canada Land Inventory Classes 1, 2 and 3 soils; • Medium potential to affect farm infrastructure; • Medium potential to affect in-farm field operations; • Medium potential to sever/disrupt transportation linkages between multiple-farm operations; • Medium potential to affect parks and recreational areas; • Low potential to affect aggregate and mineral resources sites; • Medium potential to affect major utility transmission corridors; • Medium potential to affect known contaminated sites; • Low potential to reduce regional air quality consequences of traffic congestion; and • High potential to affect local receptors sensitive to air pollutants.	Key land use / socio-economic conditions that differentiate Corridor 1D/2C from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to support provincial land use potential to support provincial land use policies; • Medium potential to support municipal official plans; • High potential to affect urban and residential area; • Low potential to affect commercial and industrial areas; • High potential to affect noise sensitive areas; • Medium potential to affect Canada Land Inventory Classes 1, 2 and 3 soils; • Medium potential to affect farm infrastructure; • Medium potential to affect in-farm field operations; • Medium potential to sever/disrupt transportation linkages between multiple-farm operations; • Medium potential to affect parks and recreational areas; • High potential to affect aggregate and mineral resources sites; • Medium potential to affect major utility transmission corridors; • Medium potential to affect known contaminated sites; • Low potential to reduce regional air quality consequences of traffic congestion; and • High potential to affect local receptors sensitive to air pollutants.	Key land use / socio-economic conditions that differentiate Corridor 1D/2D from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to support provincial land use policies; • Medium potential to support municipal official plans; • High potential to affect urban and residential area; • Low potential to affect commercial and industrial areas; • High potential to affect noise sensitive areas; • Medium potential to affect Canada Land Inventory Classes 1, 2 and 3 soils; • Medium potential to affect farm infrastructure; • Medium potential to affect in-farm field operations; • Medium potential to sever/disrupt transportation linkages between multiple-farm operations; • Medium potential to affect parks and recreational areas; • High potential to affect aggregate and mineral resources sites; • Medium potential to affect major utility transmission corridors; • Medium potential to affect known contaminated sites; • Low potential to reduce regional air quality consequences of traffic congestion; and • High potential to affect local receptors sensitive to air pollutants.
			Corridors 1C/2C and 1C/2D are primarily composed of existing roadway components. As a result: • They support provincial/federal land use policies/goals and objectives; • They have lower potential impacts to commercial/industrial areas and agricultural lands/operations, primarily because of their low "footprint" impact; • The higher potential impacts relative to community factors (urban area of Stratford) and regional air quality (particularly in Stratford) are to a considerable degree already associated with the current roadway. Therefore, from a socio-economic environment perspective, Corridors 1C/2C and 1C/2D are both preferred for Sections 1 and 2.			
3. CULTURAL ENVIRONMENT FACTORS						
3.1 Cultural Heritage – Built Heritage and Cultural Landscapes	3.1.1 Buildings or "Standing" Sites of Architectural or Heritage Significance or Ontario Heritage Foundation Easement Properties	Potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easements properties	**Low** potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties • Concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to Perth Road 125	**Low** potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties • Concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to Perth Road 125	**Low** potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties • Concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to Perth Road 125	**Low** potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties • Concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to Perth Road 125
	3.1.2 Heritage Bridges	Potential to affect heritage bridges	**Medium** potential to affect heritage bridges	**Medium** potential to affect heritage bridges	**Medium** potential to affect heritage bridges	**Medium** potential to affect heritage bridges

LEGEND

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SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 2 OF 2)

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1C/2C (Stratford Lorne Avenue Corridor 1 east and west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3	**CORRIDOR ALTERNATIVE 1C/2D (Stratford Lorne Avenue Corridor 1 east of Erie Street and Corridor 2 west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3, 2-4**	**CORRIDOR ALTERNATIVE 1D/2C (Stratford Lorne Avenue Corridor 2 west of Erie Street and Corridor 1 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3**	**CORRIDOR ALTERNATIVE 1D/2D (Stratford Lorne Avenue Corridor 2 west Erie Street and Corridor 2 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3**
	3.1.3 Areas of Historic 19th Century Settlement	Potential to affect areas of historic 19th century settlement	**Low** potential to affect areas of historic 19th century settlement. • No areas of concentrated 19th century development.	**Low** potential to affect areas of historic 19th century settlement. • No areas of concentrated 19th century development.	**Low** potential to affect areas of historic 19th century settlement. • No areas of concentrated 19th century development.	**Low** potential to affect areas of historic 19th century settlement. • No areas of concentrated 19th century development.
	3.1.4 Cultural Heritage Landscapes	To be considered in the detailed planning and preliminary design phases				
	3.1.5 First Nations Burial Sites	To be considered in the detailed planning and preliminary design phases				
	3.1.6 Cemeteries	Potential to affect cemeteries	**Medium** potential to affect cemeteries • Unlisted cemetery on Lorne Avenue	**Medium** potential to affect cemeteries • Unlisted cemetery on Lorne Avenue	**Medium** potential to affect cemeteries • Unlisted cemetery on Lorne Avenue	**Medium** potential to affect cemeteries • Unlisted cemetery on Lorne Avenue
3.2 Cultural Heritage - Archaeology	3.2.1 Pre-Historic and Historic First Nations' Archaeological Sites	Potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest	**Medium** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest. • Some of corridor uses existing roads with land previously disturbed by construction. Remainder is in "green field" area with little previous disturbance through construction.	**Medium** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest. • Some of corridor uses existing roads with land previously disturbed by construction. Remainder is in "green field" area with little previous disturbance through construction.	**Medium** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest. • Some of corridor uses existing roads with land previously disturbed by construction. Remainder is in "green field" area with little previous disturbance through construction.	**Medium** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest. • Some of corridor uses existing roads with land previously disturbed by construction. Remainder is in "green field" area with little previous disturbance through construction.
	3.2.2 Historic Euro-Canadian Archaeological Sites	Potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest	**Medium** potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest • Some of corridor is in "green field" area with little previous disturbance through construction; remainder uses existing roads with land previously disturbed by road construction • Potential historic Euro-Canadian archaeological sites associated with concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to Perth Road 125	**Medium** potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest • Some of corridor is in "green field" area with little previous disturbance through construction; remainder uses existing roads with land previously disturbed by road construction • Potential historic Euro-Canadian archaeological sites associated with concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to Perth Road 125	**Medium** potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest • Some of corridor is in "green field" area with little previous disturbance through construction; remainder uses existing roads with land previously disturbed by road construction • Potential historic Euro-Canadian archaeological sites associated with concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to west of O'Loane Avenue	**Medium** potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest • Some of corridor is in "green field" area with little previous disturbance through construction; remainder uses existing roads with land previously disturbed by road construction • Potential historic Euro-Canadian archaeological sites associated with concentration of unlisted potential heritage structures along section of corridor on Highway 8 from east of Sebringville to west of O'Loane Avenue
SUMMARY OF CULTURAL ENVIRONMENT			Key cultural environment conditions that differentiate Corridor 1C/2C from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to affect cemeteries; • Medium potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest; and • Medium potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest.	Key cultural environment conditions that differentiate Corridor 1C/2D from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to affect cemeteries; • Medium potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest; and • Medium potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest.	Key cultural environment conditions that differentiate Corridor 1D/2C from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to affect cemeteries; • Medium potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest; and • Medium potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest.	Key cultural environment conditions that differentiate Corridor 1D/2D from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to affect cemeteries; • Medium potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest; and • Medium potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest.
			Corridors 1C/2C and 1C/2D are primarily composed of existing roadway components. As a result: • They have low potential impacts to archaeology because the existing corridors have already been disturbed by road construction; • They have lower potential to affect areas of pre-historic and historic interest. Therefore, from a cultural environment perspective, Corridors 1C/2C and 1C/2D are both preferred for Sections 1 and 2.			

4. AREA ECONOMY FACTORS– Deleted due to duplication of considerations addressed in Factors 2.2.4, 2.2.5, 5.1.2, 5.1.3, and 5.4.3 (deletion eliminated double-counting).

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			CORRIDOR ALTERNATIVE 1C/2C (Stratford Lorne Avenue Corridor 1 east and west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3	**CORRIDOR ALTERNATIVE 1C/2D (Stratford Lorne Avenue Corridor 1 east of Erie Street and Corridor 2 west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3, 2-4**	**CORRIDOR ALTERNATIVE 1D/2C (Stratford Lorne Avenue Corridor 2 west of Erie Street and Corridor 1 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3**	**CORRIDOR ALTERNATIVE 1D/2D (Stratford Lorne Avenue Corridor 2 west Erie Street and Corridor 2 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3**
5. TRANSPORTATION FACTORS						
5.1 Area Transportation System Capacity and Efficiency	5.1.1 Federal/Provincial/Municipal transportation planning policies/goals/objectives	Potential to support federal/provincial/ municipal transportation planning policies/goals/objectives NOTES: Provincial Policy Statement (PPS) Policy 1.6.5.1 stipulates that transportation systems should be provided which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs. PPS Policy 1.6.5.2 stipulates that efficient use shall be made of existing and planned infrastructure	**Medium** potential to support federal/provincial/municipal transportation planning policies/goals/objectives • Provides transportation system that meets objectives of PPS policy 1.6.5.1. Corridor has both existing roadway and new corridor components, and the use of Lorne Avenue west of Romeo Street would not be as safe or efficient or be as effective in moving people and goods as a new highway. • Corridor has both existing roadway and new corridor components, and the latter would not meet the objectives of PPS policy 1.6.5.2 east of Romeo Street.	**Medium** potential to support federal/provincial/municipal transportation planning policies/goals/objectives • Provides transportation system that meets objectives of PPS policy 1.6.5.1. Corridor has both existing roadway and new corridor components, and the use of Lorne Avenue west of Romeo Street would not be as safe or efficient or be as effective in moving people and goods as a new highway. • Corridor has both existing roadway and new corridor components, and the latter would not meet the objectives of PPS policy 1.6.5.2 east of Romeo Street.	**Medium** potential to support federal/provincial/municipal transportation planning policies/goals/objectives • Provides transportation system that meets objectives of PPS policy 1.6.5.1.Corridor has both existing roadway and new corridor components, and the use of Lorne Avenue west of Romeo Street would not be as safe or efficient or be as effective in moving people and goods as a new highway. • Corridor has both existing roadway and new corridor components, and the latter would not meet the objectives of PPS policy 1.6.5.2 east of Romeo Street.	**Medium** potential to support federal/provincial/municipal transportation planning policies/goals/objectives • Provides transportation system that meets objectives of PPS policy 1.6.5.1. Corridor has both existing roadway and new corridor components, and the use of Lorne Avenue west of Romeo Street would not be as safe or efficient or be as effective in moving people and goods as a new highway. • Corridor has both existing roadway and new corridor components, and the latter would not meet the objectives of PPS policy 1.6.5.2 east of Romeo Street.
	5.1.2 Efficient movement of people	Potential to support the efficient movement of people between communities and regions based on Level of Service (LOS) and volume to capacity (v/c) on a network, screenline and critical link basis	**Medium** potential to support efficient movement of people. • Corridor has both existing roadway and new corridor components, with reduced level of service through developed area of Stratford given number of existing intersections and driveways. • No out-of-way travel for local access from Stratford to corridor.	**Medium** potential to support efficient movement of people. • Corridor has both existing roadway and new corridor components, with reduced level of service through developed area of Stratford given number of existing intersections and driveways. • No out-of-way travel for local access from Stratford to corridor.	**Medium** potential to support efficient movement of people. • Corridor has both existing roadway and new corridor components, with reduced level of service through developed area of Stratford given number of existing intersections and driveways. • No out-of-way travel for local access from Stratford to corridor.	**Medium** potential to support efficient movement of people. • Corridor has both existing roadway and new corridor components, with reduced level of service through developed area of Stratford given number of existing intersections and driveways. • No out-of-way travel for local access from Stratford to corridor.
	5.1.3 Efficient movement of goods	Potential to support efficient movement of goods between urban growth centres and regional intermodal facilities based on road network and Highway 7&8 corridor performance measures (LOS and travel speed)	**Medium** potential to support efficient movement of goods. • Corridor has both existing roadway and new corridor components, with reduced level of service through developed area of Stratford given number of existing intersections and driveways. • No out-of-way travel for local access from Stratford to corridor.	**Medium** potential to support efficient movement of goods. • Corridor has both existing roadway and new corridor components, with reduced level of service through developed area of Stratford given number of existing intersections and driveways. • No out-of-way travel for local access from Stratford to corridor.	**Medium** potential to support efficient movement of goods. • Corridor has both existing roadway and new corridor components, with reduced level of service through developed area of Stratford given number of existing intersections and driveways. • No out-of-way travel for local access from Stratford to corridor.	**Medium** potential to support efficient movement of goods. • Corridor has both existing roadway and new corridor components, with reduced level of service through developed area of Stratford given number of existing intersections and driveways. • No out-of-way travel for local access from Stratford to corridor.
5.2 Area Transportation System Reliability / Redundancy		Potential to support system reliability and redundancy for travel (people and goods) between regions and communities during adverse conditions	**Low** potential to support system reliability and redundancy. • Corridor is has both existing roadway and new corridor components. The former does not provide new connection between regions and communities during adverse conditions	**Low** potential to support system reliability and redundancy. • Corridor is has both existing roadway and new corridor components. The former does not provide new connection between regions and communities during adverse conditions	**Low** potential to support system reliability and redundancy. • Corridor is has both existing roadway and new corridor components. The former does not provide new connection between regions and communities during adverse conditions	**Low** potential to support system reliability and redundancy. • Corridor is has both existing roadway and new corridor components. The former does not provide new connection between regions and communities during adverse conditions
5.3 Safety	5.3.1 Traffic Safety	Potential to improve traffic safety based on opportunity to reduce congestion on area road network (LOS and v/c) and reduce the frequency of intersections and entrances in the Highway 7&8 corridor	**Medium** potential to improve traffic safety • Corridor has both existing roadway and new corridor components. Existing corridor component has numerous access points associated with private entrances. New corridor component has no access points associated with private entrances, and limited number of access points at intersection locations.	**Medium** potential to improve traffic safety • Corridor has both existing roadway and new corridor components. Existing corridor component has numerous access points associated with private entrances. New corridor component has no access points associated with private entrances, and limited number of access points at intersection locations.	**Medium** potential to improve traffic safety • Corridor has both existing roadway and new corridor components. Existing corridor component has numerous access points associated with private entrances. New corridor component has no access points associated with private entrances, and limited number of access points at intersection locations.	**Medium** potential to improve traffic safety • Corridor has both existing roadway and new corridor components. Existing corridor component has numerous access points associated with private entrances. New corridor component has no access points associated with private entrances, and limited number of access points at intersection locations.

LEGEND

MOST PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED	NO SIGNIFICANT DIFFERENCE	SELECTED CORRIDOR

Highway 7&8 Transportation Corridor Planning and Class EA Study
EVALUATION OF SHORT LIST OF CORRIDOR ALTERNATIVES (Preliminary Planning Alternatives)
Note – Evaluation of the short list of corridor alternatives is based on a qualitative assessment of each corridor (high, medium or low) and is based on secondary source information presented In Report F, Part 1 (June, 2008)
Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment

SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 2 OF 2)

