

**Study Plan to Continue the
Preliminary Design and Class Environmental Assessment Study
Argyle Street Bridge, Caledonia Ontario
W.P. 3805-01-00**

DRAFT

**STUDY PLAN TO CONTINUE THE
PRELIMINARY DESIGN AND CLASS ENVIRONMENTAL ASSESSMENT STUDY**

**FOR
ARGYLE STREET BRIDGE
CALEDONIA, ONTARIO**

W.P. 3805-01-00

**DRAFT
September 10, 2007**

TABLE OF CONTENTS

- 1.0 Introduction and Commitments**
- 2.0 Project Description**
 - 2.1 Study Area
 - 2.2 Problems and Opportunities
 - 2.3 Project Assumptions
- 3.0 Study Principles and Processes**
- 4.0 Alternatives and Their Evaluation**
 - 4.1 Evaluation Processes and Their Application
 - 4.2 Proposed Evaluation Factors
 - 4.3 The Proposed Preliminary Design Alternatives
- 5.0 Outreach and Consultation**
 - 5.1 Consultation Plan
 - 5.2 Heritage Stakeholder Meeting
 - 5.3 Preliminary Design Factor Weighting Workshop
 - 5.4 Public Information Centres and Community Meetings
 - 5.5 Public Notices in Newspapers
 - 5.6 Stakeholder Contact Lists
- 6.0 Schedule for the Long and Short Term Class EA Studies**

Appendix A – Project Background

Appendix B – Study Principles and Processes

1.0 INTRODUCTION AND COMMITMENTS

The Ministry of Transportation (MTO) is continuing the Preliminary Design (PD) and Class Environmental Assessment (EA) study for the rehabilitation or replacement of the Argyle Street Bridge. The purpose of this Study Plan is to outline the strategy for completing the study and to obtain agreement from our key stakeholders on the process to be followed.

Following the second PIC in June 2007, MTO had anticipated a delay in finalizing of the PD and EA Study in order to address the recent amendments to the Ontario Heritage Act (OHA) and the heritage significance of this bridge within the Class EA process. Additional discussions with study stakeholders and further examination of the project challenges has provided a more comprehensive appreciation of the project complexities and provided the opportunity to develop this strategy for continuing the study. In particular, this strategy includes confirmation of the ministry's mandate and jurisdiction regarding this bridge, identification of a 50 year planning period to consider impacts associated with future rehabilitation work, and development of additional alternatives to address project challenges. The project challenges and assumptions are defined in Sections 2.2 and 2.3.

The study will continue to follow the Class EA for Provincial Transportation Facilities (2000) for Group B projects. As the proponent undertaking the Class EA, MTO, will make the decision about which Preliminary Design alternative achieves the best overall balance of transportation engineering, individual environmental factor impacts and overall environmental impact, considering all input that has been received through continuing consultation on these issues.

The EA process is iterative, and consultation with stakeholders on transportation engineering and environmental protection issues may result in the modification or even re-examination of previous decisions. Therefore, MTO will build on the information already gathered for this study and will consider additional information and feedback provided by stakeholders in response to the ministry's recommendations at the second Public Information Centre (PIC) in June 2005.

The MTO agrees to continue consultation with key stakeholders and to consider the input from stakeholders into our evaluation of alternatives. This Study Plan establishes how the ministry will consider and evaluate the preliminary design alternatives.

2.0 PROJECT DESCRIPTION

The Argyle Street Bridge is a provincially significant heritage bridge located on the Grand River, a Canadian Heritage River. This PD and Class EA study will provide a recommendation for the preferred long term strategy (either rehabilitation or replacement) of the Argyle Street Bridge based on an evaluation of both environmental and engineering factors. Following this recommendation, the project team will develop the preferred alternative plan to a preliminary design level of detail. A summary of the project to date is provided in Appendix A.

Concurrently, the Ministry is proceeding with a separate Class EA study for the short term strategy (immediate short term repairs (5 to 10 years)) of the Argyle Street Bridge. If the preferred alternative for the long term study is rehabilitation, MTO may instead elect to carry out a long term rehabilitation strategy (subject to receiving environmental clearance) in order to minimize impacts on the community and businesses. A schedule to carry out both Class EAs simultaneously is provided in Section 6.

2.1 Study Area

The study area for the development of alternatives includes the area within approximately 200m upstream and downstream of the existing Argyle Street Bridge and the municipal intersections north and south of the bridge (see Map 1). It includes the west side of Argyle Street (north and south of the bridge), the northwest side of Caithness Street, the area of potential impact by construction activities around the existing bridge location, the consideration of traffic detours and construction staging, and the municipally-owned approaches to the bridge. The study area includes the consideration of the viewsheds along the river and the cultural landscapes associated with the bridge. The viewsheds and cultural landscapes are defined in the heritage reports prepared as part of this project.

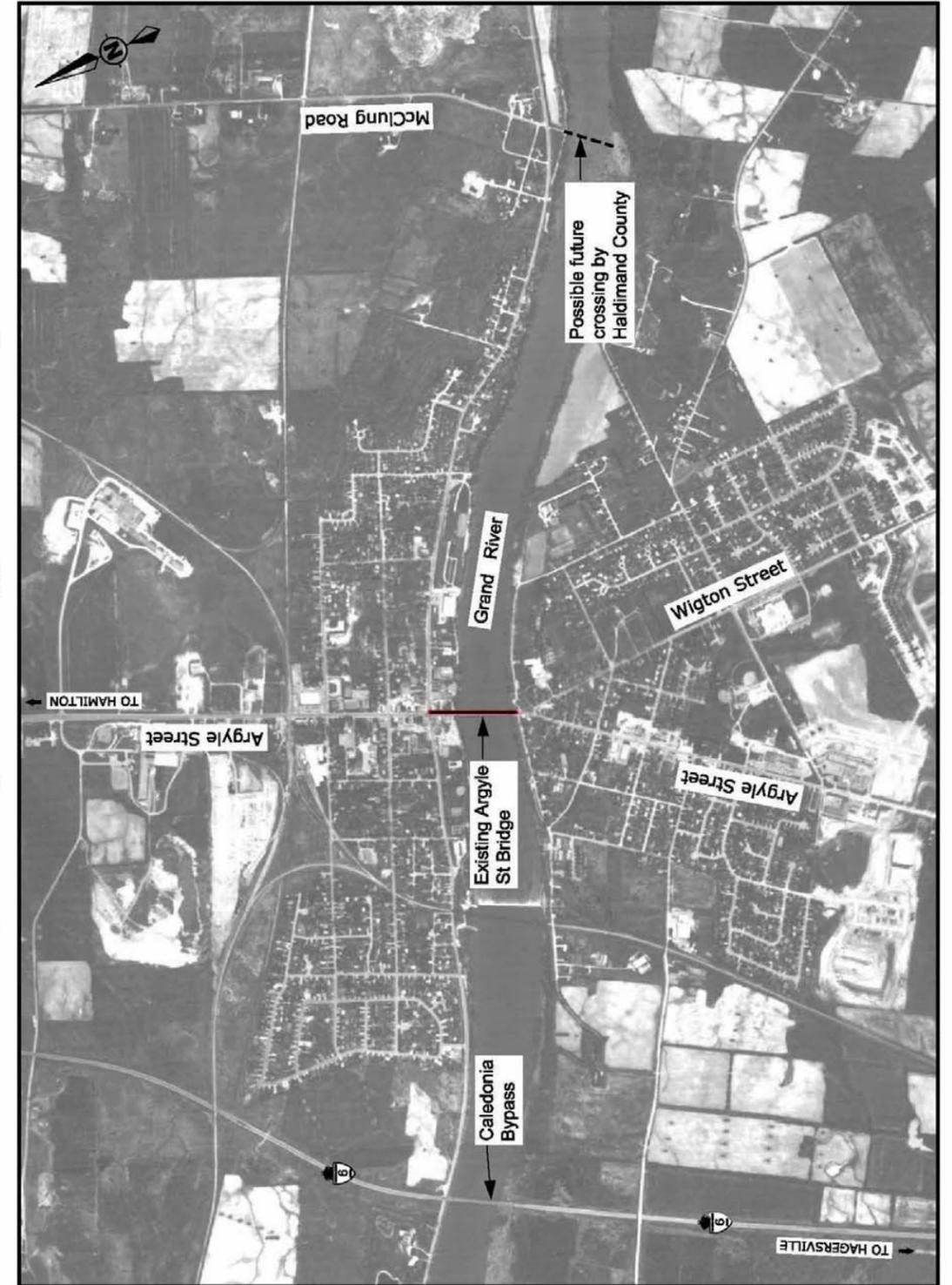
The rationale for developing and evaluating reasonable alternatives is complicated by the unique set of circumstances. MTO owns only the bridge, while Argyle Street and the approaches to the bridge were transferred to Haldimand County following the completion of the Highway 6 By-pass. However, MTO is responsible for providing a safe and efficient crossing of the Grand River on Argyle Street South, and to ensure compatibility with the municipal transportation system and system needs, as required by the Class EA.

