Welcome to the first Public Information Centre (PIC) meeting. Please record your attendance and obtain a comment sheet at the registration desk.

Several background reports are available at the Resource Table. Should you have any questions regarding the presentation materials, background reports or any other aspect of the study, please speak to the County or Consultant study team members in attendance.

We encourage your input/feedback on the material being presented on the display boards. Please deposit completed comment sheets in the comment box or mail/ fax/ e-mail to the address at the bottom of the form within the next two weeks.

There is an opportunity at any time during the EA process for interested persons to provide written input. Any comments received will be collected under the Environmental Assessment Act and, with the exception of personal information, will become part of the public record.
Wellington County has initiated an Environmental Assessment (EA) to move forward with the rehabilitation or replacement of the Badley Bridge. This Study will complete all phases 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 Study is being completed as a Schedule ‘C’ undertaking, based on the range of anticipated effects. A draft Study Design describing the study process has been available for agency and public comments. It is available at the Resource Table and has been posted on the County website for public review and comments.
This project is being undertaken as a Schedule “C” Class EA in accordance with the Municipal Class Environmental Assessment, 2011, a copy of which is available at the Resource Table.

The EA study will culminate in the delivery of an Environmental Study Report (ESR), which is a detailed compilation of all data and reports produced for the project.

If after viewing the exhibits and otherwise participating in this project, and at the conclusion of the process, you still have concerns, you have the right to request the Minister of the Environment to reclassify the project through a Part II Order (or “bump-up”) to an Individual Environmental Assessment.
• The Badley Bridge was constructed in 1953, and is nearing the end of its service life.
• The bridge currently operates with a load limit of 22 tonnes.
• The 2015 repairs were not fully completed based on the magnitude of capital costs to complete. Emergency repairs were completed in May and June 2015.
• In 2015, MMM Group completed a structural evaluation that revealed several members are theoretically overstressed and many members are deteriorating.
• The conclusion of MMM’s investigations are summarized in a structural Condition/ Structural Needs Analysis Technical Memorandum on the resource table.
• The structural analysis has concluded that major elements are in an advanced state of deterioration.
• The cost of maintaining the current bridge under a rehabilitation approach may meet or exceed the cost of replacement options and therefore the EA Study has been initiated to define the most appropriate bridge management strategy to carry forward.
COUNTY OF WELLINGTON

Badley Bridge, Metcalfe Street over the Grand River
STRUCTURE CONDITION / NEEDS ANALYSIS - DESCRIPTION OF THE PROBLEM (DEFICIENCY) OR OPPORTUNITY

**STRUCTURAL STEEL TRUSS**
- Perforations and section loss
- Corroded rivets at connections
- Corrosion and perforations to gusset plates
- Perforations to sidewalk brackets
- Rust jacking and distorted steel plates
- Previous strengthening plate
- Lacing provides path for debris and salts to bearings
- End diagonal below sidewalk
- Deformations
- Substandard road width
- Restricted overhead clearance
- Substandard barrier protection
- Corroded stringers and deteriorated deck soffit
- Floor beams and rust staining on coating
- Corrosion at sidewalk member (Note: Gas main)
- Restricted sidewalk widths

**BRIDGE BEARINGS**
- Corrosion at bearings
- Corroded and broken anchors

**EXPANSION JOINTS**
- Water and debris on strip seal
- Wear on concrete end dams and steel armouring

**SIDEWALKS**
- Emergency closure of west sidewalk
- Load posted
- Deteriorated connections
- Soffit deterioration
- Truss is susceptible to vehicular damage
- Corroded top rail
- Missing components
- Missing connections
- Top rail - Post connection

**LATTICE RAIL**
- Disintegrated steel bars
- Hole (full depth) and crack

SEE RESOURCE TABLE FOR CONDITION / NEEDS ANALYSIS TECHNICAL MEMO
Vehicle and Pedestrian Traffic

The Woolwich Street bridge in Salem (18 tonnes load restriction).

The David Street and WR7 intersection.

The David Street bridge.

Primary access route to downtown Elora.

Existing Metcalfe Street/Carlton Place Parking

Existing pedestrian activity.

Badley Bridge carries an average of:
- 9,500 vehicles/day
- Over 500 pedestrians/day

The Metcalfe Street/Carlton Place Lot provides parking for 33 vehicles on the south side of the river crossing.
A survey of marine uses on the Grand River (between the Drimmie Dam and the Bissell Dam) was conducted on Thursday, August 20, 2015.

During this time the following marine uses were observed:

• No boats were observed using the river;
• Two boats were docked at the Elora Raft Rides dock; and
• Two people were observed fishing in the river east of the structure.

Elora Raft Rides dock.

