

# Assessment of Planning Solutions

Class Environmental Assessment  
Widening & Rehabilitation of  
James A. Gifford Causeway



County of Peterborough

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## 1.0 Introduction

### 1.1 Preface

The County of Peterborough, in consultation with the Township of Smith Ennismore Lakefield, initiated this Class Environmental Assessment (EA) in November 2011, in order to maintain existing County infrastructure and meet future traffic demand in the County. The EA will define a road management plan for the historic James A. Gifford Causeway over Chemong Lake. This EA is subject to the planning and design process of the Municipal Class Environmental Assessment (Class EA), under the Province of Ontario's Environmental Assessment Act.

This EA study will complete all phases, except Phase 5, of the Municipal Class EA by establishing the need and justification for the project, considering all alternatives and proactively involving the public in defining a recommended plan for improvements. This will be in addition to parallel activities which may be undertaken as part of the County's Transportation Master Plan update.

The study area is illustrated in **Figure 1**.



**Figure 1: Study Area**

## 2.0 Need and Justification

There are two key issues for the need and justification for the EA Study. See "*Draft Study Design Report, BTE, dated February 7, 2012*". These include the need to stabilize the causeway settlement and current rotational movement of the gabion baskets and the potential need for increased vehicular capacity to meet forecast future traffic demand.

### 3.0 Assessment of Alternative Planning Solutions

The assessment of planning solutions is an initial step (Phase 2) of the planning and design process of municipal road projects as described in the Municipal Class EA. The Alternative Solutions represent different approaches or strategies to address the needs of the project taking into consideration the existing environment. The approach is to determine a preferred solution taking into account public and agency review input. For this study the input has included: Public review of the draft “*Study Design Report.*”

Municipal transportation alternatives assessed in specific projects vary depending on the location, type and complexity of the project. The level of complexity usually relates to the nature of the study objectives, environmental sensitivities (natural, social, economic, cultural) and external interest or concern. For this study, the following "Alternative Planning Solutions" were evaluated:

- The “Do Nothing” Alternative
- Limit/Defer Growth
- Transit Improvements
- Transportation Systems Management (TSM)
- Transportation Demand Management (TDM)
- Improve Existing Roads/Causeway

### See Table 1, Assessment of Alternative Planning Solutions.

Transportation engineering planning and design decisions for municipal facilities are based on the following principles:

- Consider the views of the public;
- Provide for the efficient movement of people and goods to meet the needs of the travelling public as a whole, by maximizing opportunities for access and mobility;
- Address the identified transportation problems and opportunities and maximize the opportunity to satisfy existing and future travel demand;
- 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 design standards and practices;
- Ensure compatibility with the existing and future municipal transportation systems and system needs, and improve the level of service, safety (including emergency service response) and operation for all users;
- Ensure consistency with other transportation facilities in the vicinity to ensure rational and predictable behaviour of users;
- Ensure the technical feasibility of construction, operation and maintenance;



- Minimize environmental impacts and the use of non-renewable natural resources;
- Minimize increase in greenhouse emissions;
- Minimize disruption to land use viability and integrity;
- Avoid directing large volumes of traffic through residential/developed areas; and
- Provide the maximum benefit for the lowest cost (considering construction, maintenance and operation costs).