Haldimand County's Traffic Study (November 2004) recommended that the Argyle Street Bridge be widened to 3 lanes to accommodate future traffic requirements in Caledonia. The traffic study also identified the need for another municipal road crossing the river at McClung Road within the 20 year horizon. For this study, the transportation factors used in the evaluation of alternatives will consider **only** the need for a third lane at the existing Argyle Street bridge location in keeping with MTO's jurisdiction and considering the Traffic Study recommendations. The 20 year need for an additional

crossing at a different location within the Village of Caledonia is considered to be a municipal undertaking and will not be considered in this study.

Many construction staging and traffic detour alternatives have been developed and evaluated over the course of the study, including consideration of temporary bridge crossing locations upstream and downstream of the bridge. Due to significant private property impacts, impacts on municipal roads that are beyond MTO's jurisdiction, and substandard geometrics, temporary crossings that are not immediately adjacent to the existing crossing or that are outside of MTO's jurisdiction will not be considered further. This study will develop and evaluate bridge and traffic detour alternatives at the existing bridge location or immediately adjacent to the existing bridge, or at other locations within MTO's jurisdiction, such as the Highway 6 By-Pass.

Map 1 Study Area - Argyle Street Bridge



2.2 Project Challenges

The following is a list of the project challenges, or key issues that have been identified through MTO's PD and Class EA Study investigations and consultation activities to date. These are commonly referred to as the problems and opportunities that need to be considered in developing and evaluating a reasonable range of alternatives under the Class EA process:

Natural Environment

1. The Argyle Street Bridge crosses the Grand River, which supports a diverse array of fish and other aquatic species, including fish species of Special Concern by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and several protected species of freshwater mussels.

Socio-Economic Environment

2. The bridge carries a high volume of local traffic over the Grand River on Argyle Street, which is the main street in the Village of Caledonia. Argyle Street is a mix of residential homes and commercial businesses, including retail shops, food and financial services that are dependant on access Argyle Street traffic and access.
3. The Study Area is within the Haldimand Tract, which is a tract of land stretching 6 miles from either side of the Grand River, from its source to Lake Erie. The British Crown granted this tract to the Six Nations on October 25, 1784, as reward to the Six Nations for their loyal military service and support of the Crown during the American Revolution. The Haldimand Tract, is approximately 950,000 acres (3800 km²) and includes major cities such as Brantford, Kitchener and Waterloo

Cultural Environment

4. The Argyle Street Bridge is a provincially significant heritage bridge that provides a landmark gateway to the Caledonia town centre, and a visual landmark for the community.
5. The former toll keeper's house, built in 1875, is a designated Heritage house, located adjacent to the bridge on the northeast corner.

Transportation and Engineering

Traffic Operations

6. Emergency services response times must be maintained throughout any type of construction work given the population distribution on both sides of the Grand River, distance from other river crossings, and considering the locations of the ambulance bays and fire department.
7. Haldimand County completed a Traffic Impact Study (TIS) in November 2004, which recommended the provision of a 3rd lane on the bridge and improvements

at both intersections located north and south of the bridge to substantially enhance the traffic operations during the peak hour periods along the corridor. This 3rd lane is needed to accommodate northbound traffic that is waiting to make a left turn onto Regional Road 54, without blocking northbound through traffic.

The 2004 Average Annual Daily Traffic (AADT) crossing the Grand River, on the Argyle Street Bridge was 20,900 and is projected to increase to 27,200 by 2014. These volumes are considered to be substantial for a two lane facility.

Engineering Considerations

8. The existing bridge is structurally deteriorated and in need of rehabilitation with structural strengthening, or replacement.
9. The bridge is currently posted with a load limit, restricting trucks exceeding the load limit.
10. The foundation of the bridge is supported on deteriorated rock resulting from gypsum solutioning. Embedded gypsum occurs in abundance in this area, and when exposed to water, the gypsum dissolves leading to karst formations and voids. Further foundations investigations are being completed to establish the extent of deterioration.
11. The hydraulic analysis provided by the Grand River Conservation Authority (GRCA) indicated the existing structural openings could not accommodate the 1 m freeboard requirement for the 100 year design flow as required by the Canadian Highway Bridge Design Code (CHBDC). The freeboard is essential to ensure that debris such as tree limbs and floating ice will pass under the structure unimpeded reducing the risk of upstream flooding.
12. The bridge lane widths are deficient and the shoulders inadequate based on current MTO standards. Current standards for a 2 lane urban structure would require a minimum 9 m clear distance rather than the existing 7 metres.
13. Protection is required for the bridge arches/hangers to maintain the integrity of the bridge and protect drivers in the event of an errant vehicle. Currently, they are protected by cables tied directly to the members. This type of protection does not meet current standard practices for protection against roadside hazards.

Other Challenges

14. Within the vicinity of the Argyle Street Bridge, MTO's jurisdiction is limited to the existing Argyle Street Bridge and the Highway 6 By-Pass.

2.3 Project Assumptions

Based on the comments received to date through the PD and Class EA Study, and MTO's detailed review of the construction staging impacts, these are the project assumptions that will influence the generation and evaluation of reasonable alternatives:

1. **In general, MTO bridges require rehabilitation every +/-25 years.**

There are many bridge rehabilitation strategies, depending on the structural deficiencies identified. For the purposes of this study we will assume a structural rehabilitation every +/-25 years.
2. **This study will consider a planning horizon of 50 years considering both the structural lifecycle and the impacts to the community.**

One of the key issues related to the long-term rehabilitation of the Argyle Street Bridge is the requirement for a full deck replacement which would result in closure of the bridge for a 2 year period.