View easterly from the bridge.
Transportation Existing Conditions – Travel Survey

Origin/Destination Survey (Wednesday August 26, 2015)

Findings from the survey included:
• Approximately 9,500 trips daily
• The Badley Bridge is used primarily for local travel purposes by Elora residents
• 35% of the travel across the bridge was for work related travel, and 33% was attracted by shopping and restaurants
• Approximately 68% of all vehicles on the bridge had a single occupant

Pedestrian Survey (Saturday September 5, 2015)

Of the individuals surveyed:
• Approximately 30% originated from the Greater Toronto Area.
• 80% had arrived by automobile
• 70% were able to obtain on-street parking
• 1 out of every 7 people parked on the south side of the river
• Parking within approximately a 10 minute walk was, on average, considered reasonable
The Badley Bridge crosses the Grand River through a calm reach. The river is considered cold water fish habitat in this area.

Shorelines indicate the stony, rocky nature of the substrate. Limestone bedrock is close to the surface and bottom currents apparently scour the streambed.

The underside of the bridge offers nesting opportunities for birds although no nests were observed. Piers are located outside the normal high water level.

Although there is little overhanging vegetation the shorelines are quite natural and undisturbed for the most part.
Some areas of the shoreline are quite favourable for fish. Water quality appears somewhat degraded.

Even developed shoreline has some natural features adjacent to the watercourse.

Downstream piers offer fish habitat opportunities. A weir is just downstream of the piers, which restricts fish access to the reach to only upstream.

An upstream dam obstructs fish passage.

No Species at Risk have been identified in the Study Area.
Environmental Inventories – Cultural Heritage

Bridge Description
- Constructed in 1953
- Example of a nine-panel rivet constructed Parker camelback truss bridge
- Constructed by contractor A.H. MacLellan and the Hamilton Bridge Company, with County Engineer W.H. Keith

Current Heritage Status of Bridge
- Not listed on Municipal Heritage Register
- Not designated under Ontario Heritage Act

Cultural Heritage Evaluation (CHER Draft)
- Metcalfe/Badley Bridge identified through CHER and previous studies as:
  - Representative of a style/type (Parker Camelback Through Truss), now uncommon in the Township
  - Important in supporting the historic character of Elora
  - A landmark structure in Elora

Draft CHER is available on the Resource Table.
Environmental Inventories – Cultural Heritage

Broader Heritage Context
• Several listed/designated buildings adjacent or in the near vicinity of the bridge study area
• Red pins are properties listed on the Municipal Register, blue pins are designated under the *Ontario Heritage Act*. 
Cultural Heritage – Next Steps

• A Heritage Impact Assessment (HIA) report is required, based on:
  o The location of the bridge over the Grand River, a Canadian Heritage River watershed
  o The presence of adjacent designated/listed properties
  o The evaluation of the bridge as having some cultural heritage value or interest

• The HIA will assess all alternatives carried forward and their impacts to the cultural heritage value of the bridge/context and adjacent properties

• The HIA will identify conservation measures/mitigation measures to avoid/reduce adverse impacts
Environmental Inventories – Geotechnical

- The existing geotechnical conditions in the vicinity of the crossing have been summarized in a Geotechnical Desktop Report and are available at the Resource Table
- Surficial geology has been influenced by extensive glacial activity of the late Wisconsin period
- The site is located in the Physiographic Region known as the Guelph Drumlin Field
- The Grand River flows in an old glacial meltwater spillway
- The existing bridge is founded on dolostone bedrock
- The rock profile of the crossing of the Grand River is illustrated on the following exhibit
Environmental Inventories – Utilities
The land use of the Study Area is predominantly commercial and residential properties. The majority of the downtown core is occupied by multiple local businesses with residences above the storefronts. The Township of Centre Wellington’s Official Plan designates the study area lands as being a Central Business District.

The Central Business District located both north and south of the bridge is described as being for general commercial purposes. The objective is to ensure the downtown core of Elora is the central location for commerce and social functions.

South of the bridge there are both commercial (LCBO, Shoe Villa, Gorge Country Kitchen etc.) and residential land uses that make use of the river crossing.

The lands within 6 miles of the Grand River are defined in the Haldimand Treaty of 1784 describing the rights of the Six Nations.

The Land Use Planning Report is available at the Resource Table.
MTO Standards:
• Design Flood Return Period is the 100 year flood (for arterial road and bridge span greater than 6 m).
• Vertical Clearance > 1.0 m
• Freeboard > 1.0 m

Existing Bridge Waterway meets the MTO Standards:
• Passes the 100 year flood (586 m$^3$/s)
• Vertical Clearance for 100 year flood = 1.07 m\\±
• Freeboard for 100 year flood = 2.13 m\\±

The Hydraulic Technical Memorandum is available at the Resource Table.
Technical Studies – Hydraulics

Bridge Span Alternatives Examined for Effect on Flood Levels, assuming that the soffit of the new structure is at the same elevation as the existing.