FACTORS/SUB -FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1C/2C (Stratford Lorne Avenue Corridor 1 east and west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3	**CORRIDOR ALTERNATIVE 1C/2D (Stratford Lorne Avenue Corridor 1 east of Erie Street and Corridor 2 west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3, 2-4**	**CORRIDOR ALTERNATIVE 1D/2C (Stratford Lorne Avenue Corridor 2 west of Erie Street and Corridor 1 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3**	**CORRIDOR ALTERNATIVE 1D/2D (Stratford Lorne Avenue Corridor 2 west Erie Street and Corridor 2 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3**
			• West of Erie Street, corridor involves no additional lanes to provide for good passing opportunity, a wider platform to accommodate evasive moves during potential accidents, or accommodate safer left turns into private entrances. • East of Erie Street, a four or five lane cross section provides for good passing opportunity, provides a wider platform to accommodate evasive moves during potential accidents, and a 5th lane centre left turn lane would accommodate safer left turns along Lorne Avenue since limited opportunity to reduce number of intersections and driveways.	• West of Erie Street, corridor involves no additional lanes to provide for good passing opportunity, a wider platform to accommodate evasive moves during potential accidents, or accommodate safer left turns into private entrances. • East of Erie Street, a four or five lane cross section provides for good passing opportunity, provides a wider platform to accommodate evasive moves during potential accidents, and a 5th lane centre left turn lane would accommodate safer left turns along Lorne Avenue since limited opportunity to reduce number of intersections and driveways.	• West of Erie Street, corridor involves no additional lanes to provide for good passing opportunity, a wider platform to accommodate evasive moves during potential accidents, or accommodate safer left turns into private entrances. • East of Erie Street, a four or five lane cross section provides for good passing opportunity, provides a wider platform to accommodate evasive moves during potential accidents, and a 5th lane centre left turn lane would accommodate safer left turns along Lorne Avenue since limited opportunity to reduce number of intersections and driveways.	• West of Erie Street, corridor involves no additional lanes to provide for good passing opportunity, a wider platform to accommodate evasive moves during potential accidents, or accommodate safer left turns into private entrances. • East of Erie Street, a four or five lane cross section provides for good passing opportunity, provides a wider platform to accommodate evasive moves during potential accidents, and a 5th lane centre left turn lane would accommodate safer left turns along Lorne Avenue since limited opportunity to reduce number of intersections and driveways.
	5.3.2 Emergency Access	To be considered in the detailed planning and preliminary design phases				
5.4 Mobility and Accessibility	5.4.1 Modal integration, balance and efficiency	Potential to improve modal choice and increase mode split for person trips between communities, regions and major transit station areas based on connection to concentrations of population, travel performance indicators (LOS, v/c, travel speed) at critical screenlines and on potential to provide higher order transit service in the Highway 7&8 corridor.	**Medium** potential to improve modal integration, balance and efficiency. • Potential transit in corridor supported by direct connection to Stratford. • Use of existing Lorne Avenue limits opportunities to provide higher order transit service • This study does not consider potential for transit market west of Stratford to Lake Huron.	**Medium** potential to improve modal integration, balance and efficiency. • Potential transit in corridor supported by direct connection to Stratford. • Use of existing Lorne Avenue limits opportunities to provide higher order transit service • This study does not consider potential for transit market west of Stratford to Lake Huron.	**Medium** potential to improve modal integration, balance and efficiency. • Potential transit in corridor supported by direct connection to Stratford. • Use of existing Lorne Avenue limits opportunities to provide higher order transit service • This study does not consider potential for transit market west of Stratford to Lake Huron.	**Medium** potential to improve modal integration, balance and efficiency. • Potential transit in corridor supported by direct connection to Stratford. • Use of existing Lorne Avenue limits opportunities to provide higher order transit service • This study does not consider potential for transit market west of Stratford to Lake Huron.
	5.4.2 Linkages to Population and Employment Centres	Potential to improve linkages to population and employment centres for people and goods movement	**High** potential to improve linkages to population and employment centres • Direct connection to Stratford.	**High** potential to improve linkages to population and employment centres • Direct connection to Stratford.	**High** potential to improve linkages to population and employment centres • Direct connection to Stratford.	**High** potential to improve linkages to population and employment centres • Direct connection to Stratford.
	5.4.3 Recreation and Tourism Travel	Potential to support recreation and tourism travel within and to/from the Analysis Area by provision of higher order network (roads and transit) continuity and connectivity and through network performance indicators (LOS, v/c, travel speed)	**Medium** potential to support recreation and tourism travel • Stratford with its tourist attractions has direct connections, but tourist travel through the analysis area is slowed by travel through the urban area of Stratford.	**Medium** potential to support recreation and tourism travel • Stratford with its tourist attractions has direct connections, but tourist travel through the analysis area is slowed by travel through the urban area of Stratford.	**Medium** potential to support recreation and tourism travel • Stratford with its tourist attractions has direct connections, but tourist travel through the analysis area is slowed by travel through the urban area of Stratford.	**Medium** potential to support recreation and tourism travel • Stratford with its tourist attractions has direct connections, but tourist travel through the analysis area is slowed by travel through the urban area of Stratford.
	5.4.4 Accommodation for pedestrians, cyclists and snowmobiles	Potential to accommodate pedestrians, cyclists within critical travel corridors in urbanized areas and snowmobiles in recognized rural trails	**High** potential to support pedestrians. • Urban area better supports justification for sidewalks. • No designated bicycle or snowmobile trails identified.	**High** potential to support pedestrians. • Urban area better supports justification for sidewalks. • No designated bicycle or snowmobile trails identified.	**High** potential to support pedestrians. • Urban area better supports justification for sidewalks. • No designated bicycle or snowmobile trails identified.	**High** potential to support pedestrians. • Urban area better supports justification for sidewalks. • No designated bicycle or snowmobile trails identified.
5.5 Network Compatibility	5.5.1 Network Connectivity	Potential to improve transportation system connectivity within and to/from the analysis area	**High** potential to improve transportation system connectivity	**High** potential to improve transportation system connectivity	**High** potential to improve transportation system connectivity	**High** potential to improve transportation system connectivity
	5.5.2 Flexibility for Future Expansion	Potential to address future transportation needs beyond the forecasted planning horizons	**Low** potential for future expansion • Significant component of corridor is within the Stratford urban boundary, and the existing right-of-way width of Lorne Avenue cannot readily accommodate further expansion beyond the 4/5-lane section associated with this corridor.	**Low** potential for future expansion • Significant component of corridor is within the Stratford urban boundary, and the existing right-of-way width of Lorne Avenue cannot readily accommodate further expansion beyond the 4/5-lane section associated with this corridor.	**Low** potential for future expansion • Significant component of corridor is within the Stratford urban boundary, and the existing right-of-way width of Lorne Avenue cannot readily accommodate further expansion beyond the 4/5-lane section associated with this corridor.	**Low** potential for future expansion • Significant component of corridor is within the Stratford urban boundary, and the existing right-of-way width of Lorne Avenue cannot readily accommodate further expansion beyond the 4/5-lane section associated with this corridor.

LEGEND

MOST PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED	NO SIGNIFICANT DIFFERENCE	SELECTED CORRIDOR

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SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 2 OF 2)

FACTORS/SUB -FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1C/2C (Stratford Lorne Avenue Corridor 1 east and west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3	**CORRIDOR ALTERNATIVE 1C/2D (Stratford Lorne Avenue Corridor 1 east of Erie Street and Corridor 2 west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3, 2-4**	**CORRIDOR ALTERNATIVE 1D/2C (Stratford Lorne Avenue Corridor 2 west of Erie Street and Corridor 1 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3**	**CORRIDOR ALTERNATIVE 1D/2D (Stratford Lorne Avenue Corridor 2 west Erie Street and Corridor 2 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3**
5.6 Engineering	5.6.1 Constructability	Potential constructability issues considering physical, property or environmental constraints	**High** potential for constructability issues • Utilizes existing roadways; three railway crossings; Avon River crossing. Traffic staging issues during construction on Lorne Avenue	**High** potential for constructability issues • Utilizes existing roadways; two railway crossings; Avon River crossing. Traffic staging issues during construction on Lorne Avenue	**High** potential for constructability issues • Utilizes existing roadways; three railway crossings; Avon River crossing. Traffic staging issues during construction on Lorne Avenue	**High** potential for constructability issues • Utilizes existing roadways; two railway crossings; Avon River crossing. Traffic staging issues during construction on Lorne Avenue
	5.6.2 Compliance with Design Criteria	To be considered in the detailed planning and preliminary design phases				
5.7 Traffic Operations		Potential for negative impact on traffic operations due to factors such as design features, private access, and transportation network connections	**High** potential for negative impact on traffic operations • Majority of corridor is existing roadway (Lorne Avenue) within the Stratford urban area, with multiple private entrances and intersections.	**High** potential for negative impact on traffic operations • Majority of corridor is existing roadway (Lorne Avenue) within the Stratford urban area, with multiple private entrances and intersections.	**High** potential for negative impact on traffic operations • Majority of corridor is existing roadway (Lorne Avenue) within the Stratford urban area, with multiple private entrances and intersections.	**High** potential for negative impact on traffic operations • Majority of corridor is existing roadway (Lorne Avenue) within the Stratford urban area, with multiple private entrances and intersections.
SUMMARY OF TRANSPORTATION		**It should be noted that the process utilized to generate corridor alternatives ensures that each corridor is capable of satisfying transportation criteria.**	Key transportation issues that differentiate Corridor 1C/2C from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to support efficient movement of people; • Medium potential to support efficient movement of goods; • Low potential to support system reliability / redundancy (people and goods) between regions and communities during adverse conditions; • High potential to improve linkages to population and employment centres; • High potential to support pedestrians and cyclists; • Low potential for future expansion; • High potential for constructability issues; • High potential for negative impact on traffic operations.	Key transportation issues that differentiate Corridor 1C/2C from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to support efficient movement of people; • Medium potential to support efficient movement of goods; • Low potential to support system reliability / redundancy (people and goods) between regions and communities during adverse conditions; • High potential to improve linkages to population and employment centres; • High potential to support pedestrians and cyclists; • Low potential for future expansion; • High potential for constructability issues; • High potential for negative impact on traffic operations.	Key transportation issues that differentiate Corridor 1C/2C from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to support efficient movement of people; • Medium potential to support efficient movement of goods; • Low potential to support system reliability / redundancy (people and goods) between regions and communities during adverse conditions; • High potential to improve linkages to population and employment centres; • High potential to support pedestrians and cyclists; • Low potential for future expansion; • High potential for constructability issues; • High potential for negative impact on traffic operations.	Key transportation issues that differentiate Corridor 1C/2C from the other corridor alternatives in Sections 1 and 2 are the following: • Medium potential to support efficient movement of people; • Medium potential to support efficient movement of goods; • Low potential to support system reliability / redundancy (people and goods) between regions and communities during adverse conditions; • High potential to improve linkages to population and employment centres; • High potential to support pedestrians and cyclists; • Low potential for future expansion; • High potential for constructability issues; • High potential for negative impact on traffic operations.
			Corridors 1C/2C, 1C/2D, 1D/2C and 1D/2D (i.e. Lorne Avenue corridors) are primarily based upon the existing roadway components. As a result, they have: • Lower potential to support transportation system reliability and redundancy, lower potential for future expansion, and higher potential for constructability issues and negative impacts on traffic operations; • Higher potential to improve linkages to population and employment centre of Stratford and higher potential to meet the Provincial Policy Statement policy to make efficient use of existing infrastructure. Corridors 1A/2A, 1A/2B, 1B/2A and 1B/2B (i.e. by-pass corridors) have a higher potential to support /address the transportation factors. Therefore, from a transportation perspective, Corridors 1A/2A, 1A/2B, 1B/2A and 1B/2B are preferred for Sections 1 and 2; however, the process utilized to generate corridor alternatives ensures that all corridor alternatives are all capable of satisfying transportation criteria.			
SUMMARY OF EVALUATION			**<u>Summary of Natural Environment</u>** Corridors 1C/2C and 1C/2D are primarily composed of existing roadway components. As a result: • They have lower potential impacts to the natural environment, primarily because of the relatively low "footprint" impact; • The potential impacts to fisheries and aquatic ecosystems and to watershed features tend to be of a nature that can be spanned/bridged; and • The potential impacts to forests and vegetation tend to be "edge effects" and therefore relatively low. Therefore, from a natural environment perspective, Corridors 1C/2C and 1C/2D are both preferred for Sections 1 and 2.			

LEGEND

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SECTIONS # 1 AND 2, FROM HIGWAY 8 WEST OF STRATFORD TO EAST OF STRATFORD (TABLE 2 OF 2)

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES			
			CORRIDOR ALTERNATIVE 1C/2C (Stratford Lorne Avenue Corridor 1 east and west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3	**CORRIDOR ALTERNATIVE 1C/2D (Stratford Lorne Avenue Corridor 1 east of Erie Street and Corridor 2 west of Erie Street) Nodes: 1-1, 1-2, 1-4, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3, 2-4**	**CORRIDOR ALTERNATIVE 1D/2C (Stratford Lorne Avenue Corridor 2 west of Erie Street and Corridor 1 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-6 Plus Erie Street 2-1, 2-2, 2-3**	**CORRIDOR ALTERNATIVE 1D/2D (Stratford Lorne Avenue Corridor 2 west Erie Street and Corridor 2 east of Erie Street) Nodes: 1-1, 1-2, 1-3, 1-5, 1-6/2-3, 2-4, 2-5 Plus Erie Street 2-1, 2-2, 2-3**
			<u>Summary of Land Use / Socio-Economic Environment</u> Corridors 1C/2C and 1C/2D are primarily composed of existing roadway components. As a result: • They support provincial/federal land use policies/goals and objectives; • They have lower potential impacts to commercial/industrial areas and agricultural lands/operations, primarily because of their low "footprint" impact; • The higher potential impacts relative to community factors (urban area of Stratford) and regional air quality (particularly in Stratford) are to a considerable degree already associated with the current roadway. Therefore, from a socio-economic environment perspective, Corridors 1C/2C and 1C/2D are both preferred for Sections 1 and 2. **<u>Summary of Cultural Environment</u>** Corridors 1C/2C and 1C/2D are primarily composed of existing roadway components. As a result: • They have low potential impacts to archaeology because the existing corridors have already been disturbed by road construction; • They have lower potential to affect areas of pre-historic and historic interest. Therefore, from a cultural environment perspective, Corridors 1C/2C and 1C/2D are both preferred for Sections 1 and 2. **<u>Summary of Transportation</u>** Corridors 1C/2C, 1C/2D, 1D/2C and 1D/2D (i.e. Lorne Avenue corridors) are primarily based upon the existing roadway components. As a result, they have: • Lower potential to support transportation system reliability and redundancy, lower potential for future expansion, and higher potential for constructability issues and negative impacts on traffic operations; • Higher potential to improve linkages to population and employment centre of Stratford and higher potential to meet the Provincial Policy Statement policy to make efficient use of existing infrastructure. Corridors 1A/2A, 1A/2B, 1B/2A and 1B/2B (i.e. by-pass corridors) have a higher potential to support /address the transportation factors. Therefore, from a transportation perspective, Corridors 1A/2A, 1A/2B, 1B/2A and 1B/2B are preferred for Sections 1 and 2; however, the process utilized to generate corridor alternatives ensures that all corridor alternatives are all capable of satisfying transportation criteria. **<u>Conclusion</u>** Based upon the above, Corridors 1C/2C and 1C/2D are preferred in Sections 1 and 2.		

LEGEND

MOST PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED	NO SIGNIFICANT DIFFERENCE	SELECTED CORRIDOR

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SECTION # 3 FROM EAST OF STRATFORD TO WEST OF NEW HAMBURG

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES				
			CORRIDOR ALTERNATIVE 3A (Existing 7&8 Corridor from Stratford to New Hamburg) Nodes: 3-1, 3-3, 3-5, 3-6	**CORRIDOR ALTERNATIVE 3B (Shakespeare South Bypass Corridor 1) Nodes: 3-1, 3-3, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3C (Shakespeare South Bypass Corridor 2) Nodes: 3-1, 3-3, 3-4, 3-6**	**CORRIDOR ALTERNATIVE 3D (Shakespeare South Bypass Corridor 3) Nodes: 3-2, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3E (New Corridor from Stratford to New Hamburg) Nodes: 3-2, 3-4, 3-6**
KEY MAP							
1. NATURAL ENVIRONMENT FACTORS							
1.1 Fisheries and Aquatic Ecosystems	1.1.1 Fish Habitat AND 1.1.2 Fish Community	Potential to affect fish species and their habitat	**Low** potential to affect fish species and their habitat • Utilizes existing crossing locations • Potential to impact permanent warmwater and coolwater fish habitat of the Thames River and Grand River Watersheds, respectively. Corridor intersects 1 permanent warmwater tributary of the Avon River, 1 tributary of the North Woodstock River and 1 permanent coolwater tributaries of Horner Creek. It also crosses 3 with unassigned thermal regimes.	**Medium** potential to affect fish species and their habitat • Primarily utilizes existing crossing locations • Potential to impact permanent warmwater and coolwaterr fish habitat of the Thames River and Grand River Watersheds, respectively. Corridor intersects 1 permanent warmwater tributary of the Avon River, 1 tributary of the North Woodstock River and 1 permanent coolwater tributaries of Horner Creek. It also crosses 4 watercourses with unassigned thermal regimes.	**Medium** potential to affect fish species and their habitat • Combination of existing and new crossing locations • Potential to impact permanent warmwater and coolwater fish habitat of the Thames River and Grand River Watersheds, respectively. Corridor intersects 1 permanent warmwater tributary of the Avon River, 1 tributary of the North Woodstock River and 1 permanent coolwater tributaries of Horner Creek. It also crosses 4 with unassigned thermal regimes.	**High** potential to affect fish species and their habitat • Combination of existing and new crossing locations • Potential to impact permanent warmwater and coolwater fish habitat of the Thames River and Grand River Watersheds, respectively. Corridor intersects 1 permanent warmwater tributary of the Avon River, 1 tributary of the North Woodstock River and 3 permanent coolwater tributaries of Horner Creek. It also crosses 3 with unassigned thermal regimes.	**High** potential to affect fish species and their habitat • All new crossing locations • Potential to impact permanent warmwater and coolwater fish habitat of the Thames River and Grand River Watersheds, respectively. Corridor intersects 1 permanent warmwater tributary of the Avon River, 1 tributary of the North Woodstock River and 3 permanent coldwater tributaries of Horner Creek. It also crosses 2 with unassigned thermal regimes.
1.2 Terrestrial Ecosystems	1.2.1 Wildlife	Potential to affect wildlife species at risk (special concern, endangered or threatened wildlife species), and provincially rare (S1 – S3) species and their habitat	**Low** potential to affect wildlife and their habitat • No special concern, endangered or threatened wildlife species • No provincially rare species (S1 – S3)	**Low** potential to affect wildlife and their habitat • No special concern, endangered or threatened wildlife species • No provincially rare species (S1 – S3)	**Low** potential to affect wildlife and their habitat • No special concern, endangered or threatened wildlife species • No provincially rare species (S1 – S3)	**Low** potential to affect wildlife and their habitat • No special concern, endangered or threatened wildlife species • No provincially rare species (S1 – S3)	**Low** potential to affect wildlife and their habitat • No special concern, endangered or threatened wildlife species • No provincially rare species (S1 – S3)
	1.2.2 Wetlands	Potential to affect provincially (PSW) and locally (LSW) significant wetlands.	**Low** potential to affect PSW and LSW wetlands • No PSW or LSW wetlands	**Low** potential to affect PSW and LSW wetlands • No PSW or LSW wetlands	**Low** potential to affect PSW and LSW wetlands • No PSW or LSW wetlands	**Low** potential to affect PSW and LSW wetlands • No PSW or LSW wetlands	**Low** potential to affect PSW and LSW wetlands • No PSW or LSW wetlands
	1.2.3 Forests	Potential to affect woodlands, especially larger core woodlands and interior habitat	**Low** potential to affect woodlands • Corridor predominantly utilizes existing corridor.	**Low** potential to affect woodlands • Corridor predominantly utilizes existing corridor. One small woodland south side of Highway 7&8 east of Perth Road 106 potentially affected	**High** potential to affect woodlands • 11 woodlands potentially affected • 4 large woodlands with identified core areas/ interior habitat	**High** potential to affect woodlands • 11 woodlands potentially affected • 2 large woodlands with identified core areas/ interior habitat	**High** potential to affect woodlands • 16 woodlands potentially affected • 5 large woodlands with identified core areas/ interior habitat
	1.2.4 Vegetation	Potential to affect populations of rare vegetation, including species at risk, provincially rare species and provincially rare vegetation communities	**Low** potential to affect populations of rare vegetation. • 1 documented rare plant species from MNR records (Showy Goldenrod, Rank S1) west of Perth Road 109 is south of corridor	**Low** potential to affect populations of rare vegetation • 1 documented rare plant species from MNR records (Showy Goldenrod, Rank S1) west of Perth Road 109 is south of corridor	**Low** potential to affect populations of rare vegetation • 1 documented rare plant species from MNR records (Showy Goldenrod, Rank S1) west of Perth Road 109 is south of corridor	**Low** potential to affect populations of rare vegetation • No rare or SAR identified within the corridor	**Low** potential to affect populations of rare vegetation • No rare or SAR identified within the corridor, although new corridor would result in much higher removal of vegetation.
	1.2.5 Designated/Special Areas	Potential to affect designated/special areas	**Low** potential to affect designated/special areas • Does not cross any ESA or ANSI	**Low** potential to affect designated/special areas • Does not cross any ESA or ANSI	**Low** potential to affect designated/special areas • Does not cross any ESA or ANSI	**Low** potential to affect designated/special areas • Does not cross any ESA or ANSI	**Low** potential to affect designated/special areas • Does not cross any ESA or ANSI

LEGEND

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Highway 7&8 Transportation Corridor Planning and Class EA Study