With the 50 year planning horizon, this study can consider providing a holding long-term rehabilitation strategy (+/-20 years) followed by construction of the ultimate long-term rehabilitation. The holding long-term strategy does not include deck replacement and allows for a single lane of traffic across the bridge throughout construction.
3. **Throughout the 50 year planning horizon, local traffic, including emergency service vehicles and pedestrians must have access across the Grand River at this location on either a temporary or permanent crossing.**

The Argyle Street Bridge provides a crucial connection over the Grand River for emergency services, residents and businesses in the Village of Caledonia and surrounding community.
4. **A minimum of one lane of traffic must be provided across the Grand River within the vicinity of the Argyle Street Bridge during construction, whether the recommended preferred alternative is rehabilitation or replacement.**

Based on the traffic studies and modelling, consultation with emergency services to date, the location of the Fire Hall (located on the north side of the river), the volunteer fire fighter protocol and the Ambulance depot (located on the south side of the river), the Study Team has determined a minimum of

one lane of traffic must be maintained across the Grand River within the vicinity of the Argyle Street Bridge.

In addition, if it is determined that only one lane of traffic can be provided during construction, the project team recommends provision of a single southbound lane across the Grand River, detouring of the northbound traffic to the Highway 6 By-Pass and provision of an opticom or equivalent traffic management system to enable emergency service vehicles to control the traffic signals, allowing them to cross unimpeded.

5. **The transportation factors used in the evaluation of alternatives will consider only the existing bridge location and will not consider the 20 year need for an additional municipal road crossing the river within the Village of Caledonia, or the final street parking layout on Argyle Street.**

An additional crossing of the Grand River is outside of the MTO's and MCL's jurisdiction. Similarly, the final layout of street parking on Argyle Street north of the bridge will be Haldimand County's responsibility. This study will not address responsibility, authority and decisions for transportation facilities outside MTO's and MCL's jurisdiction.
6. **The Province of Ontario will own the bridge until a long term rehabilitation (including deck replacement) or bridge replacement has been completed. Following construction of a long term rehabilitation or replacement, it is the MTO's intention to transfer the bridge to Haldimand County.**

3.0 STUDY PRINCIPLES AND PROCESSES

As set out in the Class EA for Provincial Transportation Facilities, the Preliminary Design Study Stage of the Argyle Street Bridge project will include a number of phases:

- Generation and evaluation of the long-term alternatives/strategies
- Evaluation and selection of the preferred long-term alternative/strategy; and
- Development of the plan/design for the preferred long-term alternative/strategy.

Also in compliance with the Class EA, the Argyle Street Bridge project will be conducted by applying the following groups of study principles within the framework of the study stages and phases. The detailed study principles are described in Appendix B:

- **Transportation engineering principles**
 - Study principles for transportation engineering provide an effective and safe transportation system;
- **Environmental protection principles**
 - Study principles provide for effective environmental protection;
- **Evaluation principles**
 - Study principles provide for effective evaluation;
- **Stakeholder outreach, consultation and documentation principles**
 - Study principles provide for effective consultation.

The overall goal of any project carried out under the Class EA is to satisfy the purpose of the undertaking while striking a balance between the transportation engineering and environmental protection principles. As the proponent, MTO is also required to consider a broad range of environmental factors including natural, socio-economic and cultural/heritage factors in accordance with the Class EA.

4.0 ALTERNATIVES AND THEIR EVALUATION

The Ontario *Environmental Assessment Act* defines both “alternatives to” the undertaking and “alternative methods” for carrying out the undertaking. In accordance with the Class EA, the alternatives examined during the Preliminary Design stage are alternative methods.

For the Argyle Street Bridge Preliminary Design and Class EA Study, we have determined that “alternative methods” are the bridge alternatives at the same location as the existing bridge (see Section 2.1) and the consideration of the municipally-owned approaches to the bridge, including: Do Nothing, Rehabilitation; or Replacement.

Reasonable alternatives will be developed to consider the structural lifespan over a 50 year period, considering the impact on the community of subsequent rehabilitation work that will be required. The rationale for this decision and the description of the alternatives to be considered for this study are discussed in Section 4.4.

4.1 Evaluation Processes and Their Application

The study will be conducted with an underlying comparative evaluation process which starts with a broad perspective, and narrows to the more focussed, on a phased and iterative basis, as the study proceeds.

The evaluation process to be followed for this study is as follows:

- Identify the process for evaluating the alternatives.
- Develop weightings for transportation and environmental factors and sub-factors.
- Conduct a comparative evaluation of the Preliminary Design alternative methods to determine their ability to identify their environmental impacts after application of reasonable mitigating measures. The net environmental effects (i.e., after applying conceptual mitigation measures for significant effects) will be used as a basis to compare alternatives.
- The comparative evaluation will proceed as follows:
 - Rehabilitation alternatives will be compared to identify the preferred rehabilitation strategy.
 - Replacement alternatives will be compared to identify the preferred replacement strategy.
 - The preferred rehabilitation strategy and the preferred replacement strategy will then be compared to identify the technically preferred Preliminary Design alternative.

The technically preferred Preliminary Design alternative will be the alternative that achieves the best overall balance of transportation engineering, individual factor impacts, and overall environmental impact, considering input that has been received through stakeholder consultation.

Evaluation Methods

The evaluation of alternatives is an integral component of the EA. The evaluation principles to be applied are provided in Appendix A.

In this study, two evaluation approaches will be used to assist in the selection of alternatives. An Arithmetic (weighting-scoring) method and a Reasoned Argument (or Trade-off) method will be used. The Arithmetic evaluation provides a means to compare the alternatives based on a numerical scaling with weights assigned to the factors and sub-factors. The Reasoned Argument (trade-off) evaluation method will provide a clear presentation to stakeholders of the key trade-offs between the various evaluation factors and the reasons why one alternative is preferred over another.

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 Arithmetic and Reasoned Argument (trade-off) evaluation methods are outlined as follows:

Arithmetic (Weighting/Scoring) Evaluation Method

The arithmetic evaluation method will incorporate both the level of importance of each environmental attribute (referred to as the weight) and the magnitude of the impact (or benefit) associated with an alternative (referred to as the score). Numerical values are derived for both the level of importance (weight), and the magnitude of the impact (score) associated with each alternative.

The weight is multiplied by the score to obtain a total for each factor. The totals for each alternative are compared to determine the preferred alternative method.

- **Weighting** (*level of importance*): Generally, more weight is assigned to those features which are felt to be more important in assessing impacts generated by alternatives, and less weight is given to those features which are considered to be less important or have generally the same level of impact for all of the alternatives.
- **Scoring** (*degree of impact*): The score assigned to each environmental attribute is relative to the impact generated. Relative impacts can range from those that are positive (benefit the environment) to negative (detrimental to the environment). The assessment of impacts will be derived from field measurements, results of prediction models, secondary data sources (as appropriate) and other means as necessary.

In order to ensure that appropriate consideration is given to the various factor and/or groups of factors, relative weights will be assigned by MTO with input from stakeholders at a professionally facilitated Workshop (See Section 5.3). Participants who represent each factor group will be invited to assign weights to each factor and sub-factor group.

Reasoned Argument (Trade-off) Evaluation Method

The Reasoned Argument method will be used to substantiate the findings. The Reasoned Argument method highlights the differences in net effects associated with the various alternatives. Based on these differences, the advantages and disadvantages of each alternative are identified. The relative significance of the impacts is examined to provide a clear rationale for the selection of a preferred alternative. The rationale that favours the selection of one alternative over all others will be derived from the following sources:

- Government legislation, policies and guidelines;
- Municipal policy (i.e. Official Plans);
- Issues and concerns identified during consultation with ministries and agencies, municipalities, ratepayer and interest groups and the general public (including input obtained through the weighting of the relative level of importance of evaluation factors); and
- Project Team expertise.