<table>
<thead>
<tr>
<th>Bridge Alternative</th>
<th>Effect on Regional Storm Water Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Span – 48 m</td>
<td>+0.13m</td>
</tr>
<tr>
<td>Single Span – 60 m</td>
<td>-0.02m</td>
</tr>
<tr>
<td>Two Span – 36m-36m</td>
<td>+0.01m</td>
</tr>
<tr>
<td>Three Spans – 24m-24m-24m</td>
<td>+0.03m</td>
</tr>
</tbody>
</table>

The effects on the 100 year return period flood, and higher probability floods, are less than 0.04m in all cases.
Evaluation Methodology – Assessment of Alternative Planning Solutions

The evaluation of alternatives is completed in a two-step process. The initial step is to consider alternative planning solutions. For this study, the alternative planning solutions included:

- The “Do Nothing” Alternative
- Close Badley Bridge
- Rehabilitation of Badley Bridge
- Replacement of Badley Bridge

The “Do Nothing” alternative or closing the bridge is not recommended to be carried forward for this project based on the age and function of the existing structure.

The “closure” of the existing bridge has not been recommended to be carried forward based on the strategic and historical link to the downtown of Elora. This link provides access to businesses and provides emergency service access across the Grand River.

The rehabilitation alternative has been considered and is known to add further life cycle costs to repair the bridge to extend its current useful life before completing a future replacement. It would also result in greater community impacts by planning two construction projects. However, based on the potential cultural heritage value a number of rehabilitation strategies are available including conservation and mitigation approaches. To provide due regard for heritage concerns the rehabilitation (repair alternative) will be carried forward for further detailed evaluation including input from a Heritage Impact Assessment.

The construction of a new replacement structure will continue to support the ongoing land use development in the Study Area.

Should no comments be received that object to this recommendation then the EA will continue through the evaluation of preliminary design alternatives for the structure.

The review of Alternative Planning Solutions is described in a technical memorandum available on the Resource Table.
This planning approach reflects a strategy to maintain the existing bridge by continued investment in repairs, rehabilitation or select replacement of bridge components. This approach would consider the heritage values of the bridge and the cost of increasing operating and maintenance investment as the bridge nears the end of its service life. This approach would postpone the future replacement of this bridge. This strategy would consider both conservation options or strategies as well as mitigation approaches. These may include:

Conservation strategies:

- Restoration of missing or deteriorated elements where physical or documentary evidence (i.e. photographs or drawings) can be used for their design;
- Retention of existing bridge with no major modification undertaken;
- Retention of existing bridge with sympathetic modification;
- Retention of existing bridge with sympathetically designed new structure in proximity;
- Retention of existing bridge no longer in use for vehicular purposes but adapted for pedestrian walkways, cycle paths, scenic viewing, etc;
- Relocation of bridge to appropriate new site for continued use or adaptive re-use; and
- Retention of bridge as heritage monument for viewing purposes only.

Mitigation Strategies:

- Salvage of elements/members of bridge for incorporation into new structure or for future conservation work or displays; and
- Full recording and documentation of structure if it is to be demolished.
The evaluation approach to compare preliminary design alternatives, described as the Multi Attribute Trade-off System (MATS), is based on the “Weighted Additive Method” which focuses on the differences between the alternatives, addressing the complexity of the base data collected, and providing a traceable decision-making process. In addition, the method allows quick sensitivity tests to be performed because of the matrix configuration of the assessment and the use of numerical scores to measure the impact of the alternatives. The evaluation methodology report is available at the resource table.

The initial task in the evaluation is to develop evaluation criteria from which alternatives will be assessed. This process includes the identification of “global” groups of factors followed by the selection of a number of “local” sub-factors under the global groups.

A “preliminary” list of global factors and their corresponding sub-factors proposed for the evaluation of alternatives is shown on the following exhibit. The public is asked to comment on issues that should be considered for the evaluation of alternatives.

For this study an independent test will be undertaken which places greater or less emphasis on a global factor and redistributing the weight to the other factors using the average values of the TAC. This sensitivity testing will show the trade-offs between alternatives.
The following preliminary evaluation criteria (factor groups and sub-factors) are presented for comment for the assessment of the alternatives:

TRANSPORTATION
• Pedestrian out-of-way travel
• Bicycle out-of-way travel
• Pedestrian Safety
• Bicycle Safety
• Accommodates commercial vehicles

NATURAL ENVIRONMENT
• Regionally Significant Vegetation
• Wildlife Habitat
• Species at Risk (SAR) Habitat impacted
• Loss of fish habitat

SOCIO-CULTURAL ENVIRONMENT
• No. of existing residential properties with sound level increases
• Visual intrusion
• Accommodates recreational activities (i.e. walking, cycling)
• Area of Archaeological Potential Impacted

