PEEL STREET BRIDGE
Schedule 'C' Phase 2 Consultation
Municipal Class Environmental Assessment
Public Consultation Centre
Township of Woolwich
Public Consultation Centre

PEEL STREET BRIDGE
Schedule ‘C’ – Phase 2 Consultation
Municipal Class Environmental Assessment

Foundation Christian School
Winterbourne

December 11, 2018
5:30 to 8:00 pm
Presentation Summary:

➢ Problem and Opportunity Definition
➢ Summary of Background Studies & Bridge Condition
➢ Summary of Public Consultation Centre #1
➢ Evaluation of Alternative Solutions
➢ Recommended Solution
➢ Next Steps (EA Process and Timeline)
Study Area

Peel Street Bridge

Proposed Study Area
Problem and Opportunity Definition

A) Problem:

➢ The existing bridge is more than 100 years old (built in 1913) and was recently closed due to its deteriorated condition;

➢ The bridge requires rehabilitation to reopen the structure in any capacity; and,

➢ Due to age and condition, future repair costs will increase and will become more frequent and require significant capital investment to extend the life span of the structure.

B) Opportunity:

To determine a strategy to identify the short and long term plan for the Peel Street Bridge, while meeting engineering and public safety standards.
Existing Bridge Looking North
Background Studies

A) Transportation and Traffic Study
➢ Analysis showed that very few users of the Peel Street Bridge would be considered “commuter” traffic (approximately 125 vehicles per day prior to closure)

B) Cultural Heritage and Heritage Impact Study
➢ One of four remaining camelback truss bridges in the Region of Waterloo.
➢ Preference from a heritage perspective is to leave the structure in place, minimizing impacts of repairs.

C) Archeology Study
➢ Parts of the Study Area have been identified as having archeological potential, and may require a Stage 2 Archeological Assessment if these areas will be impacted by the preferred alternative.

D) Environmental Impact Study
➢ Through implementation of appropriate mitigation measures, none of the proposed alternatives will result in significant long-term impacts to natural features identified within the Study Area.
Alternate Routes

[Map showing Alternate Routes]
Bridge Condition Assessment

➢ Peel Street Bridge is in poor condition and remains closed. Key concerns are:
  ➢ Compromised structural integrity of numerous stringers due to corrosion;
  ➢ Sagging / loss of tension in tension members (diagonals, laterals);
  ➢ Severe corrosion of rivet heads;
  ➢ Severe corrosion of bearings and disengagement of roller pins; and,
  ➢ Bridge barrier does not meet current roadside safety standards.
Severe corrosion and crack in diagonals

Deflection of bottom chord

Stringers with severe corrosion and perforations

Typical deterioration of roller bearings

Pin connection in top chord

Stringers with severe corrosion and perforations

Severe corrosion and crack in diagonals
Summary of Public Consultation Centre #1

- PCC #1 was held on May 16, 2018
- **Closure** was presented as the Preliminary Recommended Solution
- In total, 34 people signed in at the meeting
- In total, 20 comments were received from PCC #1:
  - The majority of comments received indicated that Rehabilitate for Vehicular Use (Alternative 5) was their preferred solution
  - A few of the comments received indicated that Rehabilitate for Pedestrian Use (Alternative 4) was their preferred solution
  - There was one comment received that indicated that Closure (Alternative 1) was their preferred solution
### Evaluation of Alternative Solutions Summary (PCC #1):

<table>
<thead>
<tr>
<th>Category</th>
<th>Property Impacts</th>
<th>Impacts to Business and Adjacent Land Uses</th>
<th>Public Safety</th>
<th>Visual Impacts</th>
<th>Aquatic Habitat and Fish Passage</th>
<th>Vegetation</th>
<th>Wildlife Habitat</th>
<th>Species at Risk</th>
<th>Built Heritage</th>
<th>Archeological Potential</th>
<th>Compliance with Current Design Standards</th>
<th>Constructability</th>
<th>Traffic</th>
<th>Structure Longevity Concerns</th>
<th>Capital Costs</th>
<th>Maintenance and Operating Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCIAL</td>
<td>$\downarrow$</td>
<td>$\downarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\uparrow$</td>
<td>$\downarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\downarrow$</td>
<td>$\uparrow$</td>
<td>$\leftrightarrow$</td>
</tr>
<tr>
<td>NATURAL</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
</tr>
<tr>
<td>CULTURAL</td>
<td>$\uparrow$</td>
<td>$\downarrow$</td>
<td>$\uparrow$</td>
<td>$\uparrow$</td>
<td>$\downarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\uparrow$</td>
<td>$\downarrow$</td>
</tr>
<tr>
<td>TECHNICAL</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\downarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\uparrow$</td>
<td>$\downarrow$</td>
</tr>
<tr>
<td>ECONOMICAL</td>
<td>$\uparrow$</td>
<td>$\uparrow$</td>
<td>$\downarrow$</td>
<td>$\downarrow$</td>
<td>$\downarrow$</td>
<td>$\downarrow$</td>
<td>$\downarrow$</td>
<td>$\downarrow$</td>
<td>$\downarrow$</td>
<td>$\downarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\leftrightarrow$</td>
<td>$\downarrow$</td>
<td>$\downarrow$</td>
</tr>
</tbody>
</table>
### Financial Projections:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>$475k</td>
<td>$475k</td>
<td>$875k</td>
<td>$875k</td>
<td>$1.1M</td>
</tr>
<tr>
<td>2025</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2030</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2035</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2040</td>
<td>$150k</td>
<td>$50k</td>
<td>-</td>
<td>-</td>
<td>$1.1M</td>
</tr>
<tr>
<td>2045</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2050</td>
<td>$700k</td>
<td>$120k</td>
<td>-</td>
<td>-</td>
<td>$700k</td>
</tr>
<tr>
<td><strong>Total (2018 Dollars)</strong></td>
<td><strong>$1.3M</strong></td>
<td><strong>$875k</strong></td>
<td><strong>$2.9M</strong></td>
<td><strong>$3.4M</strong></td>
<td><strong>$5.5M</strong></td>
</tr>
<tr>
<td><strong>Investment Required</strong></td>
<td><strong>$650k</strong></td>
<td><strong>$875k</strong></td>
<td><strong>$1.5M</strong></td>
<td><strong>$2.0M</strong></td>
<td><strong>$5.5M</strong></td>
</tr>
</tbody>
</table>