4.2 Proposed Evaluation Factors

The evaluation of alternatives will consider broad factors, sub-factors and criteria that apply to this project to consider the transportation and engineering challenges, and the potential impacts on the environment (natural, socio-economic and cultural). Exhibit 1 provides a list of the proposed environmental and transportation engineering factors and sub-factors to be considered for the evaluation of alternatives for continuing the project. This exhibit builds on the information in the MTO Environmental Standards and Practices. Based on feedback received from stakeholders to date, factors have been modified and added.

The project team will develop supporting evaluation criteria to be applied to these factors and sub-factors, prior to the weighting workshop. The factors, sub-factors and criteria may be refined and modified during consultation with stakeholders and through discussions at the Workshop, including, as appropriate, the development of measures for specific evaluation criteria.

Exhibit 1 Argyle Street Bridge Preliminary Design and Class EA Study Proposed Factors and Sub-Factors* To Be Considered in the Generation and Evaluation Of Alternatives	
FACTORS	SUB-FACTORS
1. NATURAL ENVIRONMENTAL FACTOR GROUP	
1.1 Fisheries and Aquatic Ecosystems	1.1.1 Fish Habitat 1.1.2 Fish Community
1.2 Terrestrial Ecosystems	1.2.1 Wildlife Habitat and Wildlife 1.2.2 Vegetation
2. SOCIO-ECONOMIC ENVIRONMENTAL FACTOR GROUP	
2.1 Land Use Planning Policies, Goals, Objectives	2.1.1 First Nations Land Claims
2.2 Land Use/Community	2.2.1 Urban Residential 2.2.2 Commercial/Industrial/Local Businesses 2.2.3 Tourist Areas and Attractions (museums, etc.) 2.2.4 Community Facilities/Institutions (schools, places of worship, unique community facilities) 2.2.5 Navigation
2.3 Land Use - Resources	2.3.1 First Nations Treaty Rights or Use of Land and Resources for Traditional Purposes 2.3.2 Parks and Recreational Areas
3. CULTURAL ENVIRONMENTAL FACTOR GROUP	
3.1 Cultural Heritage – Heritage Bridge	3.1.1 Heritage Bridge Listed on the Ontario Heritage Bridge List 3.1.2 Bridge Aesthetics/Community Landmark and Gateway
3.2 Cultural Heritage – Built Heritage and Cultural Landscapes	3.2.1 Building or “Standing” Sites of Architectural or Heritage Significance 3.2.2 Cultural Heritage Landscapes 3.2.3 Cultural Heritage Streetscapes
3.3 Cultural Heritage - Archaeology	3.3.1 Pre-Historic and Historic First Nations Archaeological Sites and Burial Sites 3.3.2 Historic Euro-Canadian Archaeological Sites
4. ROAD AND BRIDGE DESIGN FACTOR GROUP	
4.1 Traffic – After Implementing Long Term Strategy	4.1.1 Traffic capacity and operations (through traffic across the bridge, and turning movements from Argyle St. to intersections at Forfar St. and Caithness St.)

Exhibit 1 Argyle Street Bridge Preliminary Design and Class EA Study Proposed Factors and Sub-Factors* To Be Considered in the Generation and Evaluation Of Alternatives	
FACTORS	SUB-FACTORS
	4.1.2 Accommodation for pedestrians and cyclists
4.2 Geometrics	4.2.1 Permanent Alignment (Smooth continuous lines, without abrupt turns) 4.2.2 Operational Safety (lane widths, etc.)
4.3 Structural Engineering	4.3.1 Structural Durability and Future Maintenance Requirements 4.3.2 Structural Foundation Performance 4.3.3 Hydraulic Capacity (ability to handle 100 year storm flow)
5. CONSTRUCTION FACTOR GROUP	
5.1 Construction Considerations	5.1.1 Constructability (Ease to build, construction access etc.) (initial and subsequent construction/rehabilitations) 5.1.2 Duration of Construction Disruption to the traffic and downtown area (initial and subsequent construction) 5.1.3 Degree of Traffic Disruption between the north and south sides of Caledonia (during initial construction and subsequent rehabilitations) 5.1.4 Impact to Police and Emergency Services (Fire and Ambulance) (allows EMS unimpeded crossing of bridge during construction) 5.1.5 Accommodation for pedestrians and cyclists during construction (during initial and subsequent construction/rehabilitation)
6.0 COST FACTOR GROUP	
6.1 Construction Cost	6.1.1 Construction Cost for Bridge (excludes property and engineering costs) (cost effectiveness) 6.1.2 Construction Cost for Detour and Construction Staging (initial and subsequent construction) 6.1.3 Property Cost 6.1.4 Life Cycle Cost

* Weighting of factors to be determined through consultation with key stakeholders at a Factor Weighting Workshop described in Sections 4.1 and 5.3.

4.3 The Proposed Preliminary Design Alternatives

The evaluation of the preliminary design alternatives will:

- be undertaken using the arithmetic evaluation and the reasoned argument methodologies;
- consider the environmental and transportation factors and sub-factors (Exhibit 1), and the evaluation criteria to be further developed by the Project Team; and
- consider potential impacts on the environment.

The PD alternatives have evolved since the beginning of the study, as the Study Team has learned more about the existing conditions, considered the feedback from stakeholders, and identified constraints related to construction for both rehabilitation and replacement alternatives. Descriptions of the reasonable Preliminary Design alternatives are provided below. Additional studies will be undertaken to determine the potential environmental effects of each alternative, considering all aspects of the environment.

For all Listed bridges (on the Ontario Heritage Bridge List) subject to repair, rehabilitation or proposed for replacement, a number of conservation options must be considered by the proponent. These conservation options are provided in Section 4.3 of the Ontario Heritage Bridge Guidelines (1991) and should be considered in rank order, so that rehabilitation is considered preferable to replacement, and the principle of sympathetic design is adhered to in all cases.

• DO NOTHING

The Do Nothing alternative is not a viable alternative as it does not address the structural deficiencies of the bridge.

• BRIDGE REHABILITATION

A detailed structural assessment of the existing bridge has been undertaken. Based on assumptions stated previously in Section 2.3, this bridge will require at least two rehabilitations within the 50 year planning horizon: a “20 year rehabilitation strategy” and a “30 year rehabilitation strategy”.

The “20 year rehabilitation strategy” will include deck patching and can provide a minimum of one lane of traffic over the existing bridge throughout construction. The “30 year rehabilitation strategy” includes a full deck replacement, which requires the complete closure of the bridge for 2 years.

The requirement to maintain a minimum of one lane of traffic across the bridge or in the vicinity of the existing bridge is inextricably linked to the 50-year rehabilitation strategies and therefore becomes part of the rehabilitation alternatives that are identified below:

BRIDGE REHABILITATION ALTERNATIVES:

<p>Rehabilitation Alternative 1</p>	<p>Existing 9 span bridge 20 year rehabilitation strategy Provide a single lane of traffic on Argyle Street over the river in the southbound direction, and detour northbound traffic to the Highway 6 By-Pass.</p> <p>Followed by:</p> <p>30 year rehabilitation strategy (includes full deck replacement). Provide bailey bridge (1 or 2 lanes) to detour traffic.</p>
<p>Rehabilitation Alternative 2</p>	<p>Existing 9 span bridge 30 year rehabilitation strategy (includes full deck replacement). Provide a bailey bridge (1 or 2 lanes) to detour traffic on Argyle Street in the vicinity of the bridge.</p> <p>Followed by:</p> <p>20 year rehabilitation strategy. Provide a single lane of traffic over the bridge in the southbound direction and detour northbound traffic to the Highway 6 By-Pass</p>
<p>Rehabilitation Alternative 3</p>	<p>Existing 9 span bridge Build a new bridge (1 or 2 lanes) adjacent to the existing bridge</p> <p>And</p> <p>Rehabilitate the existing bridge (either Alternative 1 or 2 noted above)</p>

• **BRIDGE REPLACEMENT**

Replacement of the Argyle Street Bridge across the Grand River at exactly the same location is challenging for many reasons, including the alignment of Argyle Street through the historic downtown Caledonia, the construction conflicts with the existing 8 piers (which impacts the ability to build a new bridge at the same location while maintaining one lane of traffic), the restricted access for construction, impacts to main street businesses, residents and the heritage Toll House at the northeast quadrant of the bridge. However, a bridge replacement allows a 3-lane cross section to be provided.