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SECTION # 3 FROM EAST OF STRATFORD TO WEST OF NEW HAMBURG

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES				
			CORRIDOR ALTERNATIVE 3A (Existing 7&8 Corridor from Stratford to New Hamburg) Nodes: 3-1, 3-3, 3-5, 3-6	**CORRIDOR ALTERNATIVE 3B (Shakespeare South Bypass Corridor 1) Nodes: 3-1, 3-3, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3C (Shakespeare South Bypass Corridor 2) Nodes: 3-1, 3-3, 3-4, 3-6**	**CORRIDOR ALTERNATIVE 3D (Shakespeare South Bypass Corridor 3) Nodes: 3-2, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3E (New Corridor from Stratford to New Hamburg) Nodes: 3-2, 3-4, 3-6**
1.3 Groundwater	1.3.1 Areas of Groundwater Recharge and Discharge	Potential to affect volume of groundwater at recharge and discharge areas (depends on presence of low permeability, i.e. till or fine grained glaciolacustrine sediments, or high permeability, i.e. sand, gravels, fractured bedrock, soils at surface)	**Low** potential to affect volume of groundwater at recharge and discharge areas • Surface runoff is interpreted to exceed infiltration • No temporary or long-term change to groundwater recharge or discharge is anticipated due to the small surface area affected by highway construction in the corridor.	**Low** potential to affect volume of groundwater at recharge and discharge areas • Surface runoff is interpreted to exceed infiltration • No temporary or long-term change to groundwater recharge or discharge is anticipated due to the small surface area affected by highway construction in the corridor.	**Low** potential to affect volume of groundwater at recharge and discharge areas • Surface runoff is interpreted to exceed infiltration • No temporary or long-term change to groundwater recharge or discharge is anticipated due to the small surface area affected by highway construction in the corridor.	**Low** potential to affect volume of groundwater at recharge and discharge areas • No long-term change to groundwater recharge or discharge is anticipated due to the small surface area affected by highway construction in the corridor • Potential for temporary reduction in groundwater discharge to stream anticipated during road construction	**Low** potential to affect volume of groundwater at recharge and discharge areas • No long-term change to groundwater recharge or discharge is anticipated due to the small surface area affected by highway construction in the corridor • Potential for temporary reduction in groundwater discharge to streams anticipated during road construction
		Potential to affect quality of groundwater at recharge and discharge areas (depends on attenuation capacity of soils, and, rate of groundwater infiltration and/or discharge)	**Low** potential to affect groundwater quality at recharge and discharge areas. • Rate of groundwater infiltration is low, with no significant surficial aquifer units within the corridor.	**Low** potential to affect groundwater quality at recharge and discharge areas. • Rate of groundwater infiltration is low, with no significant surficial aquifer units within the corridor.	**Low** potential to affect groundwater quality at recharge and discharge areas. • Rate of groundwater infiltration is low, with no significant surficial aquifer units within the corridor.	**Low** potential to affect groundwater quality at recharge and discharge areas. • Rate of groundwater infiltration is low, with no significant surficial aquifer units within the corridor.	**Low** potential to affect volume of groundwater quality at recharge and discharge areas. • Rate of groundwater infiltration is low, with no significant surficial aquifer units within the corridor.
	1.3.2 Groundwater Source and Wellhead Protection Areas (WHPAs)	Potential to affect groundwater wellhead protection areas (i.e., is route upgradient of or within a delineated wellhead protection area)	**Low** potential to affect groundwater wellhead protection area. • Corridor is upgradient of a delineated wellhead protection area. However, this municipal well is located within the bedrock, which is confined above by low permeability Silty Till and Glaciolacustrine deposits.	**Low** potential to affect groundwater wellhead protection area. • Corridor is upgradient of a delineated wellhead protection area. However, this municipal well is located within the bedrock, which is confined above by low permeability Silty Till and Glaciolacustrine deposits.	**Low** potential to affect groundwater wellhead protection area. • Corridor is upgradient of a delineated wellhead protection area. However, this municipal well is located within the bedrock, which is confined above by low permeability Silty Till and Glaciolacustrine deposits.	**Low** potential to affect groundwater wellhead protection area. • Corridor is upgradient of a delineated wellhead protection area. However, this municipal well is located within the bedrock, which is confined above by low permeability Silty Till and Glaciolacustrine deposits.	**Low** potential to affect groundwater wellhead protection area. • Corridor is upgradient of a delineated wellhead protection area. However, this municipal well is located within the bedrock, which is confined above by low permeability Silty Till and Glaciolacustrine deposits.
	1.3.3 Large Volume Wells	Potential to affect large volume wells	**Low** potential to affect large volume wells • Corridor is upgradient of a municipal well. However, this municipal well is located within the bedrock, which is confined above by low permeability Silty Till and Glaciolacustrine deposits.	**Low** potential to affect large volume wells • Corridor is upgradient of a municipal well. However, this municipal well is located within the bedrock, which is confined above by low permeability Silty Till and Glaciolacustrine deposits.	**Low** potential to affect large volume wells • Corridor is upgradient of a municipal well. However, this municipal well is located within the bedrock, which is confined above by low permeability Silty Till and Glaciolacustrine deposits.	**Low** potential to affect large volume wells • Corridor is upgradient of a municipal well. However, this municipal well is located within the bedrock, which is confined above by low permeability Silty Till and Glaciolacustrine deposits.	**Low** potential to affect large volume wells • Corridor is upgradient of a municipal well. However, this municipal well is located within the bedrock, which is confined above by low permeability Silty Till and Glaciolacustrine deposits.
	1.3.4 Private Wells	To be considered in the detailed planning and preliminary design phases					
	1.3.5 Groundwater-Sensitive Ecosystems	To be considered in the detailed planning and preliminary design phases					
1.4 Surface Water	1.4.1 Watershed / Sub-Watershed Drainage Features/Patterns	Potential to affect permanent watercourses	**Low** potential to affect permanent watercourses • Widening or replacement of existing bridges over watercourses has low potential to impact watercourses (1 tributary of the Avon River, 1 tributary of the North Woodstock River, 1 tributary of Horner Creek, and 3 other watercourses).	**Medium** potential to affect permanent watercourses • Widening or replacement of existing bridges over watercourses has low potential to impact watercourses (1 tributary of the Avon River, 1 tributary of Horner Creek, and 4 other watercourses. • Bypass of Shakespeare crosses Stan Erb drain, which is a tributary of the North Woodstock River	**Medium** potential to affect permanent watercourses • Potential to impact 1 tributary of the Avon River, 1 tributary of the North Woodstock River and 1 tributary of Horner Creek. It also crosses 4 other watercourses.	**Medium** potential to affect permanent watercourses • Potential to impact 1 tributary of the Avon River, 1 tributary of the North Woodstock River and 3 tributaries of Horner Creek. It also crosses 3 other watercourses.	**Medium** potential to affect permanent watercourses • Potential to impact 1 tributary of the Avon River, 1 tributary of the North Woodstock River and 3 tributaries of Horner Creek. It also crosses 2 other watercourses.
	1.4.2 Surface Water Quality and Quantity	To be considered in the detailed planning and preliminary design phases					

LEGEND

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SECTION # 3 FROM EAST OF STRATFORD TO WEST OF NEW HAMBURG

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SUMMARY OF NATURAL ENVIRONMENT			Key natural environment conditions that differentiate Corridor 3A from the other corridor alternatives in Section 3 are the following: • Low potential to affect fish species and their habitat • Low potential to affect woodlands • Low potential to impact permanent watercourses	Key natural environment conditions that differentiate Corridor 3B from the other corridor alternatives in Section 3 are the following: • Medium potential to affect fish species and their habitat • Low potential to affect woodlands • Medium potential to impact permanent watercourses	Key natural environment conditions that differentiate Corridor 3C from the other corridor alternatives in Section 3 are the following: • Medium potential to affect fish species and their habitat • High potential to affect woodlands • Medium potential to impact permanent watercourses	Key natural environment conditions that differentiate Corridor 3D from the other corridor alternatives in Section 3 are the following: • High potential to affect fish species and their habitat • High potential to affect woodlands • Medium potential to impact permanent watercourses	Key natural environment conditions that differentiate Corridor 3E from the other corridor alternatives in Section 3 are the following: • High potential to affect fish species and their habitat • High potential to affect woodlands • Medium potential to impact permanent watercourses
			Corridor 3A is completely based upon the existing highway. As a result: • It has low potential impacts to the natural environment, primarily because of its relatively low "footprint" impact; • The potential impacts to fisheries and aquatic ecosystems and to watershed features tend to be of a nature that can be spanned/bridged; and • The potential impacts to forests and vegetation tend to be "edge effects" and therefore relatively low. **Therefore, from a natural environment perspective, Corridor 3A is preferred in Section 3.**				
2. LAND USE / SOCIO-ECONOMIC ENVIRONMENT FACTORS							
2.1 Land Use Planning Policies, Goals, Objectives	2.1.1 First Nation Land Claims	Potential to affect areas for which there are First Nation outstanding land claims	Five filed land claims that may apply to this analysis area	Five filed land claims that may apply to this analysis area	Five filed land claims that may apply to this analysis area	Five filed land claims that may apply to this analysis area	Five filed land claims that may apply to this analysis area
	2.1.2 Provincial/Federal land use planning policies/goals/ objectives	Potential to support federal/provincial land use policies/goals/objectives NOTES: PPS Policy 1.6.6.4 stipulates that when planning for corridors for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and archaeological resources. PPS Policy 2.3 requires prime agricultural areas be protected for long-term use. Prime agricultural areas include specialty crop areas and Classes 1, 2, and 3 soils in this order of priority.	**High** potential to support federal/ provincial land use policies/goals/ objectives. • This corridor predominantly uses the existing corridor thereby minimizing impacts relative to PPS Policies 1.6.6.4 and 2.3. • There are no location-specific federal or provincial land use policies for Section 3.	**Medium** potential to support federal/ provincial land use policies/goals/ objectives. • This corridor primarily uses the existing corridor, except in the vicinity of Shakespeare, thereby minimizing impacts relative to PPS Policies 1.6.6.4 and 2.3. • The portion of the corridor that bypasses Shakespeare would cause some impacts relative to the above. • There are no location-specific federal or provincial land use policies for Section 3.	**Medium** potential to support federal/ provincial land use policies/goals/ objectives. • This corridor has existing highway and new corridor components, and the latter would have impacts east of Perth Road 108 relative to PPS Policies 1.6.6.4 and 2.3. • There are no location-specific federal or provincial land use policies for Section 3.	**Medium** potential to support federal/ provincial land use policies/goals/ objectives. • This corridor has existing highway and new corridor components, and the latter would have impacts west of Perth Road 106 relative to PPS Policies 1.6.6.4 and 2.3. • There are no location-specific federal or provincial land use policies for Section 3.	**Low** potential to support federal/ provincial land use policies/goals/ objectives. • This is all new corridor which would have significant impacts relative to PPS Policies 1.6.6.4 and 2.3. • There are no location-specific federal or provincial land use policies for Section 3.
	2.1.3 Municipal (regional and local) land use planning policies/ goals/objectives (Official Plans)	Potential to support municipal Official Plans	**Medium** potential to support municipal Official Plans. • Corridor largely avoids agricultural designated lands in County of Perth O.P. Although the corridor directly services the Village of Shakespeare settlement area, it is not consistent with County of Perth 6.5.1 e) to preserve the natural setting and rural character of village/hamlet areas.	**Medium** potential to support municipal Official Plans. • The corridor impacts agricultural designated lands in County of Perth O.P. Although the corridor does not directly service the Village of Shakespeare settlement area, it is consistent with County of Perth 6.5.1 e) to preserve the natural setting and rural character of village/hamlet areas.	**Medium** potential to support municipal Official Plans. • The corridor impacts agricultural designated lands in County of Perth O.P. Although the corridor does not directly service the Village of Shakespeare settlement area, it is consistent with County of Perth 6.5.1 e) to preserve the natural setting and rural character of village/hamlet areas.	**Medium** potential to support municipal Official Plans. • The corridor impacts agricultural designated lands in County of Perth O.P. Although if does not directly service the Village of Shakespeare settlement area, it is consistent with County of Perth 6.5.1 e) to preserve the natural setting and rural character of village/hamlet areas.	**Medium** potential to support municipal Official Plans. • The corridor impacts agricultural designated lands in County of Perth O.P. Although if does not directly service the Village of Shakespeare settlement area, it is consistent with County of Perth 6.5.1 e) to preserve the natural setting and rural character of village/hamlet areas.
	2.1.4 Development Objectives of Private Property Owners	To be considered in the detailed planning and preliminary design phases					

LEGEND

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2.2 Land Use / Community	2.2.1 Indian Reserves	Potential to affect Indian Reserves	No Indian reserves within analysis area.	No Indian reserves within analysis area.	No Indian reserves within analysis area.	No Indian reserves within analysis area.	No Indian reserves within analysis area.
	2.2.2 First Nation Sacred Grounds	To be considered in the detailed planning and preliminary design phases					
	2.2.3 Urban and Rural Residential	Potential to affect urban and rural residential areas	**High** potential to affect urban areas and medium potential to affect rural residential areas • The corridor passes through Shakespeare, and has the potential to impact residential development along Highway 7&8 outside of Shakespeare.	**Medium** potential to affect urban areas and rural residential areas • The corridor borders south Shakespeare which is currently zoned as rural settlement, and has the potential to impact residential development along Highway 7&8 outside of Shakespeare.	**Medium** potential to affect urban and rural residential areas • The corridor borders south Shakespeare which is currently zoned as rural settlement, and has the potential to impact residential development along Highway 7&8 west of Shakespeare.	**Medium** potential to affect urban and rural residential areas • The corridor borders south Shakespeare which is currently zoned as rural settlement, and has the potential to impact residential development along Highway 7&8 east of Shakespeare.	**Medium** potential to affect urban and rural residential areas • The corridor borders south Shakespeare which is currently zoned as rural settlement, and has the potential to impact residential development outside of Shakespeare.
	2.2.4 Commercial/Industrial	Potential to affect commercial and industrial areas (displacement of businesses, change in business exposure, change in out-of-way travel for local access, etc)	**High** potential to affect commercial and industrial areas. • Some businesses in Shakespeare have the potential to be displaced as they are located in close proximity to the existing highway. • No out-of-way travel for local access to corridor.	**High** potential to affect commercial and industrial areas. • Business exposure is reduced because through traffic bypasses Shakespeare. • Some out-of-way travel for local access to corridor.	**High** potential to affect commercial and industrial areas. • Business exposure is reduced because through traffic bypasses Shakespeare. • Some out-of-way travel for local access to corridor.	**High** potential to affect commercial and industrial areas. • Business exposure is reduced because through traffic bypasses Shakespeare. • Some out-of-way travel for local access to corridor.	**High** potential to affect commercial and industrial areas. • Business exposure is reduced because through traffic bypasses Shakespeare. • Some out-of-way travel for local access to corridor.
	2.2.5 Tourist Areas and Attractions (e.g. museums, theatres, etc.)	Potential to affect tourist areas and attractions	**High** potential to affect tourist areas and attractions. This corridor passes through Shakespeare, which has a collection of antique and gift shops that travellers visit on their way to the Stratford Festival travel. • Some businesses in Shakespeare have the potential to be displaced as they are located in close proximity to the existing highway.	**High** potential to affect tourist areas and attractions. This corridor is adjacent to Shakespeare, which has a collection of antique and gift shops that travellers visit on their way to the Stratford Festival travel. • Business exposure is reduced because through traffic bypasses Shakespeare. • Some out-of-way travel for local access to corridor.	**High** potential to affect tourist areas and attractions. This corridor is adjacent to Shakespeare, which has a collection of antique and gift shops that travellers visit on their way to the Stratford Festival travel. • Business exposure is reduced because through traffic bypasses Shakespeare. • Some out-of-way travel for local access to corridor.	**High** potential to affect tourist areas and attractions. This corridor is adjacent to Shakespeare, which has a collection of antique and gift shops that travellers visit on their way to the Stratford Festival travel. • Business exposure is reduced because through traffic bypasses Shakespeare. • Some out-of-way travel for local access to corridor.	**High** potential to affect tourist areas and attractions. This corridor is adjacent to Shakespeare, which has a collection of antique and gift shops that travellers visit on their way to the Stratford Festival travel. • Business exposure is reduced because through traffic bypasses Shakespeare. • Some out-of-way travel for local access to corridor.
	2.2.6 Community Facilities / Institutions (e.g. hospitals, schools, places of worship, unique community features)	Potential to affect community facilities and institutions	**Low** potential to affect community facilities and institutions. • Corridor passes through Shakespeare, which contains a local church (Shakespeare Presbyterian).	**Low** potential to affect community facilities and institutions. • Corridor is adjacent to the Shakespeare rural settlement area.	**Low** potential to affect community facilities and institutions. • Corridor is adjacent to the Shakespeare rural settlement area.	**Low** potential to affect community facilities and institutions. • Corridor is adjacent to the Shakespeare rural settlement area.	**Low** potential to affect community facilities and institutions. • Corridor is adjacent to the Shakespeare rural settlement area
	2.2.7 Municipal Infrastructure and Public Service Facilities	To be considered in the detailed planning and preliminary design phases					
2.3 Noise Sensitive Areas (NSAs) (residential areas and sensitive institutional uses)	2.3.1 Highway Noise	Potential for increased traffic noise in NSAs	**Medium** potential to affect NSAs • Utilizes existing corridor through Shakespeare; NSAs adjacent to existing highway ROW which would likely experience insignificant increases in traffic noise relative to future no-build conditions	**High** potential to affect NSAs • Corridor borders NSA in Shakespeare; currently buffered from existing highway corridor	**High** potential to affect NSAs • Corridor borders NSA in Shakespeare; currently buffered from existing highway corridor	**High** potential to affect NSAs • Corridor borders NSA in Shakespeare; currently buffered from existing highway corridor	**High** potential to affect NSAs • Corridor borders NSA in Shakespeare; currently buffered from existing highway corridor
	2.3.2 Construction Noise	Not considered until the preliminary design phase					