**Note:**
- Alternative 1: Do Nothing does not address the identified problem and leads to one of the other alternatives in the near future; and therefore, was not evaluated.
- Costs do not include HST, but include 15% Contingency and 15% Engineering Fees.
- Current investment required ("Invest. Req’d") based on present value determined using a Level 1 Financial Analysis in accordance with the Ministry of Transportation Ontario’s Structural Financial Analysis Manual (SO-11, 1993), assuming a 6% discount rate.
### Evaluation of Alternative Solutions Summary:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Social</td>
<td>↔</td>
<td>↓</td>
<td>↔</td>
<td>↔</td>
<td>↑</td>
</tr>
<tr>
<td>Natural</td>
<td>↔</td>
<td>↔</td>
<td>↔</td>
<td>↔</td>
<td>↔</td>
</tr>
<tr>
<td>Cultural</td>
<td>↑</td>
<td>↓</td>
<td>↑</td>
<td>↑</td>
<td>↓</td>
</tr>
<tr>
<td>Technical</td>
<td>↔</td>
<td>↔</td>
<td>↓</td>
<td>↔</td>
<td>↑</td>
</tr>
<tr>
<td>Economic</td>
<td>↑</td>
<td>↑</td>
<td>↓</td>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td><strong>Overall Ranking</strong></td>
<td><strong>1</strong></td>
<td><strong>2</strong></td>
<td><strong>4</strong></td>
<td><strong>3</strong></td>
<td><strong>5</strong></td>
</tr>
</tbody>
</table>

Note: Alternatives 4 and 5 have decreased in ranking as compared to PCC #1 due to life cycle cost considerations.

**CLOSURE** is the Recommended Solution:

- Addresses structural problems;
- Maintains heritage significance; and,
- Least expensive short term and life cycle costs.
**CLOSURE is the Recommended Solution:**

- Permanent closure of the bridge to vehicular and pedestrian use;
- Initial capital cost for:
  - Installation of permanent barriers to prohibit vehicular and pedestrian traffic;
  - Partial or full removal of the bridge deck to prevent the use of the bridge; and,
  - Modifications to the approach roadways to allow for snowplough and emergency vehicle turnaround.
- 30 year projected costs for:
  - Routine maintenance of the structure, barricades, turnarounds, engineering; and,
  - Eventual removal of the structure.
### Exhibit A.2 Municipal Class EA Planning and Design Process

#### Alternative Solutions
1. Do Nothing
2. Closure
3. Removal
4. Repair for Pedestrians
5. Repair for Vehicles
6. Replacement

**Anticipated Path**
- Council gives authorization to proceed
- We are HERE

**Alternative Design Concepts to be Determined, If Replacement is Preferred.**
Next Steps:

Environmental Assessment – Process and Timeline

**Phases 1 and 2**

- a) Publish Notice of Project Initiation | March 2018
- b) Hold Public Consultation Centre (PCC No.1) | May 16, 2018
- c) Determine Staff Preferred Solution | Summer/Fall 2018
- d) Hold Public Consultation Centre #2 (PCC No.2) | December 11, 2018
- e) Township Council decision on Staff selection of Recommended Solution | Winter/Spring 2019
- e) Review and confirm choice of Schedule (Completes Phase 2) | Spring/Summer 2019
- YOUR INPUT IS IMPORTANT -

Comment Sheets are Available at this Public Consultation Session

Please Submit by January 8th, 2018

THANK YOU