The MTO held a Context Sensitive Design Workshop in April 2005 to address the heritage significance of the existing bridge in the design of a new bridge. Several new bridge designs were generated at this Workshop, including a replica of the existing bridge. Complete details of this Workshop can be found in the Context Sensitive Design Workshop Summary Report, May 2005. The Project Team carried out an evaluation of the alternative designs and presented the preferred replacement bridge alternative to the public in June 2005 - a five span bridge with structural steel arches.

For the purpose of this evaluation, MTO proposes to use the following two bridge replacement alternatives:

BRIDGE REPLACEMENT ALTERNATIVES:

<p>Replacement Alternative 1</p>	<p>New 9 span bridge of similar design to the existing bridge - with structural steel arches (rather than concrete) and a 3-lane cross section. Use bailey bridge (1 or 2 lanes) to detour traffic for 2 years.</p> <p>Followed by:</p> <p>20 year Rehabilitation Strategy. Keep a minimum of one lane open for southbound traffic and detour northbound traffic via the Highway 6 By-Pass.</p>
<p>Replacement Alternative 2</p>	<p>New 5 span bridge with structural steel arches and a 3 lane cross-section. <u>Year 1</u> - Provide single lane of traffic on bridge for southbound traffic and detour northbound traffic via the By-Pass; <u>Year 2</u> – Provide 2 lanes of traffic on bridge.</p> <p>Followed by:</p> <p>20 year Rehabilitation Strategy. Keep a minimum of one lane of the bridge open for southbound traffic and detour northbound traffic via the Highway 6 By-Pass.</p>

5.0 OUTREACH AND CONSULTATION

Key Components of Outreach and Consultation Program

A major component of the Argyle Street Bridge PD and Class EA Study will continue to be outreach and consultation. The key components of the outreach and consultation program are as follows:

- Consultation Plan
- Heritage Stakeholder Meeting
- Factor Weighting Workshop
- Public Information Centres (PICs) and Community Meetings

5.1 Consultation Plan

MTO's consultants will prepare an outreach and consultation plan to continue this preliminary design project based on this study plan.

5.2 Heritage Stakeholder Meeting

In response to questions raised by the Ministry of Culture, the MTO will hold a meeting with heritage stakeholders and MCL to present details of the project, including the findings of the bridge heritage and cultural landscape assessment reports. The purpose of this meeting is to provide information on the project and MTO's Class EA process, an overview of the Ontario Heritage Bridge Guideline (1991), the heritage significance of the bridge and to obtain feedback and concerns from the heritage community.

The list of invitees for the Heritage Stakeholder Meeting is being developed in consultation with MCL. MCL staff will attend the Heritage Stakeholder meeting to support MTO's project team comprised of consultant heritage experts and the MTO heritage advisor.

In addition, MTO will ask for attendees from this group to participate in the Factor Weighting Workshop to be held in Caledonia this Fall, 2007 (described below in Section 5.3). The number of attendees from each factor grouping will be determined by the facilitator and the Project Team.

5.3 Preliminary Design Factor Weighting Workshop

MTO will hold a professionally facilitated Workshop later this Fall, 2007 to refine the project factors and sub-factors, and assign 'weights' to each factor and sub-factor group.

The participants will be invited to represent each factor group. Our list of invitees will likely include the people or organizations who participated in the Context Sensitive Design Workshop for this project in April 2005, as well as additional representatives as required for each factor grouping. The Study Team and facilitator will need to confirm the format and number of representatives for each factor area. A preliminary list of participants is provided below.

Ministry of Transportation – Structural, Planning and Design, Traffic, Construction
Haldimand County – Planning, Engineering, Traffic, Economic Dev't, etc.
Six Nations of the Grand River – Elected and Confederacy representatives
Mississaugas of the New Credit
Caledonia Region Chamber of Commerce
Caledonia Business Improvement Association
Tourism Caledonia
Heritage Representatives as determined at the Heritage Stakeholder meeting
Grand River Conservation Authority
Ministry of Natural Resources
Department of Fisheries and Oceans
3 local residents

5.4 Public Information Centres (PIC) and Community Meetings

The PICs and First Nations Community Meetings (at Six Nations of the Grand River and Mississaugas of the New Credit, if they are requested) will be arranged as drop-in centres (open house format) to allow stakeholders to see the recommended preliminary design alternative, exchange information, and ask one-on-one questions of the Project Team.

Follow-up consultation activities will be carried out as necessary, including follow-up with individuals or groups who submitted their comments in response to the PIC held in June 2005. It is expected that these activities will be very helpful to facilitate additional dialogue and attempt to resolve any outstanding concerns and issues during the Class EA process. The format of these activities will be flexible to reflect the type of "Project Team – stakeholder" interaction required to address a particular issue but could include stakeholder group meetings, workshops, kitchen table meetings, presentations, surveys, etc.

Summary Reports for the Public Information Centre(s) and Community Meeting(s) will be prepared to summarize the activities and feedback received.

5.5 Public Notices in Newspapers

Newspaper notices will be published as follows:

- Public notices shall be placed in the local newspapers to announce the continuation of the Study;

- Public notices are only required to be prepared in English since Caledonia is not in a French-designated area;
- Public notices shall be placed in local newspapers for the upcoming PIC(s) / Community Meeting(s), and the filing of the Transportation Environmental Study Report;
- Each round of public notices shall include newspaper advertisements on at least 2 separate days (preferably one week-day and one weekend-day), where project scheduling/timing and newspaper circulation timing jointly permit;
- The public notices shall be placed in the following local newspapers:
 - Caledonia Grand River Sacham
 - The Regional This Week
 - Tekawennake (New Credit Reporter); and
 - Turtle Island News (Six Nations).

For those newspapers which publish once per week, notices may be placed only once. For those newspapers which publish biweekly or monthly, notices will be placed only if timing/scheduling permits.

5.6 Stakeholder Contact Lists

The current mailing list that has been generated over the span of the Preliminary Design Study will be expanded as new contacts are identified. Additions will be made based upon stakeholder contacts to the study team, and will continue to be made as the study progresses. These stakeholders on the contact lists will be notified by letter /e-mail of project activities including notice of the continuation of this study, Public Information Centres, and follow-up activities, as needed.

Stakeholder Categories

Stakeholders have a major role and responsibility in determining the success of the outreach and consultation program. The extent to which the stakeholders participate, the issues they raise, and how such issues are resolved, all influence the effectiveness of the outreach and consultation program.