LEGEND

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2.4 Agriculture	2.4.1 Agriculture - Canada Land Inventory (CLI) Class 1,2,3 Land	Potential to affect specialty crop areas and/or areas of Canada Land Inventory Classes 1, 2 and 3 soils NOTES: CLI Class 1 - no significant growth limitations CLI Class 2 - moderate growth limitations CLI Class 3 - moderately severe growth limitations	**Low** potential to affect specialty crop areas and/or areas of Canada Land Inventory Classes 1, 2 and 3 soils. • Corridor predominantly utilizes existing corridor, and is both outside and inside of an urban setting. • The portion of the corridor on Highway 7&8 between Perth Road 110 and Perth Road 108 is predominately within Perth Silt Loam soil, which is 100% CLI Class 1 soils (no significant growth limitations). There are also smaller areas of Brookston Silt Loam (100% CLI Class 2 soils) and Huron Silt Loam (60% of CLI Class 1 soils and 40% CLI Class 3 soils). • The portion of the corridor that runs through Shakespeare between Perth Road 108 and Perth Road 106 is within Perth Silt Loam and Huron Clay Loam which is 60% CLI Class 1 soils and 40% CLI Class 3 soils. • The portion of the corridor on Highway 7&8 east of Perth Road 106 is predominately within Huron Clay Loam soil, with several areas of Bottom Land soil series which is 100% CLI Class 5 soils (heavy severe limitations).	**Medium** potential to affect specialty crop areas and/or areas of Canada Land Inventory Classes 1, 2 and 3 soils. • Corridor has both existing highway and new corridor components, and is both outside and inside of an urban setting. • The portion of the corridor on Highway 7&8 between Perth Road 110 and Perth Road 108 is predominately within Perth Silt Loam soil, which is 100% CLI Class 1 soils (no significant growth limitations). There are also smaller areas of Brookston Silt Loam (100% CLI Class 2 soils) and Huron Silt Loam (60% of CLI Class 1 soils and 40% CLI Class 3 soils). • The portion of the corridor that runs south east from Highway 7&8 at Perth Road 108 to Perth Road 107 south of Shakespeare is Perth Silt Loan and an area of Brookston Silt Loam, which is 100% CLI Class 2 soils. • The portion of the corridor that runs northeast from Perth Road 107 to Highway 7&8 is predominately within Huron Clay Loam soil series, which is 60% CLI Class 1 soils and 40% CLI Class 3 soils. There are also 2 areas of Bottom Land soil, which are CLI Class 5 soils (heavy severe limitations). • The portion of the corridor on Highway 7&8 east of Shakespeare is predominately within Huron Clay Loam soil series. There are also several areas of Bottom Land soil series associated with watercourses.	**High** potential to affect specialty crop areas and/or areas of Canada Land Inventory Classes 1, 2 and 3 soils. • Corridor is predominantly new corridor, and is outside of an urban setting. • The portion of the corridor between Perth Road 110 and Perth Road 108 is predominately within Perth Silt Loam soil, which is 100% CLI Class 1 soils (no significant growth limitations). There are also a smaller area of Brookston Silt Loam (100% CLI Class 2 soils) and Huron Silt Loam (60% of CLI Class 1 soils and 40% CLI Class 3 soils). • The portion of the corridor that runs south east from Highway 7&8 at Perth Road 108 to Perth Road 107 south of Shakespeare is Perth Silt Loan and an area of Brookston Silt Loam, which is 100% CLI Class 2 soils. • The portion of the corridor that continues on new corridor east of Perth Road 107 is predominately within Huron Clay Loam, which is 60% CLI Class 1 soils and 40% CLI Class 3 soils. There are also several areas of Bottom Land soil associated with watercourses, which are CLI Class 5 soils (heavy severe limitations). Just west of Perth Road 106 there is an isolated pocket of Brookston Clay Loam, which is 100% CLI Class 2 soils.	**High** potential to affect specialty crop areas and/or areas of Canada Land Inventory Classes 1, 2 and 3 soils. • Corridor has both exiting highway and new corridor components, and is outside of an urban setting. • The portion of the new corridor between Perth Road 110 and Perth Road 107 is predominantly within Perth Silt Loam, which is 100% CLI Class 1 soils. There are 2 pockets of Brookston Silt Loam, which is 100% CLI Class 2 soils. Approximately mid-way, there is also a pocket of Huron Silt Loam which is 60% CLI Class 1 soils and 40% CLI Class 3 soils. • Nodes 3-4, 3-5 are predominately within Huron Clay Loam soil series, which forms an area of approximately 6,819 acres within and beyond the corridor and is 60% comprised of CLI Class 1 soils and 40% comprised of CLI Class 3 soils. There are two (2) areas of Bottom Land soil series that traverse Node 3-4 and Node 3-5, which form an area of approximately 320 acres within and beyond the corridor and are comprised of CLI Class 5 soils (heavy severe limitations). • The portion of the corridor on Highway 7&8 east of Shakespeare is predominately within Huron Clay Loam soil series. There are also several areas of Bottom Land soil series associated with watercourses.	**High** potential to affect specialty crop areas and/or areas of Canada Land Inventory Classes 1, 2 and 3 soils. • Corridor is all new corridor, and is outside of an urban setting. • The portion of the new corridor between Perth Road 110 and Perth Road 107is predominantly within Perth Silt Loam, which is 100% CLI Class 1 soils. There are 2 pockets of Brookston Silt Loam, which is 100% CLI Class 2 soils. Approximately mid-way, there is also a pocket of Huron Silt Loam which is 60% CLI Class 1 soils and 40% CLI Class 3 soils. • The portion of the corridor that continues on new corridor east of Perth Road 107 is predominately within Huron Clay Loam, which is 60% CLI Class 1 soils and 40% CLI Class 3 soils. There are also several areas of Bottom Land soil associated with watercourses, which are CLI Class 5 soils (heavy severe limitations). Just west of Perth Road 106 there is an isolated pocket of Brookston Clay Loam, which is 100% CLI Class 2 soils.
	2.4.2 Agricultural - Farm Infrastructure	Potential to affect farm infrastructure (field tile drainage systems/outlets, irrigation systems, barns/silos/structures, etc.) NOTES: The broader issue of wells is addressed under the groundwater factor The broader issue of drainage along and across transportation rights-of-way is addressed as part of “drainage and hydrology engineering” that is undertaken for the selected alternative.	**Low** potential to affect farm infrastructure • Corridor predominantly utilizes existing corridor. Widening of existing highway may result in the loss of small amounts of farm frontage, but will cause minimal disruption/diversion of field tile drainage systems, and irrigation systems within an individual farm, and since most farm buildings are set back from the highway, minimal impact to farm buildings.	**Medium** potential to affect farm infrastructure • Corridor has both existing highway and new corridor components. • Widening of existing highway may result in the loss of small amounts of farm frontage, but will cause minimal disruption / diversion of field tile drainage systems, and irrigation systems within an individual farm, and since most farm buildings are set back from the highway, minimal impact to farm buildings. • The portion of corridor that bypasses Shakespeare may result in some disruption/diversion of field tile	**High** potential to affect farm infrastructure • Corridor is predominantly new corridor, which may result in considerable disruption / diversion of field tile drainage systems, irrigation systems, and farm buildings within an individual farm.	**Medium** potential to affect farm infrastructure • Corridor has both existing highway and new corridor components. • Widening of existing highway may result in the loss of small amounts of farm frontage, but will cause minimal disruption / diversion of field tile drainage systems, and irrigation systems within an individual farm, and since most farm buildings are set back from the highway, minimal impact to farm buildings. • The portion of corridor that is new corridor may result in some	**High** potential to affect farm infrastructure • Corridor is all new corridor, which may result in considerable disruption / diversion of field tile drainage systems, irrigation systems, and farm buildings within an individual farm.

LEGEND

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SECTION # 3 FROM EAST OF STRATFORD TO WEST OF NEW HAMBURG

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES				
			CORRIDOR ALTERNATIVE 3A (Existing 7&8 Corridor from Stratford to New Hamburg) Nodes: 3-1, 3-3, 3-5, 3-6	**CORRIDOR ALTERNATIVE 3B (Shakespeare South Bypass Corridor 1) Nodes: 3-1, 3-3, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3C (Shakespeare South Bypass Corridor 2) Nodes: 3-1, 3-3, 3-4, 3-6**	**CORRIDOR ALTERNATIVE 3D (Shakespeare South Bypass Corridor 3) Nodes: 3-2, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3E (New Corridor from Stratford to New Hamburg) Nodes: 3-2, 3-4, 3-6**
				drainage systems, and irrigation systems, and some impact to farm buildings within an individual farm		disruption/diversion of field tile drainage systems, and irrigation systems, and some impact to farm buildings within an individual farm	
	2.4.3 Agriculture – Operations on Individual Farms	Potential to sever/disrupt in-farm field operations (planting, harvesting, grazing, nutrient management, etc)	**Low** potential to affect in-farm field operations. • Corridor predominantly utilizes existing corridor. Widening may result in the loss of small amounts of farm frontage, but will cause minimal disruption of planting, harvesting, grazing, nutrient management etc within an individual farm.	**Medium** potential to affect in-farm field operations • Corridor has both existing highway and new corridor components. • Widening of existing highway may result in the loss of small amounts of farm frontage, but will cause minimal disruption of planting, harvesting, grazing, nutrient management within an individual farm. • The portion of corridor that bypasses Shakespeare may result in some severance / disruption of planting, harvesting, grazing, nutrient management within an individual farm.	**High** potential to affect in-farm field operations • Corridor is predominantly new corridor, which may result in major severance / disruption of planting, harvesting, grazing, nutrient management within an individual farm.	**Medium** potential to affect in-farm field operations • Corridor has both existing highway and new corridor components. • Widening of existing highway may result in the loss of small amounts of farm frontage, but will cause minimal disruption of planting, harvesting, grazing, nutrient management within an individual farm. • The portion of corridor that is new corridor may result in some severance / disruption of planting, harvesting, grazing, nutrient management within an individual farm.	**High** potential to affect in-farm field operations • Corridor is all new corridor, which may result in major severance / disruption of planting, harvesting, grazing, nutrient management within an individual farm.
	2.4.4 Agriculture – Transportation Linkages between Multiple-Farm Operations	Potential to sever/disrupt transportation linkages between multiple-farm operations (movement between linked multiple-farm operations of equipment, materials, workers, etc) NOTES: The generic issue of shipments to/from farms is covered under the broader transportation sub-factor "movement of goods". The generic issue of farm resident/worker movement to/from farms is covered under the broader transportation sub-factor "movement of people". Movement of equipment, materials and workers between multiple-farm operations will occur in the context of increased overall traffic on roadways within the analysis area regardless of the alternative selected.	**Low** potential to sever/disrupt transportation linkages between multiple-farm operations. • Corridor predominantly utilizes existing corridor. Widening of the existing highway will not cause out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms; but it may make movements across the existing highway more difficult.	**Medium** potential to sever/disrupt transportation linkages between multiple-farm operations. • Corridor has both existing highway and new corridor components. • Widening of the existing highway will not cause out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms; but it may make movements across the existing highway more difficult. • The portion of corridor that bypasses Shakespeare may result in some out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms.	**High** potential to sever/disrupt transportation linkages between multiple-farm operations. • Some of the corridor involves widening of the existing highway, which will not cause out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms; but it may make movements across the existing highway more difficult. • Most of the corridor is new corridor, which may result in some out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms.	**Medium** potential to sever/disrupt transportation linkages between multiple-farm operations. • Corridor has both existing highway and new corridor components. • Widening of the existing highway will not cause out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms; but it may make movements across the existing highway more difficult. • The portion of corridor that is new corridor may result in some out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms.	**High** potential to sever/disrupt transportation linkages between multiple-farm operations. • Corridor is all new corridor, which may result in some out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms.
2.5 Land Use / Resources	2.5.1First Nation Treaty Rights or Use of Land and Resources for Traditional Purposes (e.g. hunting, fishing, harvesting of country foods, harvesting of medicinal plants)	Potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes NOTE: The protection of the natural environment is important to the continued use of lands for traditional First Nations activities	**Low** potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Corridor predominantly utilizes existing corridor.	**Medium** potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Corridor has both existing highway and new corridor components.	**Medium** potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Significant component is new corridor.	**Medium** potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Significant component is new corridor.	**Medium** potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • New corridor.

LEGEND

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Highway 7&8 Transportation Corridor Planning and Class EA Study
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SECTION # 3 FROM EAST OF STRATFORD TO WEST OF NEW HAMBURG

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES				
			CORRIDOR ALTERNATIVE 3A (Existing 7&8 Corridor from Stratford to New Hamburg) Nodes: 3-1, 3-3, 3-5, 3-6	**CORRIDOR ALTERNATIVE 3B (Shakespeare South Bypass Corridor 1) Nodes: 3-1, 3-3, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3C (Shakespeare South Bypass Corridor 2) Nodes: 3-1, 3-3, 3-4, 3-6**	**CORRIDOR ALTERNATIVE 3D (Shakespeare South Bypass Corridor 3) Nodes: 3-2, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3E (New Corridor from Stratford to New Hamburg) Nodes: 3-2, 3-4, 3-6**
	2.5.2 Parks and Recreational Areas (e.g. national/provincial parks, conservation areas, municipal parks, public spaces, golf courses, trails, greenways and open space linkages)	Potential to affect parks and recreational areas.	**Low** potential to affect parks and recreational areas • No parks or recreational areas located within or adjacent to this corridor. • MTO roadside park on south side of Highway 7&8 west of Perth Road 102.	**Low** potential to affect parks and recreational areas • No parks or recreational areas located within or adjacent to this corridor. • MTO roadside park on south side of Highway 7&8 west of Perth Road 102.	**Low** potential to affect parks and recreational areas • No parks or recreational areas located within or adjacent to this corridor.	**Low** potential to affect parks and recreational areas. • MTO roadside park on south side of Highway 7&8 west of Perth Road 102.	**Low** potential to affect parks and recreational areas • No parks or recreational areas located within or adjacent to this corridor.
	2.5.3 Aggregates, Mineral Resources	Potential to affect aggregate and mineral resources sites	**Low** potential to affect aggregate and mineral resources sites • No aggregate or mineral resource sites located within or adjacent to this corridor	**Low** potential to affect aggregate and mineral resources sites • No aggregate or mineral resource sites located within or adjacent to this corridor	**Low** potential to affect aggregate and mineral resources sites • No aggregate or mineral resource sites located within or adjacent to this corridor	**Low** potential to affect aggregate and mineral resources sites • No aggregate or mineral resource sites located within or adjacent to this corridor	**Low** potential to affect aggregate and mineral resources sites • No aggregate or mineral resource sites located within or adjacent to this corridor
2.6 Major Utility Transmission Corridors (e.g. railroads, hydro, gas, oil)		Potential to affect major utility transmission corridors	**Medium** potential to affect major utility transmission corridors • Requires replacement of existing railway structure	**High** potential to affect major utility transmission corridors • Requires two new crossings of railway corridor and replacement of existing railway structure	**High** potential to affect major utility transmission corridors • Requires one new crossing of railway corridor and replacement of existing railway structure	**High** potential to affect major utility transmission corridors • Requires one new crossing of railway corridor and replacement of existing railway structure	**Low** potential to affect major utility transmission corridors • No new railway crossings required; does not require replacement of existing railway structure
2.7 Contaminated Property and Waste Management (e.g. Landfills, hazardous waste sites, former industrial areas and other known contaminated sites)		Potential to affect landfills (open and closed), hazardous waste sites "brownfield" areas, and other known contaminated sites	**Low** potential to affect known contaminated sites • No sources of contamination identified within this corridor.	**Low** potential to affect known contaminated sites • No sources of contamination identified within this corridor.	**Low** potential to affect known contaminated sites • No sources of contamination identified within this corridor.	**Low** potential to affect known contaminated sites • No sources of contamination identified within this corridor.	**Low** potential to affect known contaminated sites • No sources of contamination identified within this corridor.
2.8 Landscape Composition	2.8.1 Scenic Composition	To be considered in the detailed planning and preliminary design phases					
	2.8.2 Sensitive Viewer Groups	To be considered in the detailed planning and preliminary design phases					
	2.8.3 Scenic Value of Views/Vistas from the transportation facility	To be considered in the detailed planning and preliminary design phases					
	2.8.4 Specimen Trees	To be considered in the detailed planning and preliminary design phases					
2.9 Air Quality	2.9.1 Regional Air Quality and Total Contaminant / Greenhouse Gas Emissions	Potential to reduce the regional air quality consequences of traffic congestion	**Low** potential to reduce the regional air quality consequences of traffic congestion • Several intersections and other traffic sources in the area.	**Low** potential to reduce the regional air quality consequences of traffic congestion • Several intersections and other traffic sources nearby.	**Medium** potential to reduce the regional air quality consequences of traffic congestion • Few intersections; other traffic sources within 1 km.	**Medium** potential to reduce the regional air quality consequences of traffic congestion • Few intersections; other traffic sources within 1 km.	**Medium** potential to reduce the regional air quality consequences of traffic congestion • Few intersections; other traffic sources within 1 km.
	2.9.2 Local Air Quality and Sensitive Receptors to Air Pollutants	Potential to affect local receptors sensitive to air pollutants	**Medium** potential to affect local receptors sensitive to air pollutants • Sensitive receptors within 1 km.	**Medium** potential to affect local receptors sensitive to air pollutants • Sensitive receptors within 1 km.	**Medium** potential to affect local receptors sensitive to air pollutants • Sensitive receptors within 1 km.	**Medium** potential to affect local receptors sensitive to air pollutants • Sensitive receptors within 1 km.	**Medium** potential to affect local receptors sensitive to air pollutants • Sensitive receptors within 1 km.