<b>Table 1 Alternative Planning Solutions</b>			
<b>No.</b>	<b>Description</b>	<b>Effects - Benefits/Impacts</b>	<b>Recommendation</b>
1	Do Nothing	<ul style="list-style-type: none"> <li>➤ None. Status quo.</li> <li>➤ Least impact and cost.</li> <li>➤ Does not address operational, safety, mobility, planning and capacity deficiencies</li> </ul>	Do Not Carry Forward <input checked="" type="checkbox"/>
2	Limit/Defer Growth	<ul style="list-style-type: none"> <li>➤ Reduce future traffic growth</li> <li>➤ Does not address deteriorating causeway</li> </ul>	Do Not Carry Forward <input checked="" type="checkbox"/>
3	Transit Improvements	<ul style="list-style-type: none"> <li>➤ Reduce traffic/congestion on the causeway but not at intersections</li> <li>➤ Does not address immediate needs of deteriorating causeway</li> </ul>	Do Not Carry Forward <input checked="" type="checkbox"/>
4	Transportation Systems Management (TSM) – i.e. signage, signals	<ul style="list-style-type: none"> <li>➤ improve capacity</li> <li>➤ Does not address immediate needs of deteriorating causeway</li> <li>➤ These solutions alone do not accommodate vulnerable road users (pedestrians and bicyclists).</li> </ul>	Carry Forward as a component of the Solution <input checked="" type="checkbox"/>
5	Transportation Demand Management (TDM) (improvements to other active transportation modes)	<ul style="list-style-type: none"> <li>➤ increase cycling and pedestrian usage</li> <li>➤ reduce auto trips by working at home, flexible work hours or carpooling</li> <li>➤ improvements are not sufficient to address the identified current and future traffic demands</li> <li>➤ Does not address deteriorating causeway</li> </ul>	Carry Forward as a component of the Solution <input checked="" type="checkbox"/>
6	Improve existing road(s)/ stabilize causeway	<ul style="list-style-type: none"> <li>➤ Improve access to the causeway by improving adjacent roads/intersections</li> <li>➤ Address movement/settlement of causeway</li> <li>➤ Increase capacity across the causeway</li> </ul>	Carry Forward <input checked="" type="checkbox"/>



1. The Do Nothing alternative exhibits the fewest impacts and least direct cost. It does not however address identified capacity or geotechnical issues. The Do Nothing approach is not sustainable and action is required to address the movement of the Causeway.

2. The growth of traffic is associated with both regional traffic as well as recreational traffic from the GTA. It is beyond the County's ability to control all growth and therefore this is not a recommended strategy to carry forward.

3. Transit is considered a sustainable transportation choice to reduce vehicular traffic demand where service is feasible from a ridership demand perspective. The rural/suburban nature of the traffic in the Study Area does not support transit as a stand-alone solution to traffic management.

4. Transportation System Management (TSM) should be considered part of an overall transportation strategy and may include improvements to the causeway intersections to postpone the need to increase throughput to add vehicular capacity to the causeway.

To improve existing roads/Causeway, the introduction of a second northbound left turn lane would convey about twice the current volume of traffic and greatly improve the efficiency of the intersection. However, the

two left turn lanes would require two receiving lanes (i.e. on the Causeway).

5. Transportation Demand Management (TDM) will not, as a standalone feature, address the required travel needs of the study area as the existing traffic demand of 10,000 vehicles/day is the guideline threshold for considering widening improvements to a two-lane facility. The possible widening of the Causeway represents an opportune time to provide TDM measures that support active transportation modes and recreational (i.e. fishing) activities in the area.

6. Stabilize the causeway/improve existing road – recommended to carry forward

#### 4.0 Recommendations

It is noted that more than one "Alternative Planning Solution" may be carried forward. For example, a reasonable "Alternative Planning Solution" for addressing a major capacity deficiency may be a new roadway, widening of an existing roadway, or a combination of the two.

The preliminary recommendations to carry forward are:

- TSM/TDM Improvements
- Improvements to Existing Roads/Stabilize Causeway



Short term operational measures/opportunities could be implemented to improve traffic operations. These improvements focus on the Ward Street/Bridge Road intersection area, and include:

- The possible implementation of No Left Turn restriction on Bridge Road in the morning and afternoon peak periods at both Garthorne Avenue and Kelly Boulevard (i.e. No Left Turn from Bridge Road to either of these roadways). This would eliminate the likelihood of a left turning vehicle from delaying through vehicles (i.e. On Bridge Road) and reducing the volume of “cut through” vehicles.
- The extension/reconfiguration of the southbound merge/acceleration lane south of the Ward Street/Bridge Road intersection. This would lengthen the available merge area allowing the significant eastbound right turn movement to merge with the southbound through movement (includes long and heavy vehicles).
- Provision of a freeflow right turn lane from the west to the south.
- The provision of a second northbound left turn lane (i.e. provide 2-left turn lanes). This would also require the provision of a second westbound lane from the Ward Street/Bridge Road intersection, westerly, to the Causeway. This additional westbound lane would end (i.e. merge) immediately east of the Causeway and could form part of the longer term improvements, if and when the Causeway is widened.
- Consideration of traffic management measures such as a roundabout operation to manage turning movements at the two intersections on each side of the causeway.