The categories of stakeholders for this study are provided and then discussed below:

- First Nations
 - Business/Commercial Interest Groups
 - Emergency Service Providers
 - General Public
 - Haldimand County
 - Heritage Stakeholders
 - Regulatory Agencies
-
- **First Nations** – outreach and consultation with

- Six Nations of the Grand River (Elected and Confederacy Councils); and
 - Mississaugas of the New Credit.
 - comply with 'Ontario's New Approach to Aboriginal Affairs', Spring 2006; also includes compliance with Grand River Notification Agreement
 - work with First Nations so that First Nations' interests are taken into account in decision-making
 - ensure that issues of particular interest to First Nations communities are addressed, including, but not limited to:
 - potential effects to First Nations treaty rights or use of land and resources for traditional purposes (e.g. hunting, fishing, harvesting of country foods, harvesting of medical plants); and
 - potential effects to pre-historic and historic First Nations sites and burial sites.
 - provide opportunities for two-way communication by meetings with Band staff, offering presentations to Band Councils and offering to hold Community Meetings.
-
- **Business/commercial interest groups**
 - Outreach and consultation with:
 - Caledonia Region Chamber of Commerce, Caledonia Business Improvement Association and individual business owners as identified during the study
 - **Emergency Service providers**
 - Outreach and consultation with:
 - Police services, including OPP
 - Ambulance services.
 - Fire department.Outreach and consultation includes continued discussions with emergency service providers regarding potential impacts to emergency access routes or response time from existing facilities to residents and businesses.
 - **General Public**
 - Outreach and consultation with:
 - property owners in the study area, both directly and indirectly impacted
 - local population who live in the Caledonia area and may be impacted by temporary changes to local transportation network
 - interest groups who have a specific interest in the project.
 - Outreach and consultation with general public includes:
 - newspaper notices for announcement of Study Continuation and PIC(s) and TESR public review period.
 - Canada Post notification via mail drop to Caledonia residents in advance of PICs
 - mailings to property owners and members of the public as they identify themselves and request to be added to the project mailing list, or attend a PIC during the study.

- Notification through correspondence to property owners directly impacted by proposed works will be carried out before the PIC at which the recommended preliminary design is presented and for the TESR public review period. The correspondence mailed to those directly impacted by the proposed works will indicate that they are receiving the letter because their property is directly impacted (i.e. property acquisition required and/or significant alteration to property use/access).
 - Follow-up telephone calls will be made, as required, to ensure that as many directly affected property owners as possible attend the PICs and are aware of the opportunity to comment on the TESR.
 - Innovative consultation methods to provide notification of the PIC, including but not limited to rented sign boards to be placed prominently in the community, and postings at the Community Centre, etc.
- Outreach and consultation with **Haldimand County**:
 - includes collaborative engagement that recognizes the significance of the study to Haldimand County, who is interested in many aspects of the undertaking, as it relates to the work of their engineering, transportation, planning, heritage, recreation and economic development departments.
 - Presentations to Council will be offered as required to inform council of key decisions as the study progresses and in advance of the PIC. Councils' endorsement will be sought for the preferred alternative prior to the final set of PICs and publication of the TESR.
- **Heritage Stakeholders**
Outreach and consultation with Heritage Stakeholders is discussed in Section 5.2.
- **Regulatory Agencies**
 - Outreach and consultation with:
 - Federal agencies, including Transport Canada, Department of Fisheries and Oceans;
 - Provincial agencies, including but not limited to, Ministry of Natural Resources, Ministry of the Environment, Ministry of Culture, Ontario Ministry of Aboriginal Affairs, and Ministry of Municipal Affairs and Housing
 - Local agencies, including Grand River Conservation Authority;
 - Outreach and consultation includes collaborative engagement that recognizes the significance of the study to regulatory agencies. Regulatory agency interest typically relates to the study process and recommendations that relate to policies, regulations and approvals, as well as environmental protection of sensitive or designated features of the natural environment (i.e., fisheries habitat, Species at Risk, etc), socio-economic environment (i.e., land use) and the cultural

environment (i.e., archaeological resources and the heritage resources, etc.). Involvement with federal agencies in this project is required to identify issues of federal jurisdiction, effectively address Canadian Environmental Assessment Act (CEAA) requirements during the EA process and coordinate provincial and federal approvals.

6.0 SCHEDULE FOR THE LONG AND SHORT TERM CLASS EA STUDIES

The proposed project schedule for completing both the long and short term Class EA projects is provided in Table 2.

Although, MTO is proceeding with a separate Class EA for immediate short term repairs (5 to 10 years) to the bridge, if the preferred alternative for the long term study is rehabilitation, MTO may instead elect to carry out a long term rehabilitation strategy (subject to receiving environmental clearance) to minimize impacts on the community and local businesses.). This will be determined following MTO's evaluation of the alternatives in the Fall, 2007.

Table 2: Proposed Project Schedule for the Long Term and Short Term Class EAs

2007/2008	Long Term Strategy	Short Term Strategy
September	Heritage Stakeholder Meeting Meetings with other stakeholders. Factor Weighting Workshop	Rehabilitation Detail Design On-Going. Field Investigations
October	Following Weighting Workshop, evaluate alternatives and identify preferred alternative MCL Meeting <ul style="list-style-type: none"> Present long-term strategy recommendation. MTO Senior Management Meeting <ul style="list-style-type: none"> presentf long-term strategy recommendation; and recommended construction staging plan. (Oct. 24/07) Advertisement of PIC #3 (combined with short-term strategy PIC #1) MTO Senior Management presentation of PIC #3 presentation boards. Haldimand County Council presentation of PIC#3 boards. (Oct. 29/07)	Review of long term strategy impacts on short-term strategy MCL Meeting <ul style="list-style-type: none"> short-term strategy recommendation. MTO Senior Management <ul style="list-style-type: none"> presentation of short-term strategy recommendation; and recommended construction staging plan Advertisement of PIC #1 (combined with long-term strategy PIC #3). MTO Senior Management presentation of PIC #1 presentation boards.(Oct. 24/07) Haldimand County Council presentation of PIC#1 boards. (Oct. 29/07)
November	PIC #3 All public comment / concerns received. Project Team reviews and addresses comments / a concern identified and finalizes the PD and TESR.	PIC #1 All public comment / concerns received. Project Team reviews and addresses comments / concerns identified and finalizes the PD and TESR.
December	Advertisement of long-term strategy TESR for 30 day public review.	Advertisement of short-term strategy TESR for 30 day public review.
January	TESR Clearance. Determination of next steps for implementation of the long-term strategy.	TESR Clearance. Submission of Contract Documents to MTO Head Office.

APPENDIX A

ARGYLE STREET BRIDGE, CALEDONIA BACKGROUND INFORMATION

1.0 THE EXISTING ARGYLE STREET BRIDGE

- The existing Argyle Street Bridge is a 200 m long, 9-bow string arch bridge providing a connection over the Grand River, in the Village of Caledonia.
- The existing bridge, constructed in 1927, is the third bridge to be constructed at this crossing. The first bridge constructed at this location was a timber bridge erected in 1842 and the second a five span iron bridge erected in 1875.
- During construction of the bridge in 1875, a red and buff brick Gothic revival house was built for the new bridge's toll keeper.
- The Argyle Street Bridge is listed as a heritage bridge in the Ontario Heritage Bridge Program, and is one of the few remaining examples of multiple span concrete bowstring truss construction in the region in Ontario. It is the longest span of its kind in the province and thus constitutes a rare example of its type. Research suggests that the Argyle Street Bridge is the longest span of its kind in North America.
- The bridge is a locally recognized landmark heritage asset that contributes to the special character of Caledonia and the Grand River watershed landscape generally. It is considered to be of high heritage significance.
- The bridge crosses the Grand River, which is recognized as a National Heritage River.