LEGEND

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SECTION # 3 FROM EAST OF STRATFORD TO WEST OF NEW HAMBURG

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES				
			CORRIDOR ALTERNATIVE 3A (Existing 7&8 Corridor from Stratford to New Hamburg) Nodes: 3-1, 3-3, 3-5, 3-6	**CORRIDOR ALTERNATIVE 3B (Shakespeare South Bypass Corridor 1) Nodes: 3-1, 3-3, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3C (Shakespeare South Bypass Corridor 2) Nodes: 3-1, 3-3, 3-4, 3-6**	**CORRIDOR ALTERNATIVE 3D (Shakespeare South Bypass Corridor 3) Nodes: 3-2, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3E (New Corridor from Stratford to New Hamburg) Nodes: 3-2, 3-4, 3-6**
SUMMARY OF LAND USE/SOCIO ECONOMIC ENVIRONMENT			Key land use / socio-economic environment conditions that differentiate Corridor 3A from the other corridor alternatives in Section 3 are the following: • High potential to support provincial land use policies • High potential to affect urban area and medium potential to affect rural residential area • Medium potential to affect noise sensitive areas • Low potential to affect Canada Land Inventory Classes 1, 2 and 3 soils • Low potential to affect farm infrastructure • Low potential to affect in-farm field operations • Low potential to sever/disrupt transportation linkages between multiple-farm operations • Low potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Medium potential to affect major utility transmission corridors • Low potential to reduce regional air quality consequences of traffic congestion	Key land use / socio-economic environment conditions that differentiate Corridor 3B from the other corridor alternatives in Section 3 are the following: • Medium potential to support provincial land use policies • Medium potential to affect urban and rural residential areas • High potential to affect noise sensitive areas • Medium potential to affect Canada Land Inventory Classes 1, 2 and 3 soils • Medium potential to affect farm infrastructure • Medium potential to affect in-farm field operations • Medium potential to sever/disrupt transportation linkages between multiple-farm operations • Medium potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • High potential to affect major utility transmission corridors • Low potential to reduce regional air quality consequences of traffic congestion	Key land use / socio-economic environment conditions that differentiate Corridor 3C from the other corridor alternatives in Section 3 are the following: • Medium potential to support provincial land use policies • Medium potential to affect urban and rural residential areas • High potential to affect noise sensitive areas • High potential to affect Canada Land Inventory Classes 1, 2 and 3 soils • High potential to affect farm infrastructure • High potential to affect in-farm field operations • High potential to sever/disrupt transportation linkages between multiple-farm operations • Medium potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • High potential to affect major utility transmission corridors • Medium potential to reduce regional air quality consequences of traffic congestion	Key land use / socio-economic environment conditions that differentiate Corridor 3D from the other corridor alternatives in Section 3 are the following: • Medium potential to support provincial land use policies • Medium potential to affect urban and rural residential areas • High potential to affect noise sensitive areas • High potential to affect Canada Land Inventory Classes 1, 2 and 3 soils • Medium potential to affect farm infrastructure • Medium potential to affect in-farm field operations • Medium potential to sever/disrupt transportation linkages between multiple-farm operations • Medium potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • High potential to affect major utility transmission corridors • Medium potential to reduce regional air quality consequences of traffic congestion	Key land use / socio-economic environment conditions that differentiate Corridor 3E from the other corridor alternatives in Section 3 are the following: • Low potential to support provincial land use policies • Medium potential to affect urban and rural residential areas • High potential to affect noise sensitive areas • High potential to affect Canada Land Inventory Classes 1, 2 and 3 soils • High potential to affect farm infrastructure • High potential to affect in-farm field operations • High potential to sever/disrupt transportation linkages between multiple-farm operations • Medium potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Low potential to affect major utility transmission corridors • Medium potential to reduce regional air quality consequences of traffic congestion
			Corridor 3A is completely based upon the existing highway. As a result: • It supports provincial/federal land use policies/goals and objective; • It has low potential impacts to agricultural lands/operations and resource factors, primarily because of its low "footprint" impact; • Its higher potential impacts relative to community factors (urban area of Shakespeare) and regional air quality (particularly in Shakespeare) are to a considerable degree already associated with the current highway. **Therefore, from a land use / socio-economic environment perspective, Corridor 3A is preferred in Section 3.**				
3. CULTURAL ENVIRONMENT FACTORS							
3.1 Cultural Heritage – Built Heritage and Cultural Landscapes	3.1.1 Buildings or "Standing" Sites of Architectural or Heritage Significance or Ontario Heritage Foundation Easement Properties	Potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easements properties	**Medium** potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties. • Fryfogel Inn is located on the south side of Highway 7&8 between Perth Roads 104 and 106. • Heritage buildings in Shakespeare are not "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement.	**Medium** potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties. • Fryfogel Inn is located on the south side of Highway 7&8 between Perth Roads 104 and 106.	**Low** potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties. • No buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties identified	**Medium** potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties. • Fryfogel Inn is located on the south side of Highway 7&8 between Perth Roads 104 and 106.	**Low** potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties. • No buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties identified

LEGEND

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	3.1.2 Heritage Bridges	Potential to affect heritage bridges	**Medium** potential to affect heritage bridges	**Medium** potential to affect heritage bridges	**Medium** potential to affect heritage bridges	**Medium** potential to affect heritage bridges	**Medium** potential to affect heritage bridges
	3.1.3 Areas of Historic 19th Century Settlement	Potential to affect areas of historic 19th century settlement	**High** potential to affect areas of historic 19th century settlement • Historic settlement area in Shakespeare, and on Highway 7&8 east of Shakespeare	**Medium** potential to affect areas of historic 19th century settlement • Historic settlement area on Highway 7&8 east of Shakespeare	**Low** potential to affect areas of historic 19th century settlement • No areas of concentrated 19th century development	**Medium** potential to affect areas of historic 19th century settlement • Historic settlement area on Highway 7&8 east of Shakespeare	**Low** potential to affect areas of historic 19th century settlement. • No areas of concentrated 19th century development
	3.1.4 Cultural Heritage Landscapes	To be considered in the detailed planning and preliminary design phases					
	3.1.5 First Nations Burial Sites	To be considered in the detailed planning and preliminary design phases					
	3.1.6 Cemeteries	Potential to affect cemeteries	**Medium** potential to affect cemeteries • Cemetery north of Highway 7&8 between Perth Roads 109 and 110 • Cemetery south of Highway 7&8 east of Perth Road 104 • Unlisted cemetery south of Highway 7&8 between Perth Roads 106 and 104	**Medium** potential to affect cemeteries • Cemetery north of Highway 7&8 between Perth Roads 109 and 110 • Cemetery south of Highway 7&8 east of Perth Road 104 • Cemetery east of Perth Road 107 south of Shakespeare • Unlisted cemetery south of Highway 7&8 between Perth Roads 106 and 104	**Medium** potential to affect cemeteries • Cemetery north of Highway 7&8 between Perth Roads 109 and 110 • Cemetery east of Perth Road 107 south of Shakespeare	**Medium** potential to affect cemeteries • Cemetery east of Perth Road 107 south of Shakespeare • Cemetery south of Highway 7&8 east of Perth Road 104 • Unlisted cemetery south of Highway 7&8 between Perth Roads 106 and 104	**Medium** potential to affect cemeteries • Cemetery east of Perth Road 107 south of Shakespeare
3.2 Cultural Heritage - Archaeology	3.2.1 Pre-Historic and Historic First Nations' Archaeological Sites	Potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest	**Low** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest. • Corridor is all existing highway with land previously disturbed by road construction.	**Medium** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest. • Corridor has both existing highway and new corridor components. • Portion of corridor that uses existing roads has land previously disturbed by construction. • Remainder is in "green field" area that has little previous disturbance through construction.	**High** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest. • Corridor is predominantly new corridor, with "green field" area that has little previous disturbance through construction.	**Medium** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest. • Corridor has both existing highway and new corridor components. • Portion of corridor that uses existing roads has land previously disturbed by construction. • Remainder is in "green field" area with little previous disturbance through construction.	**High** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest. • Corridor is all new corridor, with "green field" area that has little previous disturbance through construction.
	3.2.2 Historic Euro-Canadian Archaeological Sites	Potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest	**Low** potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest. • Shorter corridor, using existing roads with land previously disturbed by road construction. • Potential historic Euro-Canadian archaeological sites associated with heritage structures	**Medium** potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest • Corridor has both existing highway and new corridor components. • Portion of corridor that uses existing roads has land previously disturbed by construction. • Remainder is in "green field" area with little previous disturbance through construction.	**High** potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest • Corridor is predominantly new corridor, with "green field" area that has little previous disturbance through construction.	**Medium** potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest • Corridor has both existing highway and new corridor components. • Portion of corridor that uses existing roads has land previously disturbed by construction. • Remainder is in "green field" area with little previous disturbance through construction.	**High** potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest. • Corridor is all new corridor, with "green field" area that has little previous disturbance through construction.

LEGEND

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SECTION # 3 FROM EAST OF STRATFORD TO WEST OF NEW HAMBURG

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES				
			CORRIDOR ALTERNATIVE 3A (Existing 7&8 Corridor from Stratford to New Hamburg) Nodes: 3-1, 3-3, 3-5, 3-6	**CORRIDOR ALTERNATIVE 3B (Shakespeare South Bypass Corridor 1) Nodes: 3-1, 3-3, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3C (Shakespeare South Bypass Corridor 2) Nodes: 3-1, 3-3, 3-4, 3-6**	**CORRIDOR ALTERNATIVE 3D (Shakespeare South Bypass Corridor 3) Nodes: 3-2, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3E (New Corridor from Stratford to New Hamburg) Nodes: 3-2, 3-4, 3-6**
SUMMARY OF CULTURAL ENVIRONMENT			Key cultural environment conditions that differentiate Corridor 3A from the other corridor alternatives in Section 3 are the following: • Medium potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties • High potential to affect areas of historic 19th century settlement • Low potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest; • Low potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest	Key cultural environment conditions that differentiate Corridor 3B from the other corridor alternatives in Section 3 are the following: • Medium potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties • Medium potential to affect areas of historic 19th century settlement • Medium potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest • Medium potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest	Key cultural environment conditions that differentiate Corridor 3C from the other corridor alternatives in Section 3 are the following: • Low potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties • Low potential to affect areas of historic 19th century settlement • High potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest • High potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest	Key cultural environment conditions that differentiate Corridor 3D from the other corridor alternatives in Section 3 are the following: • Medium potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties • Medium potential to affect areas of historic 19th century settlement • Medium potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest • Medium potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest	Key cultural environment conditions that differentiate Corridor3E from the other corridor alternatives in Section 3 are the following: • Low potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties • Low potential to affect areas of historic 19th century settlement • High potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest • High potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest
			Corridor 3A is completely based upon the existing highway. As a result: • It has low potential impacts to archaeology because the existing corridor has already been disturbed by road construction; • It has medium potential to affect the Fryfogel Inn and cemeteries, which may be avoided by the selection of the widening alternative; • It has higher potential to affect areas of historic 19th century settlement that are associated with the existing highway, but these may be minimized by the selection of the widening alternative and cross-section design. **Therefore, from a cultural environment perspective, Corridor 3A is preferred in Section 3.**				
4. AREA ECONOMY FACTORS – Deleted due to duplication of considerations addressed in Factors 2.2.4, 2.2.5, 5.1.2, 5.1.3, and 5.4.3 (deletion eliminated double-counting).							
5. TRANSPORTATION FACTORS							
5.1 Area Transportation System Capacity and Efficiency	5.1.1 Federal/Provincial/Municipal transportation planning policies/goals/objectives	Potential to support federal/provincial/ municipal transportation planning policies/goals/objectives. Provincial Policy Statement (PPS) Policy 1.6.5.1 stipulates that transportation systems should be provided which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs. PPS Policy 1.6.5.2 stipulates that efficient use shall be made of existing and planned infrastructure	**Medium** potential to support federal/provincial/municipal transportation planning policies/goals/objectives • Provides transportation system that meets objectives of PPS policy 1.6.5.1. Corridor predominantly utilizes existing corridor which would not be as efficient or effective in moving people and goods as a new highway • Corridor predominantly utilizes existing corridor, thereby meeting the objectives of PPS policy 1.6.5.2.	**Medium** potential to support federal/provincial/municipal transportation planning policies/goals/objectives • Provides transportation system that meets objectives of PPS policy 1.6.5.1. Corridor has both existing roadway and new corridor components. The existing corridor components would not be as efficient or effective in moving people and goods as the new corridor component. • Corridor has both existing roadway and new corridor components, and the latter would not meet the objectives of PPS policy 1.6.5.2	**Medium** potential to support federal/provincial/municipal transportation planning policies/goals/objectives • Provides transportation system that meets objectives of PPS policy 1.6.5.1. Corridor is predominantly new corridor, which would be more efficient and effective in moving people and goods than use of the existing roadway/highway. • Corridor is predominantly new corridor, which would not meet the objectives of PPS policy 1.6.5.2	**Medium** potential to support federal/provincial/municipal transportation planning policies/goals/objectives • Provides transportation system that meets objectives of PPS policy 1.6.5.1. Corridor has both existing roadway and new corridor components. The existing corridor components would not be as efficient or effective in moving people and goods as the new corridor component. • Corridor has both existing roadway and new corridor components, and the latter would not meet the objectives of PPS policy 1.6.5.2	**Medium** potential to support federal/provincial/municipal transportation planning policies/goals/objectives. • Provides transportation system that meets objectives of PPS policy 1.6.5.1. Corridor is all new corridor, which would be more efficient and effective in moving people and goods than use of the existing roadway/highway. • Corridor is all new corridor, which would not meet the objectives of PPS policy 1.6.5.2

LEGEND

MOST PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED	NO SIGNIFICANT DIFFERENCE	SELECTED CORRIDOR

Highway 7&8 Transportation Corridor Planning and Class EA Study
EVALUATION OF SHORT LIST OF CORRIDOR ALTERNATIVES (Preliminary Planning Alternatives)
Note – Evaluation of the short list of corridor alternatives is based on a qualitative assessment of each corridor (high, medium or low) and is based on secondary source information presented In Report F, Part 1 (June, 2008)
Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment

SECTION # 3 FROM EAST OF STRATFORD TO WEST OF NEW HAMBURG

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES				
			CORRIDOR ALTERNATIVE 3A (Existing 7&8 Corridor from Stratford to New Hamburg) Nodes: 3-1, 3-3, 3-5, 3-6	**CORRIDOR ALTERNATIVE 3B (Shakespeare South Bypass Corridor 1) Nodes: 3-1, 3-3, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3C (Shakespeare South Bypass Corridor 2) Nodes: 3-1, 3-3, 3-4, 3-6**	**CORRIDOR ALTERNATIVE 3D (Shakespeare South Bypass Corridor 3) Nodes: 3-2, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3E (New Corridor from Stratford to New Hamburg) Nodes: 3-2, 3-4, 3-6**
	5.1.2 Efficient movement of people	Potential to support the efficient movement of people between communities and regions based on Level of Service (LOS) and volume to capacity (v/c) on a network, screenline and critical link basis	**Medium** potential to support efficient movement of people • Corridor predominantly utilizes existing corridor, with reduced level of service through developed area of Shakespeare given number of existing intersections and driveways. • No out-of-way travel for local access from Shakespeare to corridor.	**Medium** potential to support efficient movement of people. • Corridor has both existing roadway and new corridor components, with reduced level of service through developed area of Shakespeare given number of existing intersections and driveways. • Some out-of-way travel for local access from Shakespeare to corridor.	**Medium** potential to support efficient movement of people. • Corridor is predominantly new corridor, with high level of service due to few intersections and no driveways. • Some out-of-way travel for local access from Shakespeare to corridor.	**Medium** potential to support efficient movement of people. • Corridor has both existing roadway and new corridor components, with reduced level of service through developed area of Shakespeare given number of existing intersections and driveways. • Some out-of-way travel for local access from Shakespeare to corridor.	**Medium** potential to support efficient movement of people. • Corridor is all new corridor, with high level of service due to few intersections and no driveways. • Some out-of-way travel for local access from Shakespeare to corridor.
	5.1.3 Efficient movement of goods	Potential to support efficient movement of goods between urban growth centres and regional intermodal facilities based on road network and Highway 7&8 corridor performance measures (LOS and travel speed)	**Medium** potential to support efficient movement of goods • Corridor is all existing roadway, with reduced level of service through developed area of Shakespeare given number of existing intersections and driveways. • No out-of-way travel for local access from Shakespeare to corridor.	**Medium** potential to support efficient movement of goods. • Corridor has both existing roadway and new corridor components, with reduced level of service through developed area of Shakespeare given number of existing intersections and driveways. • Some out-of-way travel for local access from Shakespeare to corridor.	**Medium** potential to support efficient movement of goods. • Corridor is predominantly new corridor, with high level of service due to few intersections and no driveways. • Some out-of-way travel for local access from Shakespeare to corridor.	**Medium** potential to support efficient movement of goods. • Corridor has both existing roadway and new corridor components, with reduced level of service through developed area of Shakespeare given number of existing intersections and driveways. • Some out-of-way travel for local access from Shakespeare to corridor.	**Medium** potential to support efficient movement of goods. • Corridor is all new corridor, with high level of service due to few intersections and no driveways. • Some out-of-way travel for local access from Shakespeare to corridor.
5.2 Area Transportation System Reliability / Redundancy		Potential to support system reliability and redundancy for travel (people and goods) between regions and communities during adverse conditions	**Low** potential to support system reliability and redundancy • Corridor is all existing roadway, which does not provide a new connection between regions and communities during adverse conditions.	**Low** potential to support system reliability and redundancy. • Corridor is has both existing roadway and new corridor components. The former does not provide new connection between regions and communities during adverse conditions	**High** potential to support system reliability and redundancy • Corridor is predominantly new corridor, which provides new connection between regions and communities during adverse conditions.	**Low** potential to support system reliability and redundancy. • Corridor is has both existing roadway and new corridor components. The former does not provide new connection between regions and communities during adverse conditions	**High** potential to support system reliability and redundancy • Corridor is all new corridor, which provides new connection between regions and communities during adverse conditions.
5.3 Safety	5.3.1 Traffic Safety	Potential to improve traffic safety based on opportunity to reduce congestion on area road network (LOS and v/c) and reduce the frequency of intersections and entrances in the Highway 7&8 corridor	**Medium** potential to improve traffic safety • All of corridor is existing corridor with numerous access points associated with private entrances. • A four/five lane cross section provides for good passing opportunity, provides a wider platform to accommodate evasive moves during potential accidents, and a centre left turn lane would accommodate safer left turns along the highway since limited opportunity to reduce number of intersections and driveways.	**Medium** potential to improve traffic safety • Corridor has both existing roadway and new corridor components. Existing corridor component has numerous access points associated with private entrances. New corridor component has no access points associated with private entrances, and limited number of access points at intersection / interchange locations. • A four/five lane cross section provides for good passing opportunity, provides a wider platform to accommodate evasive moves during potential accidents, and a centre left turn lane would accommodate safer left turns along the highway since limited opportunity to reduce number of intersections and driveways.	**High** potential to improve traffic safety • Corridor is predominantly new corridor, with no access points associated with private entrances, and limited number of access points at intersection / interchange locations. • Four lanes provide for good passing opportunity, and provide a wider platform to accommodate evasive moves during potential accidents.	**Medium** potential to improve traffic safety • Corridor has both existing roadway and new corridor components. Existing corridor component has numerous access points associated with private entrances. New corridor component has no access points associated with private entrances, and limited number of access points at intersection / interchange locations. • A four/five lane cross section provides for good passing opportunity, provides a wider platform to accommodate evasive moves during potential accidents, and a centre left turn lane would accommodate safer left turns along the highway since limited opportunity to reduce number of intersections and driveways.	**High** potential to improve traffic safety • Corridor is all new corridor, with no access points associated with private entrances, and limited number of access points at intersection / interchange locations. • Four lanes provide for good passing opportunity, and provide a wider platform to accommodate evasive moves during potential accidents.

LEGEND

MOST PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED	NO SIGNIFICANT DIFFERENCE	SELECTED CORRIDOR

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SECTION # 3 FROM EAST OF STRATFORD TO WEST OF NEW HAMBURG

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES				
			CORRIDOR ALTERNATIVE 3A (Existing 7&8 Corridor from Stratford to New Hamburg) Nodes: 3-1, 3-3, 3-5, 3-6	**CORRIDOR ALTERNATIVE 3B (Shakespeare South Bypass Corridor 1) Nodes: 3-1, 3-3, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3C (Shakespeare South Bypass Corridor 2) Nodes: 3-1, 3-3, 3-4, 3-6**	**CORRIDOR ALTERNATIVE 3D (Shakespeare South Bypass Corridor 3) Nodes: 3-2, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3E (New Corridor from Stratford to New Hamburg) Nodes: 3-2, 3-4, 3-6**
	5.3.2 Emergency Access	To be considered in the detailed planning and preliminary design phases					
5.4 Mobility and Accessibility	5.4.1 Modal integration, balance and efficiency	Potential to improve modal choice and increase mode split for person trips between communities, regions and major transit station areas based on connection to concentrations of population, travel performance indicators (LOS, v/c, travel speed) at critical screenlines and on potential to provide higher order transit service.	**Medium** potential to improve modal integration, balance and efficiency. • Potential transit service in corridor is supported by direct connection to the community of Shakespeare and the development along Highway 7&8. • Use of existing Highway 7&8 would constrain transit travel performance. • Use of existing Highway 7&8 corridor limits opportunities to provide higher order transit service.	**Medium** potential to improve modal integration, balance and efficiency. • Potential transit service in the corridor is constrained by the bypass of the community of Shakespeare, but is supported by the direct connection to development along Highway 7&8 both east and west of Shakespeare. • Use of existing Highway 7&8 would constrain transit travel performance. • Use of existing Highway 7&8 corridor limits opportunities to provide higher order transit service.	**Medium** potential to improve modal integration, balance and efficiency. • Potential transit service in the corridor is constrained by the bypass of the community of Shakespeare and the bypass of development along Highway 7&8 east of Shakespeare. • Significant new corridor component would support transit travel performance. • Use of existing Highway 7&8 east of Shakespeare limits opportunities to provide higher order transit service.	**Medium** potential to improve modal integration, balance and efficiency. • Potential transit service in the corridor is constrained by the bypass of the community of Shakespeare and the bypass of development along Highway 7&8 west of Shakespeare. • Significant new corridor component would support transit travel performance. • Use of existing Highway 7&8 west of Shakespeare limits opportunities to provide higher order transit service.	**Medium** potential to improve modal integration, balance and efficiency. • Potential transit service in the corridor is constrained by the bypass of the community of Shakespeare and the bypass of development along Highway 7&8 both east and west of Shakespeare. • New corridor component would support transit travel performance. • Does not use existing corridor so there is the opportunity to provide higher order transit service.
	5.4.2 Linkages to Population and Employment Centres	Potential to improve linkages to population and employment centres for people and goods movement.	**High** potential to improve linkages to population and employment centres. • Direct connection through Shakespeare.	**Low** potential to improve linkages to population and employment centres. • Linkages to Shakespeare may be reduced because of limitations imposed by intersection design requirements at potential tie-in points between the bypass and the current highway.	**Low** potential to improve linkages to population and employment centres. • Linkages to Shakespeare may be reduced because of limitations imposed by intersection design requirements at potential tie-in points between the bypass and the current highway.	**Low** potential to improve linkages to population and employment centres. • Linkages to Shakespeare may be reduced because of limitations imposed by intersection design requirements at potential tie-in points between the bypass and the current highway.	**Low** potential to improve linkages to population and employment centres. • Linkages to Shakespeare may be reduced because of limitations imposed by intersection design requirements at potential tie-in points between the new corridor and the current highway.
	5.4.3 Recreation and Tourism Travel	Potential to support recreation and tourism travel within and to/from the Analysis Area by provision of higher order network (roads and transit) continuity and connectivity and through network performance indicators (LOS, v/c, travel speed)	**Medium** potential to support recreation and tourism travel • Shakespeare tourist area is not bypassed, but tourist travel through the analysis area is slowed by congestion in Shakespeare.	**Medium** potential to support recreation and tourism travel • Shakespeare tourist area is bypassed, but tourist travel through the analysis area is facilitated.	**Medium** potential to support recreation and tourism travel • Shakespeare tourist area is bypassed, but tourist travel through the analysis area is facilitated.	**Medium** potential to support recreation and tourism travel • Shakespeare tourist area is bypassed, but tourist travel through the analysis area is facilitated.	**Medium** potential to support recreation and tourism travel • Shakespeare tourist area is bypassed, but tourist travel through the analysis area is facilitated.
	5.4.4 Accommodation for pedestrians, cyclists and snowmobiles	Potential to accommodate pedestrians, cyclists within critical travel corridors in urbanized areas and snowmobiles in recognized rural trails	**Medium** potential to support pedestrians in Shakespeare; • Urban area better supports justification for sidewalks in Shakespeare. Rural area for balance of corridor does not support justification for sidewalks. • No designated bicycle or snowmobile trails identified.	**Low** potential to support pedestrians • Rural area does not support justification for sidewalks • No designated bicycle or snowmobile trails identified.	**Low** potential to support pedestrians • Rural area does not support justification for sidewalks • No designated bicycle or snowmobile trails identified.	**Low** potential to support pedestrians • Rural area does not support justification for sidewalks • No designated bicycle or snowmobile trails identified.	**Low** potential to support pedestrians • Rural area does not support justification for sidewalks • No designated bicycle or snowmobile trails identified.
5.5 Network Compatibility	5.5.1 Network Connectivity	Potential to improve transportation system connectivity within and to/from the analysis area	**High** potential to improve transportation system connectivity.	**High** potential to improve transportation system connectivity.	**High** potential to improve transportation system connectivity.	**High** potential to improve transportation system connectivity.	**High** potential to improve transportation system connectivity.
	5.5.2 Flexibility for Future Expansion	Potential to address future transportation needs beyond the forecasted planning horizons	**Low** potential for future expansion • Corridor passes directly through developed area of Shakespeare, and the right-of-way through Shakespeare could not readily accommodate further expansion beyond the 4/5-lane section associated with this corridor	**Medium** potential for future expansion • Corridor is outside the Shakespeare urban boundary, however, since the corridor has both existing highway and new corridor components, future expansion of the former constrained by the right-of-way width.	**High** potential for future expansion. • Corridor is outside Shakespeare urban boundary, and since it is predominantly new corridor, the majority of the right-of-way could accommodate future expansion.	**Medium** potential for future expansion • Corridor is outside the Shakespeare urban boundary, however, since the corridor has both existing highway and new corridor components, future expansion of the former constrained by the right-of-way width.	**High** potential for future expansion. • Corridor is outside Shakespeare urban boundary, and since it is all new corridor, the right-of-way could accommodate future expansion.

LEGEND

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SECTION # 3 FROM EAST OF STRATFORD TO WEST OF NEW HAMBURG

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES				
			CORRIDOR ALTERNATIVE 3A (Existing 7&8 Corridor from Stratford to New Hamburg) Nodes: 3-1, 3-3, 3-5, 3-6	**CORRIDOR ALTERNATIVE 3B (Shakespeare South Bypass Corridor 1) Nodes: 3-1, 3-3, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3C (Shakespeare South Bypass Corridor 2) Nodes: 3-1, 3-3, 3-4, 3-6**	**CORRIDOR ALTERNATIVE 3D (Shakespeare South Bypass Corridor 3) Nodes: 3-2, 3-4, 3-5, 3-6**	**CORRIDOR ALTERNATIVE 3E (New Corridor from Stratford to New Hamburg) Nodes: 3-2, 3-4, 3-6**
5.6 Engineering	5.6.1 Constructability	Potential constructability issues considering physical, property or environmental constraints	**Medium** potential for constructability issues. • Utilizes existing Highway 7&8 corridor; confined environment through Shakespeare; no new railway crossings required • Replacement of existing railway structure required.	**High** potential for constructability issues • Avoids confined environment through Shakespeare. However two new railway grade separations are required in very close proximity to the connection to Perth Road 107; and the connection to Perth Road 107 is constrained by its proximity to the rail line. • Replacement of existing railway structure required.	**Medium** potential for constructability issues • Utilizes segment of existing Highway 7&8 corridor; one new railway crossing required. • Replacement of existing railway structure required.	**Medium** potential for constructability issues • Utilizes segment of existing Highway 7&8 corridor; one new railway crossing required. • Replacement of existing railway structure required.	**Low** potential for constructability issues • Does not utilize existing Highway 7&8 corridor; no new railway crossings required. • Replacement of existing railway structure not required.
	5.6.2 Compliance with Design Criteria	To be considered in the detailed planning and preliminary design phases					
5.7 Traffic Operations		Potential for negative impact on traffic operations due to factors such as design features, private access, and transportation network connections	**Medium** potential for negative impact on traffic operations • Corridor is all existing highway, with multiple entrances and intersections in Shakespeare and along Highway 7&8 east and west of Shakespeare	**Medium** potential for negative impact on traffic operations • Corridor has both existing highway and new corridor components. Existing highway component has multiple entrances and intersections. • Perth Road 107 connection constrained by its proximity to the rail line and the proposed two new railway grade separations.	**Low** potential impact for negative on traffic operations • Most of corridor does not utilize existing roadways. • Perth Road 107 connection constrained by its proximity to the rail line and the proposed new railway grade separation.	**Medium** potential for negative impact on traffic operations • Corridor has both existing highway and new corridor components. Existing highway component has multiple entrances and intersections. • Perth Road 107 connection constrained by its proximity to the rail line and the proposed new railway grade separation.	**Low** potential impact for negative on traffic operations • None of corridor utilizes existing roadways.
SUMMARY OF TRANSPORTATION	**It should be noted that the process utilized to generate corridor alternatives ensures that each corridor is capable of satisfying transportation criteria.**		Key transportation issues that differentiate Corridor 3A from the other corridor alternatives in Section 3 are the following: • Low potential to support system reliability and redundancy for travel (people and goods) between regions and communities during adverse conditions; • Medium potential to improve traffic safety; • High potential to support linkages to population and employment centres; • Medium potential to accommodate pedestrians in urbanized areas; • Low potential for future expansion; • Medium potential for constructability issues; and • Medium potential impact on traffic operations due to factors such as design features, private access, and transportation network connections.	Key transportation issues that differentiate Corridor 3B from the other corridor alternatives in Section 3 are the following: • Low potential to support system reliability and redundancy for travel (people and goods) between regions and communities during adverse conditions; • Medium potential to improve traffic safety; • Low potential to support linkages to population and employment centres; • Low potential to accommodate pedestrians in urbanized areas; • Medium potential for future expansion; • High potential for constructability issues; and • Medium potential impact on traffic operations due to factors such as design features, private access, and transportation network connections.	Key transportation issues that differentiate Corridor 3C from the other corridor alternatives in Section 3 are the following: • High potential to support system reliability and redundancy for travel (people and goods) between regions and communities during adverse conditions; • High potential to improve traffic safety; • Low potential to support linkages to population and employment centres; • Low potential to accommodate pedestrians in urbanized areas;; • High potential for future expansion; • Medium potential for constructability issues; and • Low potential impact on traffic operations due to factors such as design features, private access, and transportation network connections.	Key transportation issues that differentiate Corridor 3D from the other corridor alternatives in Section 3 are the following: • Low potential to support system reliability and redundancy for travel (people and goods) between regions and communities during adverse conditions; • Medium potential to improve traffic safety; • Medium potential to support linkages to population and employment centres; • Low potential to accommodate pedestrians in urbanized areas; • Medium potential for future expansion; • Medium potential for constructability issues; and • Medium potential impact on traffic operations due to factors such as design features, private access, and transportation network connections.	Key transportation issues that differentiate Corridor 3E from the other corridor alternatives in Section 3 are the following: • High potential to support system reliability and redundancy for travel (people and goods) between regions and communities during adverse conditions; • High potential to improve traffic safety; • Low potential to support linkages to population and employment centres; • Low potential to accommodate pedestrians in urbanized areas; • High potential for future expansion; • Low potential for constructability issues; and • Low potential impact on traffic operations due to factors such as design features, private access, and transportation network connections.

LEGEND

MOST PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED	NO SIGNIFICANT DIFFERENCE	SELECTED CORRIDOR

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			Corridor 3A is completely based upon the existing highway, and much of Corridor 3B is based upon the existing highway. As a result, they have: • Lower potential to support transportation system reliability and redundancy, lower potential to improve traffic safety, lower potential for future expansion, and higher potential for constructability issues; • Higher potential to improve linkages to population and employment centre of Shakespeare and higher potential to meet the Provincial Policy Statement policy to make efficient use of existing infrastructure. Corridors 3C and 3D have a higher potential to support transportation factors, but because they have components of the existing corridor, they do not rank as high as Corridor 3E. **Therefore, from a transportation perspective, Corridors 3E is preferred in Section 3, however, the process utilized to generate corridor alternatives ensures that Corridors 3A, 3B, 3C, 3D and 3E are all capable of satisfying transportation criteria.**				

SUMMARY OF EVALUATION:

Summary of Natural Environment

Corridor 3A is completely based upon the existing highway. As a result:
- It has low potential impacts to the natural environment, primarily because of its relatively low "footprint" impact;
- The potential impacts to fisheries and aquatic ecosystems and to watershed features tend to be of a nature that can be spanned/bridged; and
- The potential impacts to forests and vegetation tend to be "edge effects" and therefore relatively low.

Therefore, from a natural environment perspective, Corridor 3A is preferred in Section 3.

Summary of Land Use / Socio-Economic Environment

Corridor 3A is completely based upon the existing highway. As a result:
- It supports provincial/federal land use policies/goals and objective;
- It has low potential impacts to agricultural lands/operations and resource factors, primarily because of its low "footprint" impact;
- Its higher potential impacts relative to community factors (urban area of Shakespeare) and regional air quality (particularly in Shakespeare) are to a considerable degree already associated with the current highway.

Therefore, from a land use / socio-economic environment perspective, Corridor 3A is preferred in Section 3.

Summary of Cultural Environment

Corridor 3A is completely based upon the existing highway. As a result:
- It has low potential impacts to archaeology because the existing corridor has already been disturbed by road construction;
- It has medium potential to affect the Fryfogel Inn and cemeteries, which may be avoided by the selection of the widening alternative;
- It has higher potential to affect areas of historic 19th century settlement that are associated with the existing highway, but these may be minimized by the selection of the widening alternative and cross-section design.

Therefore, from a cultural environment perspective, Corridor 3A is preferred in Section 3.

Summary of Transportation

Corridor 3A is completely based upon the existing highway, and Corridor 3B is predominantly based upon the existing corridor. As a result, they have:
- Lower potential to support transportation system reliability and redundancy, lower potential to improve traffic safety, lower potential for future expansion, and higher potential for constructability issues;
- Higher potential to improve linkages to population and employment centre of Shakespeare and higher potential to meet the Provincial Policy Statement policy to make efficient use of existing infrastructure.

Corridors 3C and 3D have a higher potential to support transportation factors, but because they have components of the existing corridor, they to not rank as high as Corridor 3E.

Therefore, from a transportation perspective, Corridors 3E is preferred in Section 3, however, the process utilized to generate corridor alternatives ensures that Corridors 3A, 3B, 3C, 3D and 3E are all capable of satisfying transportation criteria.

Conclusion

Based upon the above, Corridor 3A is preferred in Section 3.

LEGEND

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Highway 7&8 Transportation Corridor Planning and Class EA Study
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SECTION # 4 FROM WEST OF NEW HAMBURG TO EAST OF NEW HAMBURG

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES	
			CORRIDOR ALTERNATIVE 4A (Existing Highway 7&8 Corridor through New Hamburg) Nodes: 4-1, 4-2, 4-3, 4-5	**CORRIDOR ALTERNATIVE 4B (New Hamburg South Bypass Corridor) Nodes: 4-1, 4-2, 4-4, 4-5**
KEY MAP				
1. NATURAL ENVIRONMENT FACTORS				
1.1 Fisheries and Aquatic Ecosystems	1.1.1 Fish Habitat AND 1.1.2 Fish Community	Potential to affect fish species and their habitat	**Medium** potential to impact permanent warmwater and coolwater fish habitat • Utilizes existing crossing locations; modifications may be required • Corridor intersects 1 permanent warmwater tributary and 1 permanent coolwater tributary of the Nith River. It also crosses 3 watercourses with undocumented thermal regimes.	**High** potential to impact permanent warmwater and coolwater fish habitat • New crossing locations which would have more impact than modifications to existing crossings • Corridor intersects 1 permanent warmwater tributary and 1 permanent coolwater tributary of the Nith River. It also crosses 4 permanent watercourses and 2 intermittent watercourses with undocumented thermal regimes.
1.2 Terrestrial Ecosystems	1.2.1 Wildlife	Potential to affect wildlife species at risk (special concern, endangered or threatened wildlife species), and provincially rare (S1 – S3) species and their habitat	**Low** potential to affect wildlife and their habitat • No special concern, endangered or threatened wildlife species • No provincially rare species (S1 – S3)	**Low** potential to affect wildlife and their habitat • No special concern, endangered or threatened wildlife species • No provincially rare species (S1 – S3)
	1.2.2 Wetlands	Potential to affect provincially (PSW) and locally (LSW) significant wetlands.	**Low** potential to affect both PSW and LSW wetlands • Predominantly utilizes existing corridor • Locally significant wetlands (no name identified)	**High** potential to affect both PSW and LSW wetlands • Predominantly new corridor • New Hamburg Oxbow Wetland Complex • Locally significant wetlands (no name identified)
	1.2.3 Forests	Potential to affect woodlands, especially larger core woodlands and interior habitat	**Medium** potential to affect woodlands • Predominantly utilizes existing corridor • 5 woodlands potentially affected, 2 of which are larger with identified core/interior habitat	**High** potential to affect woodlands • Predominantly new corridor • 9 woodlands potentially affected, 4 of which are larger with identified core/interior habitat
	1.2.4 Vegetation	Potential to affect populations of rare vegetation, including species at risk, provincially rare species and provincially rare vegetation communities	**Low** potential to affect populations of rare vegetation • 1 MNR record found for (Longleaf Dropseed, S4) within the corridor	**Low** potential to affect populations of rare vegetation • No rare or SAR identified within the corridor • New corridor would result in much higher removal of vegetation
	1.2.5 Designated/Special Areas	Potential to affect designated/special areas	**Low** potential to affect designated/special areas • Does not cross any ESA or ANSI	**Low** potential to affect designated/special areas • Does not cross any ESA or ANSI
1.3 Groundwater	1.3.1 Areas of Groundwater Recharge and Discharge	Potential to affect volume of groundwater at recharge and discharge areas (depends on presence of low permeability, i.e. till or fine grained glaciolacustrine sediments, or high permeability, i.e. sand, gravels, fractured bedrock, soils at surface)	**Low** potential to affect volume of groundwater at recharge and discharge areas • Surface runoff is interpreted to exceed infiltration in western portion of proposed corridor • No long-term change to groundwater recharge or discharge is anticipated due to the small surface area affected by highway construction in the proposed corridor. • Temporary reduction in groundwater discharge anticipated for bridge construction at Nith River crossing. • Potential for temporary reduction in groundwater discharge anticipated for construction at New Hamburg Oxbow Wetland.	**Medium** potential to affect volume of groundwater recharge and discharge areas • Surface runoff is interpreted to exceed infiltration in western portion of proposed corridor • No long-term change to groundwater recharge or discharge is anticipated due to the small surface area affected by highway construction in the proposed corridor. • Temporary reduction in groundwater discharge anticipated for bridge construction at Nith River crossing. • Temporary reduction of groundwater discharge anticipated for construction near New Hamburg Oxbow Wetland Complex • Potential for temporary reduction of groundwater discharge anticipated for construction near Bamberg Swamp and Bog.