Posted Load Restrictions on Bridge

- Due to the condition of the existing bridge, in February 2002, the Ministry of Transportation (MTO) was required to post load restrictions for vehicles crossing the bridge.

2.0 ARGYLE STREET BRIDGE PRELIMINARY DESIGN AND ENVIRONMENTAL ASSESSMENT STUDY

- In the Fall of 2002, MTO retained Morrison Hershfield to carry out a Preliminary Design and Environmental Assessment study for the Argyle Street Bridge. The purpose of the study is to investigate and propose a solution(s) for the rehabilitation or replacement of the bridge, as well as traffic management during construction.

- This project is being conducted in accordance with the requirements for Group 'B' projects under the Class Environmental Assessment for Provincial Transportation Facilities (2000).

Fall 2002 to June 2003

The project team gathered information, and consulted with stakeholders and the public to obtain input on rehabilitation/replacement alternatives of the existing bridge. The public was notified of the commencement of the project via local newspaper advertisements in the Fall of 2002, and was invited to provide comments. Stakeholders identified by the project team were individually sent a notification letter inviting input.

Meetings with key stakeholders began in January, 2003. The following is a summary of meetings between the project team and various stakeholders prior to the first Public Information Centre:

- | | |
|---|------------------|
| • Haldimand County staff | January 30, 2003 |
| • Mississaugas of the New Credit First Nation Council | March 4, 2003 |
| • Six Nations Council | March 4, 2003 |
| • Caledonia Chamber of Commerce (CRCC) | March 6, 2003 |
| • Haldimand County | June 20, 2003 |

Discussions with the Grand River Conservation Authority, Ministry of Culture and other stakeholders were also held to identify concerns and solicit input.

Through this process the project team identified and evaluated the rehabilitation and preliminary replacement alternatives and determined the preliminary engineering recommendation was to replace the bridge. Bridge replacement was recommended due to the condition of the existing bridge and to reduce future maintenance and rehabilitation costs.

3.0 PUBLIC INFORMATION CENTRE #1 – June 23, 2003

The project team presented the Argyle Street Bridge replacement recommendation and the proposed traffic detours during construction of the new bridge. At that time, MTO recommended the river crossing on Argyle Street be closed to both pedestrian and vehicular traffic during construction, and vehicular traffic would be detoured to the Highway 6 By-Pass.

Comments received from the Public Information Centre identified the following concerns:

- Loss of the bridge, a landmark and heritage feature in Caledonia and on the Grand River;
- Loss of access for vehicles, pedestrians and emergency services across the Grand River on Argyle Street during construction;
- Disruption to businesses on Argyle Street due to bridge closure; and
- Environmental impacts.

June 23, 2003 to April, 2005

A formal presentation of the findings of the first Public Information Centre was made to Haldimand County Council on August 5, 2003. Formal Council response including a number of questions was received on August 11, 2003, and the Ministry responded to questions on April 19, 2004.

Based on comments received from the Public Information Centre, the project team continued to develop a number of bridge replacement and construction staging alternatives to address both the engineering requirements and stakeholder/public concerns.

The project team continued to liaise with stakeholders to obtain input on the bridge replacement and traffic staging alternatives, including a meeting with members of the Chamber of Commerce and Business Improvement Association on October 2003 on issues related to traffic over the river during construction of the replacement bridge.

In August 2004, Haldimand County passed the following council resolutions:

1. "Haldimand County agrees in principle, based on current information provided by the Ministry of Transportation, to a replacement bridge at the same location as the existing bridge;
2. Haldimand County agrees that the structure should include heritage features if a replacement bridge is the Ministry's recommended option;
3. Haldimand County prefers a three lane cross section for the proposed structure if a replacement structure is selected;
4. Haldimand County does not intend to carry out a separate Environmental Assessment (EA) for the project;
5. Haldimand County does not propose to cost share the full cost difference with MTO on a widened structure;
6. The detour alternatives proposed to date are not satisfactory to Haldimand County and MTO should research further options, including utilization of a widened structure as a detour during the construction phase."

A number of meetings have been held with Haldimand County to identify and agree on various requirements. These include:

- A meeting with Haldimand County on May 28, 2004.
- Presentation to the Haldimand County Grand River Advisory Committee on November 4, 2004.
- Meeting with County staff on January 17, 2005.
- Meeting with County staff on March 8, 2005 on Emergency Medical Services (EMS) issues.
- Meeting with County staff, EMS from Haldimand and adjacent municipalities, OPP, on March 29, 2005 on traffic management issues pertaining to provision of emergency services to Caledonia residents during construction of the bridge.

The project team developed bridge replacement alternatives to address concerns identified by the public and the stakeholders. However, due to the heritage, cultural and historical significance the existing bridge provides in shaping the community's identity, the project team requested input from the community to develop a cost effective bridge replacement heritage component that meets the needs of the community.

4.0 CONTEXT SENSITIVE DESIGN WORKSHOP

The Ministry held a Context Sensitive Design (CSD) Workshop on April 18 and 19, 2005.

Purpose of the Argyle Street Context Sensitive Design Workshop

The CSD Workshop used a process aimed at gaining community support for the design of the bridge. Participants reflecting a range of interests were invited. Using a collaborative, interdisciplinary process, all of the participants were encouraged to work together to arrive at solutions for the design of the bridge.

Participants from a broad spectrum of stakeholders and the public worked with the engineering design team to develop, review and evaluate the heritage component of the structure replacement.

Although the focus of the workshop was on the heritage, cultural and historical elements of the bridge replacement, discussions about sidewalk location and construction traffic staging were also considered to be part of this workshop.

Workshop Participants

The workshop was professionally facilitated and a number of experts were available to provide technical expertise to the participants throughout the workshop:

- Structural Engineers from the Ministry and Morrison Hershfield;
- Highway Design Engineers from the Ministry and Morrison Hershfield;
- Environmental Planners from the Ministry and Draycott Environmental Inc.
- Aesthetics Engineer from Buckland and Taylor Ltd.
- Heritage Architect from du Toit Architects Limited
- Heritage and Archaeology Planner from the Ministry
- Heritage Consultant from Archaeological Services Inc.

Participants invited to the workshop include:

- Ministry of Culture
- Grand River Conservation Authority
- Parks Canada
- Haldimand County
- Mississaugas of the New Credit
- Six Nations Confederacy
- Six Nations of the Grand River
- Local Historical Society
- LACAC
- Caledonia Chamber of Commerce
- Caledonia Business Improvement Association
- 3 citizen representatives

Councillor Ashbaugh attended as an observer.

April to June 2005

- In April 2005, the Ontario Heritage Act was amended to allow the development of standards and guidelines governing heritage properties and structures, including those owned by MTO.
- In April 2005, MCL requested additional information from MTO to support the replacement recommendation. MTO provided this information.
- In June 2005, just prior to the second PIC, MCL advised MTO of their concerns with MTO's recommendation for bridge replacement due to the heritage significance of the bridge.

June 2005 to Present

5.0 PUBLIC INFORMATION CENTRE #2

Following completion of the workshop, the project team presented the recommendations from the workshop at the second Public Information Centre in June 2005.

Comments received at the PIC were generally supportive and indicated a general consensus to the recommended replacement alternative.

6.0 POST PUBLIC INFORMATION CENTRE #2

Through the development of this Study Plan, MTO and MCL have worked together to develop a plan to address the heritage significance of the Argyle Street Bridge within MTO's Class Environmental Assessment process.