LEGEND

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		Potential to affect quality of groundwater at recharge and discharge areas (depends on attenuation capacity of soils, and, rate of groundwater infiltration and/or discharge)	**Medium** potential to affect groundwater quality at recharge and discharge areas. • Rate of groundwater infiltration is low, with no significant surficial aquifer units within the western portion of the proposed corridor. However, some surficial aquifer units exist within the eastern portion of the proposed corridor.	**Medium** potential to affect groundwater quality at recharge and discharge areas. • Rate of groundwater infiltration is low, with no significant surficial aquifer units within the western portion of the proposed corridor. However, some surficial aquifer units exist within the eastern portion of the proposed corridor.
	1.3.2 Groundwater Source and Wellhead Protection Areas (WHPAs)	Potential to affect groundwater wellhead protection areas (i.e., is route upgradient of or within a delineated wellhead protection area)	**Low** potential to affect groundwater wellhead protection area. • Proposed corridor is located downgradient of well head capture zones.	**Low** potential to affect groundwater wellhead protection area. • Proposed corridor is located downgradient of well head capture zones.
	1.3.3 Large Volume Wells	Potential to affect large volume wells	**Low** potential to affect large volume wells • Proposed corridor is located downgradient of large volume wells.	**Low** potential to affect large volume wells • Proposed corridor is located downgradient of large volume wells.
	1.3.4 Private Wells	To be considered in the detailed planning and preliminary design phases		
	1.3.5 Groundwater-Sensitive Ecosystmes	To be considered in the detailed planning and preliminary design phases		
1.4 Surface Water	1.4.1 Watershed / Sub-Watershed Drainage Features/Patterns	Potential to affect permanent watercourses	**Medium** potential to affect permanent watercourses • Utilizes existing crossing locations • Potential to impact 2 tributaries of the Nith River and 3 other watercourses.	**High** potential to affect permanent watercourses • Requires new crossings • Potential to impact 2 tributaries of the Nith River. It also crosses 4 permanent watercourses and 2 intermittent watercourses.
	1.4.2 Surface Water Quality and Quantity	To be considered in the detailed planning and preliminary design phases		
SUMMARY OF NATURAL ENVIRONMENT			Key natural environment conditions that differentiate Corridor 4A from Corridor 4B in Section 4 are the following: • Medium potential to affect fish species and their habitat • Low potential to affect provincially (PSW) and locally (LSW) significant wetlands • Medium potential to affect woodlands • Low potential to affect areas of Groundwater Recharge and Discharge • Medium potential to affect permanent watercourses	Key natural environment conditions that differentiate Corridor 4B from Corridor 4B in Section 4 are the following: • High potential to affect fish species and their habitat • High potential to affect provincially (PSW) and locally (LSW) significant wetlands • High potential to affect woodlands • Medium potential to affect areas of Groundwater Recharge and Discharge • High potential to affect permanent watercourses
			Corridor 4A is completely based upon the existing highway. As a result: • It has low potential impacts to the natural environment, primarily because of the relatively low "footprint" impact; • Its potential impacts to fisheries and aquatic ecosystems and to watershed features tend to be of a nature that can be spanned/bridged; • Its potential impacts to wetlands and forests tend to be "edge effects" and therefore relatively low; and • Its potential impact to groundwater is associated with bridge construction over the Nith River, and would therefore be temporary. **Therefore, from a natural environment perspective, Corridor 4A is preferred in Section 4.**	
2. LAND USE / SOCIO-ECONOMIC ENVIRONMENT FACTORS				
2.1 Land Use Planning Policies, Goals, Objectives	2.1.1 First Nation Land Claims	Potential to affect areas for which there are First Nation outstanding land claims	Five filed land claims that may apply to this analysis area	Five filed land claims that may apply to this analysis area
	2.1.2 Provincial/Federal land use planning policies/goals/ objectives	Potential to support federal/provincial land use policies/goals/objectives NOTES: PPS Policy 1.6.6.4 stipulates that when planning for corridors for significant transportation facilities, consideration will be given to significant natural heritage, water, agricultural, mineral, cultural heritage and	**High** potential to support federal/provincial land use policies/goals/objectives. • Corridor uses the existing highway thereby minimizing impacts relative to PPS Policies 1.6.6.4 and 2.3. • The Growth Plan for the Greater Golden Horseshoe applies only to Section 4	**Low** potential to support federal/provincial land use policies/goals/objectives. • Corridor is all new corridor which would have significant impacts relative to PPS Policies 1.6.6.4 and 2.3. • The Growth Plan for the Greater Golden Horseshoe applies only to Section 4

LEGEND

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		archaeological resources. PPS Policy 2.3 requires prime agricultural areas be protected for long-term use. Prime agricultural areas include specialty crop areas and Classes 1, 2, and 3 soils in this order of priority.		
	2.1.3 Municipal (regional and local) land use planning policies/ goals/objectives (Official Plans)	Potential to support municipal Official Plans	**High** potential to support municipal Official Plans. • Corridor is within Region of Waterloo, Wilmot Township. Study area traverses Agricultural lands between nodes 4-1 and 4-2 and for some sections between nodes 4-2 and 4-3. Between nodes 4-3 and 4-5, the study area is within New Hamburg , a Township Urban Area, traversing Urban Residential, Major Recreational, and Industrial/Commercial areas and adjacent to an Open Space area at the east end of the town.	**Medium** potential to support municipal Official Plans. • Corridor is within Region of Waterloo, Wilmot Township. Study area traverses Agricultural lands between nodes 4-1 and 4-2. Section between nodes 4-2, 4-4, and 4-5 is largely adjacent to New Hamburg, a Wilmot Township Urban Area, and traverses small sections of Urban Residential areas at east side of the town.
	2.1.4 Development Objectives of Private Property Owners	To be considered in the detailed planning and preliminary design phases		
2.2 Land Use / Community	2.2.1 Indian Reserves	Potential to affect Indian Reserves	No Indian reserves within the analysis area.	No Indian reserves within the analysis area.
	2.2.2 First Nation Sacred Grounds	To be considered in the detailed planning and preliminary design phases		
	2.2.3 Urban and Rural Residential	Potential to affect urban and rural residential areas	**High** potential to affect urban residential areas • Predominantly utilizes existing corridor. • The corridor borders residential areas on both sides of Highway 7&8 in New Hamburg.	**High** potential to affect urban and rural residential areas • Predominantly utilizes new corridor. • The corridor borders the south edge of residential areas in New Hamburg and encroaches into planned development area east of Bleams Road.
	2.2.4 Commercial/Industrial	Potential to affect commercial and industrial areas	**Medium** potential to affect commercial and industrial areas. • Widening of the existing highway through New Hamburg includes modification or closure of some existing intersections, with a possible service road. This will result in some out-of-way travel where current intersection access is reduced (eg left turns no longer possible because of median barrier) or eliminated. • The corridor borders two highway commercial areas and an industrial area in New Hamburg. There is a potential for businesses to be displaced. • The local business community has indicated that it prefers this corridor.	**High** potential to affect commercial and industrial areas. • Business exposure is reduced because through traffic bypasses New Hamburg, and there is some out-of-way travel for local access to the corridor. • The corridor borders the south edge of an industrial area in New Hamburg. No commercial lands located within this corridor.
	2.2.5 Tourist Areas and Attractions (e.g. museums, theatres, etc.)	Potential to affect tourist areas and attractions	**Low** potential to affect tourist areas and attractions • No tourist attractions or areas located within or adjacent to the corridor.	**Low** potential to affect tourist areas and attractions • No tourist attractions or areas located within or adjacent to the corridor.
	2.2.6 Community Facilities / Institutions (e.g. hospitals, schools, places of worship, unique community features)	Potential to affect community facilities and institutions	**Medium** potential to affect community facilities and institutions • Corridor borders the Wilmot Township recreational facility and is adjacent to the New Hamburg Arena and Community Center.	**Medium** potential to affect community facilities and institutions • Corridor is adjacent to the Wilmot Township recreational facility.
	2.2.7 Municipal Infrastructure and Public Service Facilities	To be considered in the detailed planning and preliminary design phases		
2.3 Noise Sensitive Areas (NSAs) (residential	2.3.1 Highway Noise	Potential for increased traffic noise in NSAs	**Medium** potential to affect NSAs • Utilizes existing corridor through New Hamburg; several NSAs adjacent to the existing highway ROW which would likely experience insignificant increases in traffic noise relative to future no-build conditions	**High** potential to affect NSAs • Corridor borders southern New Hamburg, adjacent to existing and planned development areas in a rural environment

LEGEND

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areas and sensitive institutional uses)	2.3.2 Construction Noise	Not considered until the preliminary design phase		
2.4 Agriculture	2.4.1 Canada Land Inventory (CLI) Class 1,2,3 Land	Potential to affect specialty crop areas and/or areas of Canada Land Inventory Classes 1, 2 and 3 soils NOTES: CLI Class 1 - no significant growth limitations CLI Class 2 - moderate growth limitations CLI Class 3 - moderately severe growth limitations	**Low** potential to affect specialty crop areas and/or areas of Canada Land Inventory Classes 1, 2 and 3 soils. • Corridor predominantly utilizes the existing corridor, and is both outside and inside of an urban setting. • The portion of the corridor west of Walker Road is predominately situated within Huron Clay Loam soil series which 60% CLI Class 1 soils and 40% CLI Class 3 soils. Mid-way between Wilmot-Easthope Road and Walker Road is an area of Huron Loam soil, which is 100% CLI Class 2 soils. In addition, there are two (2) intersecting areas of Bottom Land soil series, which is 100% CLI Class 5 soils (heavy severe limitations). In the vicinity of Walker Road, there is an area of Tavistock Loam and Bennington Loam which are both 100% CLI Class 1 soils, and a small portion of Huron Clay Loam and Perth Loam which are 100% CLI Class 2 soils. • The portion of the corridor east of Walker Road is situated within several soil series and soil compositions. On the east side of the Nith River the soils are 60% Macton Loam, 20% Kirkland Sandy Loam and 20% Maysville Sandy Loam composition and are 100% CLI Class 3 soils. At two locations, the corridor traverses soils that are 30% Lisbon Sandy Loam, 30% Brant Loam and 40% Waterloo Fine Sandy Loam, which are 70% CLI Class 1 soils and 30% CLI Class 2 soils. There is also an isolated pocket of 30% Perth Sandy Loam, 30% Perth Clay Loam and 40% disturbed land is situated within the corridor which is 100% CLI Class 2 soils. The Elmira soils within the urban area of New Hamburg are not ranked from an agricultural perspective. However there is also a soil series composition of 60% Tavistock Loam, 20% Maplewood Loam and 20% Huron Clay Loam which is 60% CLI Class 1 soils, 20% CLI Class 2 soils and 20% Class 3 soils. On either side of Nafziger Road, the soils are 60% Perth Clay Loam and 40% Huron Clay Loam soil which are 100% CLI Class 2 soils. East of Nafziger Road the soils are 60% Huron Clay Loam, 20% Perth Clay Loam and 20% Wilmot Silty Clay Loam, which is 80% comprised of CLI Class 2 soils and 20% Class 4 soils (severe limitations). • At the east end of the corridor, there is an area which is 60% Perth Loam, 20% Perth Clay Loam and 20% Huron Clay Loam, which is 100% comprised of CLI Class 2 soils. There is also an area which is 60% Lisbon Sandy Loam, 20% Burford Gravelly Loam and 20% Burford Cobby Loam, which are all CLI Class 3 soil.	**High** potential to affect specialty crop areas and/or areas of Canada Land Inventory Classes 1, 2 and 3 soils. • Corridor is predominantly new corridor, and is outside of an urban setting. • The portion of the corridor west of Walker Road is predominately situated within Huron Clay Loam soil series which 60% CLI Class 1 soils and 40% CLI Class 3 soils. Mid-way between Wilmot-Easthope Road and Walker Road is an area of Huron Loam soil, which is 100% CLI Class 2 soils. In addition, there are two (2) intersecting areas of Bottom Land soil series, which is 100% CLI Class 5 soils (heavy severe limitations). In the vicinity of Walker Road, there is an area of Tavistock Loam and Bennington Loam which are both 100% CLI Class 1 soils, and a small portion of Huron Clay Loam and Perth Loam which are 100% CLI Class 2 soils. In addition, a portion of the corridor west of Walker Road is within an area of soils which are 60% Maplewood Loam and 40% Tavistock Loam soil which are 60% CLI Class 2 soils and 40% CLI Class 1 soils. • The portion of the corridor east of Walker Road is within several soil series and soil compositions. The portion of the corridor adjacent to Haysville Road is within Huron Clay Loam soils noted above. There is also an area of soils which are 40% Tuscola Loam, 30% Bennington Loam and 30% Tavistock Loam (100% comprised of CLI Class 1 soils) and an area that is 60% Lisbon Sandy Loam, 20% St. Jacobs Loam and 20% Maplewood Loam (80% CLI Class 2 and 20% Class 1 soils). On the east side of the Nith River is an area of soils which is 60% Macton Loam, 20% Kirkland Sandy Loam and 20% Maysville Sandy Loam which is 100% comprised of CLI Class 3 soils. Adjacent to this, is an area which is 60% Huron Clay Loam, 20% Huron Loam and 20% Kirkland Sandy Loam (80% of this soil type is CLI Class 2 soils and 20% is CLI Class 3 soils). • West of Nafziger Road is a small area of soils which is 60% Tavistock Loam, 20% Maplewood Loam and 20% Huron Clay Loam which is 60% CLI Class 1 soils, 20% CLI Class 2 soils and 20% CLI Class 3 soils. On either side of Nafziger Road is an area of soils which is 60% Perth Clay Loam and 40% Huron Clay Loam which are 100% CLI Class 2 soils. Located east of Nafziger Road is an area which is 60% Huron Clay Loam, 20% Perth Clay Loam and 20% Wilmot Silty Clay Loam, which is 80% comprised of CLI Class 2 soils and 20% Class 4 soils (severe limitations). • At the east end of the corridor, there is an area which is 60% Perth Loam, 20% Perth Clay Loam and 20% Huron Clay Loam, which is 100% comprised of CLI Class 2 soils. There is also an area which is 60% Lisbon Sandy Loam, 20% Burford Gravelly Loam and 20% Burford Cobby Loam, which are all CLI Class 3 soil.
	2.4.2 Agricultural - Farm Infrastructure	Potential to affect farm infrastructure (field tile drainage systems/outlets, irrigation systems, barns/silos/structures, etc.) NOTES: The broader issue of wells is addressed under the groundwater factor The broader issue of drainage along and across transportation rights-of-way is addressed as part of "drainage and hydrology engineering" that is undertaken for the selected alternative.	**Low** potential to affect farm infrastructure • Corridor predominantly utilizes existing corridor. Widening will cause minimal disruption/diversion of field tile drainage systems, and irrigation systems within an individual farm, and since most farm buildings are set back from the highway, minimal impact to farm buildings.	**High** potential to affect farm infrastructure • Corridor is predominantly new corridor, which may result in considerable disruption / diversion of field tile drainage systems, irrigation systems, and farm buildings within an individual farm.
	2.4.3 Agriculture – Operations on Individual Farms	Potential to sever/disrupt in-farm field operations (planting, harvesting, grazing, nutrient management, etc)	**Low** potential to affect in-farm field operations. • Corridor predominantly utilizes existing corridor. Widening may result in the loss of small amounts of farm frontage, but will cause minimal disruption of planting, harvesting, grazing, nutrient management etc within an individual farm.	**High** potential to affect in-farm field operations • Corridor is predominantly new corridor, which may result in major severance / disruption of planting, harvesting, grazing, nutrient management within an individual farm.