Appendix B STUDY PRINCIPLES AND PROCESSES

1. Transportation Engineering Principles

The transportation engineering principles that will be applied to the alternatives examined in the Argyle Street Bridge Preliminary Design and Class EA Study are based on the 'Class Environmental Assessment for Provincial Transportation Facilities', and include the following:

- a) provide for the efficient movement of people and goods;
- b) meet the needs of the travelling public as a whole, by maximizing opportunities for mobility;
- c) address the identified transportation problems and opportunities, and maximize the opportunity to satisfy existing and future provincial travel demand;
- d) reflect sound engineering judgement, site specific transportation engineering and/or environmental constraints, transportation demand, capacity of existing and future transportation facilities, traffic composition, trip length, population density and land development, and traffic habits of the overall transportation system users, in meeting or exceeding current provincial design standards and practices;
- e) ensure compatibility, connectivity and consistency with the existing and future provincial and municipal transportation system and system needs;
- f) improve the level of service, safety and operation for the provincial transportation system users;
- g) ensure consistency with other transportation facilities in the vicinity to ensure rational and predictable behaviour of users;
- h) ensure the technical feasibility of construction, operation and maintenance;
- i) minimize environmental impacts and the use of non-renewable natural resources such as aggregates;
- j) minimize property requirements and impacts on adjacent properties;
- k) ensure that sound engineering and scientific principles and judgement are applied to the best available data in the analysis, assessment and evaluation of transportation engineering problems, opportunities and solutions in order to meet or exceed current provincial design standards and practices;

- l) maximize opportunities to make the facility “more safe”;
- m) co-ordinate with municipal transportation studies and with other MTO transportation studies.; and
- n) in consideration of all of the above, provide the maximum benefit for the lowest cost (considering construction, maintenance and operation costs).

2. Environmental Protection Principles

The environmental protection principles that will be applied to the alternatives examined in the Argyle Street Bridge Preliminary Design and Class EA Study are based on the ‘Class Environmental Assessment for Provincial Transportation Facilities’, and include the following:

- a) conduct the study with an inherent approach of avoiding or minimizing overall environmental impacts through consideration of alternatives;
- b) meet the requirements of federal and provincial environmental legislation;
- c) meet the intent of government-approved policy and inter-ministerial protocols that relate to environmental protection;
- d) balance environmental protection considerations with transportation engineering considerations during each stage of the study process, recognizing that safety and effectiveness of the transportation system is fundamental to such decisions;
- e) recognize that it is seldom possible to satisfy all interests when making the tradeoffs necessary in the EA process, and that no single environmental factor is “paramount”;
- f) identify existing environmental conditions and potential impacts relevant to the study, recognizing the following general categories of impacts at the appropriate study phase:
 - footprint impacts (to the area and its features)
 - interference impacts (to the area and its features)
 - traffic access modification impacts (to property, neighbourhoods, commercial areas)
 - emissions impacts (to air, water, soil and utilization of same)
 - timing impacts (relative to season, week, day, hour, duration of the impacts above)
 - effects of malfunctions or accidents that may occur in connection with the project
 - cumulative environmental effects that are likely to result from the project in combination with other projects or activities;
- g) balance the approaches to environmental protection, recognizing that the general order of decreasing preference is as follows:

- avoidance/prevention
 - control / mitigation (reducing the severity of environmental impacts)
 - compensation (provision of “equivalent” or countervailing environmental features)
 - enhancement (improvement over previous environmental conditions);
- h) provide mitigation effort in proportion to environmental significance and ability to reasonably mitigate with environmental mitigation measures that are technically and economically feasible;
 - i) recognize that environmental mitigation measures themselves may have impacts to be considered;
 - j) address the Ministry of Transportation’s ‘Statement of Environmental Values’.

3. Evaluation Principles

The evaluation principles that will be applied to the alternatives examined in the Argyle Street Bridge Preliminary Design and Class EA Study are based on the ‘Class Environmental Assessment for Provincial Transportation Facilities’, and include the following:

- a) conduct the study with an underlying comparative evaluation process which starts with a broad perspective, and narrows to the more focussed, on a phased and iterative basis, as the study proceeds;
- b) multiple alternatives to be considered;
- c) evaluation process to be comprehensive, traceable and replicable, and to be understandable by those who may be affected by the decisions;
- d) evaluation process at some phases may include a screening / short-listing component to improve efficiency and clarity;
- e) evaluation criteria to be comprehensive, fundamental, relevant, independent, measurable, well-defined;
- f) relevant factors, including natural environment, land use / socio-economic environment, cultural environment, area economy, and transportation to be given due consideration; and

4. Stakeholder Outreach and Consultation Principles

Outreach and consultation will continue to be a major component of the Argyle Street Bridge Preliminary Design and Class EA Study. The principles for outreach and consultation are the following:

- a) Comprehensive outreach and consultation plan:
 - is systematic, innovative and flexible;
 - is open, inclusive, responsive, transparent, traceable and defensible;
 - provides proactive explanation of “process” and policy requirements and how/why they are effectively/efficiently addressed by this study.
- b) Stakeholder examination/comment is encouraged:
 - notify stakeholders of intention to continue the study and in advance of key study decisions.
 - comprehensive effort to identify and engage stakeholders
 - early outreach to stakeholder groups, and continued engagement during the study
 - explain stakeholder role, and importance of stakeholder participation
 - enable stakeholders to understand the process and follow the study through its various stages
 - facilitate understanding of process and issues, which may include divergent or competing stakeholder interests
 - make information accessible and understandable
 - constructively address stakeholder input, with all relevant evidence, opinion and perspectives considered
 - reasonable effort made to resolve concerns
 - role and effect of outreach and consultation documented during the study, showing the effect of input received on the Study discussions/directions (within limits imposed by the *Freedom of Information and Protection of Privacy Act*);
- c) Clear outreach and consultation to each stakeholder category:
 - Aboriginal Peoples
 - Business/commercial interest groups
 - Emergency service providers
 - General public
 - Haldimand County
 - Regulatory agencies
 - Utility companies
 - Heritage organizations (local, provincial, national)
- d) Consultation plan will place emphasis on consultation with the stakeholders most directly affected
- e) Consultation plan will provide timely, user-friendly opportunities for input by the public and the agencies whose mandates are most directly affected.
- f) Consultation will be used to assist in the identification of data requirements

- g) The proponent will constructively address input received during the consultation process.
- h) The proponent will show how the input received affected the project.
- i) The proponent will make reasonable efforts to resolve concerns.
- j) Effective documentation of study work and decision-making:
 - documents organized for ease of access to information and reference, and in relation to relevance and in the overall Class EA study process
 - document content (e.g. exhibits) presented in a manner that facilitates use for PIC display boards, newsletters, etc
 - timely opportunity to review relevant information and documentation;
- k) Effective/innovative presentation of study information:
 - high quality presentation displays
- l) Effective consultation events (PICs, and as applicable, workshops and meetings) to ensure that stakeholders understand and respond to key decision points:
 - events appropriately scheduled
 - events well advertised with appropriate lead time
 - events advertised through newspaper advertisements, and as appropriate, portable message signs, mail drops, etc
 - newspapers used for advertisements to reflect readership in First Nations communities, the local community, weekday and weekend exposure
 - venue/facility to have appropriate space, facilities, parking, external signing
 - venue/facility to be universally accessible
 - display and information material prepared to effectively present information and communicate issues at hand
 - events to be appropriately staffed.