LEGEND

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	2.4.4 Agriculture – Transportation Linkages between Multiple-Farm Operations	Potential to sever/disrupt transportation linkages between multiple-farm operations (movement between linked multiple-farm operations of equipment, materials, workers, etc) NOTES: The generic issue of shipments to/from farms is covered under the broader transportation sub-factor "movement of goods". The generic issue of farm resident/worker movement to/from farms is covered under the broader transportation sub-factor "movement of people". Movement of equipment, materials and workers between multiple-farm operations will occur in the context of increased overall traffic on roadways within the analysis area regardless of the alternative selected.	**Low** potential to sever/disrupt transportation linkages between multiple-farm operations. • Median barrier may cause some out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms.	**High** potential to sever/disrupt transportation linkages between multiple-farm operations. • Corridor is predominantly new corridor, which may result in some out-of-way travel for movement of equipment, materials, or workers between farms by changing current road connections between farms.
2.5 Land Use / Resources	2.5.1First Nation Treaty Rights or Use of Land and Resources for Traditional Purposes (e.g. hunting, fishing, harvesting of country foods, harvesting of medicinal plants)	Potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes NOTE: The protection of the natural environment is important to the continued use of lands for traditional First Nations activities.	**Low** potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Corridor predominantly utilizes existing corridor.	**Medium** potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Corridor is predominantly new corridor.
	2.5.2 Parks and Recreational Areas (e.g. national/provincial parks, conservation areas, municipal parks, public spaces, golf courses, trails, greenways and open space linkages)	Potential to affect parks and recreational areas.	**Medium** potential to affect parks and recreational areas • Corridor borders open space and a major recreation area in New Hamburg. Improvements at the intersection at Peel Street / Haysville Road may intrude into recreational areas east of the intersection.	**Medium** potential to affect parks and recreational areas • Corridor borders open space in New Hamburg and a major recreation area.
	2.5.3 Aggregates, Mineral Resources	Potential to affect aggregate and mineral resources sites	**Low** potential to affect aggregate and mineral resource sites • The existing corridor borders an area of aggregate extraction; however improvements to this corridor would not intrude into those areas.	**Low** potential to affect aggregate and mineral resource site • No aggregate and mineral sites located within this corridor.
2.6 Major Utility Transmission Corridors (e.g. railroads, hydro, gas, oil)		Potential to affect major utility transmission corridors	**Low** potential to affect major utility transmission corridors • No major transmission corridors within/crossing corridor.	**Low** potential to affect major utility transmission corridors • No major transmission corridors within/crossing corridor.
2.7 Contaminated Property and Waste Management (e.g. Landfills, hazardous waste sites, former industrial areas and other known contaminated sites)		Potential to affect landfills (open and closed), hazardous waste sites "brownfield" areas, and other known contaminated sites.	**Low** potential to affect known contaminated sites • No sources of contamination identified within this corridor.	**Low** potential to affect known contaminated sites • No sources of contamination identified within this corridor.
2.8 Landscape Composition	2.8.1 Scenic Composition	To be considered in the detailed planning and preliminary design phases		

LEGEND

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	2.8.2 Sensitive Viewer Groups	To be considered in the detailed planning and preliminary design phases		
	2.8.3 Scenic Value of Views/Vistas from the transportation facility	To be considered in the detailed planning and preliminary design phases		
	2.8.4 Specimen Trees	To be considered in the detailed planning and preliminary design phases		
2.9 Air Quality	2.9.1 Regional Air Quality and Total Contaminant / Greenhouse Gas Emissions	Potential to reduce the regional air quality consequences of traffic congestion	**Medium** potential to reduce the regional air quality consequences of traffic congestion • Several suburban intersections and other existing traffic sources.	**High** potential to reduce the regional air quality consequences of traffic congestion • Few rural intersections and few other existing traffic sources.
	2.9.2 Local Air Quality and Sensitive Receptors to Air Pollutants	Potential to affect local receptors sensitive to air pollutants	**Medium** potential to affect local receptors sensitive to air pollutants • Predominantly utilizes existing corridor • Critical receptors within 600 m; several sensitive receptors	**Medium** potential to affect local receptors sensitive to air pollutants • Predominantly utilizes new corridor, bordering existing and planned development areas • Critical receptors within 600 m; several sensitive receptors
SUMMARY OF LAND USE/SOCIO-ECONOMIC ENVIRONMENT			Key land use / socio-economic environment conditions that differentiate Corridor 4A from Corridor 4B in Section 4 are the following: • High potential to support provincial land use policies • High potential to support municipal official plans • High potential to affect urban and rural residential area • Medium potential to affect commercial and industrial areas • Medium potential to affect noise sensitive areas • Low potential to affect Canada Land Inventory Classes 1, 2 and 3 soils • Low potential to affect farm infrastructure • Low potential to affect in-farm field operations • Low potential to sever/disrupt transportation linkages between multiple-farm operations • Low potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • Medium potential to reduce regional air quality consequences of traffic congestion • Medium potential to affect local receptors sensitive to air pollutants	Key land use / socio-economic environment conditions that differentiate Corridor 4B from Corridor 4B in Section 4 are the following: • Low potential to support provincial land use policies • Medium potential to support municipal official plans • High potential to affect urban and rural residential area • High potential to affect commercial and industrial areas • High potential to affect noise sensitive areas • High potential to affect Canada Land Inventory Classes 1, 2 and 3 soils • High potential to affect farm infrastructure • High potential to affect in-farm field operations • High potential to sever/disrupt transportation linkages between multiple-farm operations • Medium potential to affect First Nation Treaty Rights or use of land and resources for traditional purposes • High potential to reduce regional air quality consequences of traffic congestion • Medium potential to affect local receptors sensitive to air pollutants
			Corridor 4A is completely based upon the existing highway. As a result: • It has high potential to support provincial/federal land use policies/goals and objective and municipal official plans; • It has low potential impacts to residential and commercial/industrial lands, agricultural lands/operations and resources, primarily because of its low "footprint" impact; and • It results in comparable potential impacts from a noise and local air quality perspective given that the existing corridor currently passes through New Hamburg. **Therefore, from a land use / socio-economic environment perspective, Corridor 4A is preferred in Section 4.**	
3. CULTURAL ENVIRONMENT FACTORS				
3.1 Cultural Heritage – Built Heritage and Cultural Landscapes	3.1.1 Buildings or "Standing" Sites of Architectural or Heritage Significance or Ontario Heritage Foundation Easement Properties	Potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easements properties	**Low** potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties. • No sites identified.	**Low** potential to affect buildings or "standing" sites of extreme local, provincial or national interest or Ontario Heritage Foundation easement properties. • No sites identified
	3.1.2 Heritage Bridges	Potential to affect heritage bridges	**Low** potential to affect inventoried heritage bridges	**Low** potential to affect inventoried heritage bridges
	3.1.3 Areas of Historic 19th Century Settlement	Potential to affect areas of historic 19th century settlement	**Low** potential to affect areas of historic 19th century settlement. • No areas of concentrated 19th century development.	**Low** potential to affect areas of historic 19th century settlement. • No areas of concentrated 19th century development.
	3.1.4 Cultural Heritage Landscapes	To be considered in the detailed planning and preliminary design phases		

LEGEND

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Note – Evaluation of the short list of corridor alternatives is based on a qualitative assessment of each corridor (high, medium or low) and is based on secondary source information presented In Report F, Part 1 (June, 2008)
Relevant and site-specific information for each criterion/cell is provided to justify the high, medium or low assessment

SECTION # 4 FROM WEST OF NEW HAMBURG TO EAST OF NEW HAMBURG

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES CORRIDOR ALTERNATIVE 4A (Existing Highway 7&8 Corridor through New Hamburg) Nodes: 4-1, 4-2, 4-3, 4-5	CORRIDOR ALTERNATIVE 4B (New Hamburg South Bypass Corridor) Nodes: 4-1, 4-2, 4-4, 4-5
	3.1.5 First Nations Burial Sites	To be considered in the detailed planning and preliminary design phases		
	3.1.6 Cemeteries	Potential to affect cemeteries	**Low** potential to affect cemeteries • No cemeteries identified	**Low** potential to affect cemeteries • No cemeteries identified
3.2 Cultural Heritage - Archaeology	3.2.1 Pre-Historic and Historic First Nations' Archaeological Sites	Potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest	**Low** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest • Corridor predominantly utilizes existing corridor with low archaeological potential because it has been considerably disturbed through past construction activities.	**High** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest. • Corridor is predominantly new corridor with high archaeological potential because it is in "green field" area with little previous disturbance through construction.
	3.2.2 Historic Euro-Canadian Archaeological Sites	Potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest	**Low** potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest • Corridor predominantly utilizes existing corridor with low archaeological potential because it has been considerably disturbed through past construction activities.	**High** potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest. • Corridor is predominantly new corridor with high archaeological potential because it is in "green field" area with little previous disturbance through construction.
SUMMARY OF CULTURAL ENVIRONMENT			Key cultural environment conditions that differentiate Corridor 4A from Corridor 4B in Section 4 are the following: • Low potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest • Low potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest	Key cultural environment conditions that differentiate Corridor 4B from Corridor 4B in Section 4 are the following: • High potential to affect significant pre-historic and historic First Nation archaeological sites of extreme local, provincial or national interest • High potential to affect significant historic Euro-Canadian archaeological sites of extreme local, provincial or national interest
			Corridor 4A is completely based upon the existing highway. As a result: • It has low potential impact to buildings of heritage significance and areas of historic 19th century settlement; and • It has low potential impact to archaeology because the existing corridor has already been disturbed by road construction. **Therefore, from a cultural environment perspective, Corridor 4A is preferred in Section 4.**	
4. AREA ECONOMY FACTORS – Deleted due to duplication of considerations addressed in Factors 2.2.4, 2.2.5, 5.1.2, 5.1.3, and 5.4.3 (deletion eliminated double-counting).				
5. TRANSPORTATION FACTORS				
5.1 Area Transportation System Capacity and Efficiency	5.1.1 Federal/Provincial/ Municipal transportation planning policies/goals/ objectives	Potential to support federal/provincial/ municipal transportation planning policies/goals/objectives NOTES: Provincial Policy Statement (PPS) Policy 1.6.5.1 stipulates that transportation systems should be provided which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs. PPS Policy 1.6.5.2 stipulates that efficient use shall be made of existing and planned infrastructure.	**Medium** potential to support federal/provincial/municipal transportation planning policies/goals/objectives • Provides transportation system that meets objectives of PPS policy 1.6.5.1. Although corridor utilizes existing roadway, the introduction of a median barrier and modified intersections/interchanges would provide a facility that is safe and efficient, and is effective in moving people and goods based on the 2031 travel demand projections. • Corridor utilizes existing roadway, thereby meeting the objectives of PPS policy 1.6.5.2.	**Medium** potential to support federal/provincial/municipal transportation planning policies/goals/objectives • Provides transportation system that meets objectives of PPS policy 1.6.5.1. Corridor is predominantly new corridor, which would be more safe and efficient and more effective in moving people and goods than use of existing roadway/highway. • Corridor is predominantly new corridor, which would not meet the objectives of PPS policy 1.6.5.2.
	5.1.2 Efficient movement of people	Potential to support the efficient movement of people between communities and regions based on Level of Service (LOS) and volume to capacity (v/c) on a network, screenline and critical link basis	**High** potential to support efficient movement of people • Corridor utilizes existing roadway, but good level of service achieved through the introduction of median barrier and modified intersections/interchanges. • Direct access to New Hamburg.	**High** potential to support efficient movement of people. • Corridor is predominantly new corridor, with high level of service due to few intersections and no driveways. • Some out-of-way travel for local access from New Hamburg to corridor.

LEGEND

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SECTION # 4 FROM WEST OF NEW HAMBURG TO EAST OF NEW HAMBURG

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES	
			CORRIDOR ALTERNATIVE 4A (Existing Highway 7&8 Corridor through New Hamburg) Nodes: 4-1, 4-2, 4-3, 4-5	**CORRIDOR ALTERNATIVE 4B (New Hamburg South Bypass Corridor) Nodes: 4-1, 4-2, 4-4, 4-5**
	5.1.3 Efficient movement of goods	Potential to support efficient movement of goods between urban growth centres and regional intermodal facilities based on road network and Highway 7&8 corridor performance measures (LOS and travel speed)	**High** potential to support efficient movement of goods • Corridor utilizes existing roadway, but good level of service achieved through the introduction of median barrier and modified intersections/interchanges. • Direct access to New Hamburg.	**High** potential to support efficient movement of goods. • Corridor is predominantly new corridor, with high level of service due to few intersections and no driveways. • Some out-of-way travel for local access from New Hamburg to corridor.
5.2 Area Transportation System Reliability / Redundancy		Potential to support system reliability and redundancy for travel (people and goods) between regions and communities during adverse conditions	**Low** potential to support system reliability and redundancy • Corridor utilizes existing roadway, which does not provide a new connection between regions and communities during adverse conditions.	**High** potential to support system reliability and redundancy • Corridor is predominantly new corridor, which provides new connection between regions and communities during adverse conditions.
5.3 Safety	5.3.1 Traffic Safety	Potential to improve traffic safety based on opportunity to reduce congestion on area road network (LOS and v/c) and reduce the frequency of intersections and entrances in the Highway 7&8 corridor	**High** potential to improve traffic safety • Although it utilizes the existing Highway 7&8 corridor, introduction of median barrier and modified intersections/interchanges will address long-term traffic demands and improve the safety characteristics of the corridor	**High** potential to improve traffic safety • Most of corridor is new corridor with limited number of access points at intersection / interchange locations.
	5.3.2 Emergency Access	To be considered in the detailed planning and preliminary design phases		
5.4 Mobility and Accessibility	5.4.1 Modal integration, balance and efficiency	Potential to improve modal choice and increase mode split for person trips between communities, regions and major transit station areas based on connection to concentrations of population, travel performance indicators (LOS, v/c, travel speed) at critical screenlines and on potential to provide higher order transit service in the Highway 7&8 corridor.	**Medium** potential to improve modal integration, balance and efficiency. • Potential transit in corridor supported by direct connection to New Hamburg and the development along Highway 7&8. • Use of existing Highway 7&8 corridor limits opportunities to provide higher order transit service.	**Medium** potential to improve modal integration, balance and efficiency • Transit in corridor not supported by bypass of New Hamburg. • Does not use existing corridor so there is the opportunity to provide higher order transit service.
	5.4.2 Linkages to Population and Employment Centres	Potential to improve linkages to population and employment centres for people and goods movement	**High** potential to improve linkages to population and employment centres • Direct connection to New Hamburg.	**Medium** potential to improve linkages to population and employment centres • Bypass of New Hamburg is in close proximity.
	5.4.3 Recreation and Tourism Travel	Potential to support recreation and tourism travel within and to/from the Analysis Area by provision of higher order network (roads and transit) continuity and connectivity and through network performance indicators (LOS, v/c, travel speed)	**High** potential to support recreation and tourism travel • Direct route; passes through New Hamburg.	**Medium** potential to support recreation and tourism travel • Less direct route; does not pass through New Hamburg.
	5.4.4 Accommodation for pedestrians, cyclists and snowmobiles	Potential to accommodate pedestrians, cyclists within critical travel corridors in urbanized areas and snowmobiles in recognized rural trails	**Low** potential to support pedestrians. • Although urban area better supports justification for sidewalks, a high order facility with median barriers does not lend itself to pedestrian use. • No designated bicycle lanes or snowmobile trails identified.	**Low** potential to support pedestrians. • Rural area does not support sidewalks • No designated bicycle lanes or snowmobile trails identified.
5.5 Network Compatibility	5.5.1 Network Connectivity	Potential to improve transportation system connectivity within and to/from the analysis area	**High** potential to improve transportation system connectivity • Direct connection	**High** potential to improve transportation system connectivity • Direct connection
	5.5.2 Flexibility for Future Expansion	Potential to address future transportation needs beyond the forecasted planning horizons	**High** potential to address future transportation needs beyond the planning horizon • While a significant component of corridor is within the New Hamburg urban boundary, introduction of an urban cross-section could accommodate future expansion through the urban area	**High** potential to address future transportation needs beyond the planning horizon. • Corridor is outside the New Hamburg urban boundary, and since it is predominantly new corridor, the right-of-way could accommodate future expansion
5.6 Engineering	5.6.1 Constructability	Potential constructability issues considering physical, property or environmental constraints	**Medium** potential for constructability issues • Utilizes existing Highway 7&8 corridor; confined environment through New Hamburg	**Medium** potential for constructability issues • Utilizes segment of existing Highway 7&8 corridor; requires new crossing of Nith River
	5.6.2 Compliance with Design Criteria	To be considered in the detailed planning and preliminary design phases		

LEGEND

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SECTION # 4 FROM WEST OF NEW HAMBURG TO EAST OF NEW HAMBURG

FACTORS/SUB-FACTORS	CRITERIA	INDICATORS	CORRIDOR ALTERNATIVES CORRIDOR ALTERNATIVE 4A (Existing Highway 7&8 Corridor through New Hamburg) Nodes: 4-1, 4-2, 4-3, 4-5	CORRIDOR ALTERNATIVE 4B (New Hamburg South Bypass Corridor) Nodes: 4-1, 4-2, 4-4, 4-5
5.7 Traffic Operations		Potential for negative impact on traffic operations due to factors such as design features, private access, and transportation network connections	**High** potential for negative impact on traffic operations. • Corridor utilizes existing roadway, and part of it is in urban area with multiple intersections.	**Low** potential for negative impact on traffic operations. • Corridor predominantly does not utilize existing roadways.
SUMMARY OF TRANSPORTATION		**It should be noted that the process utilized to generate corridor alternatives ensures that each corridor is capable of satisfying transportation criteria.**	Key transportation issues that differentiate Corridor 4A from the other corridor alternatives in Section 4 are the following: • Low potential to support system reliability and redundancy for travel (people and goods) between regions and communities during adverse conditions • High potential to improve linkages between population and employment centres • High potential to support recreation and tourism travel within and to/from the Analysis Area • High potential for negative impact on traffic operations due to factors such as design features, private access, and transportation network connections	Key transportation issues that differentiate Corridor 4B from the other corridor alternatives in Section 4 are the following: • High potential to support system reliability and redundancy for travel (people and goods) between regions and communities during adverse conditions • Medium potential to improve linkages between population and employment centres • Medium potential to support recreation and tourism travel within and to/from the Analysis Area • Low potential for negative impact on traffic operations due to factors such as design features, private access, and transportation network connections
			Corridors 4A and 4B are comparable in their ability to support transportation criteria for most transportation factors. **Therefore, from a transportation perspective, Corridors 4A and 4B are preferred in Section 4.**	

SUMMARY OF EVALUATION

Summary of Natural Environment

Corridor 4A is completely based upon the existing highway. As a result:
- It has low potential impacts to the natural environment, primarily because of the relatively low "footprint" impact;
- Its potential impacts to fisheries and aquatic ecosystems and to watershed features tend to be of a nature that can be spanned/bridged;
- Its potential impacts to wetlands and forests tend to be "edge effects" and therefore relatively low; and
- Its potential impact to groundwater is associated with bridge construction over the Nith River, and would therefore be temporary.

Therefore, from a natural environment perspective, Corridor 4A is preferred in Section 4.

Summary of Land Use / Socio-Economic Environment

Corridor 4A is completely based upon the existing highway. As a result:
- It has high potential to support provincial/federal land use policies/goals and objective and municipal official plans;
- It has low potential impacts to residential and commercial/industrial lands, agriculture lands/operations and resources, primarily because of its low "footprint" impact; and
- It results in comparable potential impacts from a noise and local air quality perspective given that the existing corridor currently passes through New Hamburg.

Therefore, from a land use / socio-economic environment perspective, Corridor 4A is preferred in Section 4.

Summary of Cultural Environment

Corridor 4A is completely based upon the existing highway. As a result:
- It has low potential impact to buildings of heritage significance and areas of historic 19th century settlement; and
- It has low potential impact to archaeology because the existing corridor has already been disturbed by road construction.

Therefore, from a cultural environment perspective, Corridor 4A is preferred in Section 4.

Summary of Transportation

Corridors 4A and 4B are comparable in their ability to support transportation criteria for most transportation factors. Therefore, from a transportation perspective, Corridors 4A and 4B are preferred in Section 4.

Conclusion

Based upon the above, Corridor 4A is preferred in Section 4.

LEGEND

MOST PREFERRED	MODERATELY PREFERRED	LEAST PREFERRED	NO DIFFERENCE	SELECTED CORRIDOR