HERITAGE/ARCHAEOLOGY
• Bridge heritage
• Downtown heritage
• Cultural Heritage Landscape

LAND USE AND PLANNING
• Loss of land

ECONOMIC
• Business impacts
• Customer walking distance to parking

COST
• Roadway Capital Cost (including bridge replacement or rehabilitation)
• Roadway Maintenance Costs

BRIDGE HYDRAULICS
• Upstream Water level increase
The alternatives will involve a combination of bridge alternatives, barrier alternatives, transportation/traffic staging and hydraulic performance. An example of how these will combine to create an alternative is illustrated below:
<table>
<thead>
<tr>
<th>Structure Type</th>
<th>Figure</th>
<th>Coarse Screening</th>
</tr>
</thead>
</table>
| Three Span Cast-In-Place Concrete Rigid Frame       | ![Figure](image1) | ✓ Eliminates Expansion Joints, Improved Durability  
✗ Cost  
✓ Proven Design  
✗ Falsework and Formwork on River Bed |
| Two Span Cast-In-Place Post-Tensioned Voided Slab   | ![Figure](image2) | ✓ Slender deck  
✗ Heavy Deck  
✗ Falsework and Formwork on River Bed  
✗ Demanding Quality Control during Construction  
✗ Long Duration |
| Three Span Cast-In-Place Post-tensioned Voided Slab | ![Figure](image3) | ✓ Slender Deck  
✓ Eliminates Expansion Joints, Improved Durability  
✗ Falsework and Formwork on River Bed  
✗ Cost |

See Resource Table for Coarse Screening Memo
<table>
<thead>
<tr>
<th>Structure Type</th>
<th>Figure</th>
<th>Coarse Screening</th>
</tr>
</thead>
</table>
| Two Span Precast “I”                 | ![Diagram](#) | ✓ Eliminates Expansion Joint Assemblies  
                               | ![Diagram](#) | ✓ No Falsework / Scaffolding on River Bed  
                               | ![Diagram](#) | ✓ Precast Deck Panels  
                               | ![Diagram](#) | ✗ Cofferdam for Pier |
| (CPCI 1900) Girder                    |        |                                                                 |
| Three Span Precast “I”                | ![Diagram](#) | ✓ Eliminates Expansion Joint Assemblies  
                               | ![Diagram](#) | ✓ Precast Deck Panels  
                               | ![Diagram](#) | ✗ Constructability; Girder Erection in Middle Span |
| (CPCI 1400) Girder                    |        |                                                                 |
| Two Span Precast NU-1200 Girder       | ![Diagram](#) | ✓ Eliminates Expansion Joint Assemblies  
                               | ![Diagram](#) | ✓ No Falsework / Scaffolding on River Bed  
                               | ![Diagram](#) | ✓ Precast Deck Panels  
                               | ![Diagram](#) | ✗ Cofferdam for Pier |
| NU1200                               |        |                                                                 |

See Resource Table for Coarse Screening Memo
<table>
<thead>
<tr>
<th>Structure Type</th>
<th>Figure</th>
<th>Coarse Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three Span Precast NU-900 Girder</td>
<td><img src="image1" alt="Image" /></td>
<td>✓ Eliminates Expansion Joint Assemblies&lt;br&gt;✓ Slender Deck&lt;br&gt;✖ Constructability; Girder Erection in Middle Span</td>
</tr>
<tr>
<td>Two Span Steel “I” Girder</td>
<td><img src="image2" alt="Image" /></td>
<td>✓ Relocates Expansion Joint Assemblies&lt;br&gt;✓ No Falsework / Scaffolding on River Bed&lt;br&gt;✖ Vibration felt by Pedestrians&lt;br&gt;✖ Aesthetics</td>
</tr>
<tr>
<td>Three Span Steel “I” Girder</td>
<td><img src="image3" alt="Image" /></td>
<td>✓ Relocates Expansion Joint Assemblies&lt;br&gt;✖ Constructability; Girder Erection in Middle Span&lt;br&gt;✖ Vibration felt by Pedestrians&lt;br&gt;✖ Aesthetics</td>
</tr>
</tbody>
</table>

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<tr>
<th>Structure Type</th>
<th>Figure</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Single Span Steel Box Girder</td>
<td><img src="image" alt="Figure" /></td>
<td>✓ No Pier Construction</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Figure" /></td>
<td>✓ Relocates Expansion Joint Assemblies</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Figure" /></td>
<td>❌ Constructability; Girder Delivery and Erection</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Figure" /></td>
<td>❌ Deep Superstructure</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Figure" /></td>
<td>❌ Aesthetics</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Figure" /></td>
<td>❌ Not Viable Hydraulics</td>
</tr>
<tr>
<td>Single Span Steel Truss</td>
<td><img src="image" alt="Figure" /></td>
<td>✓ No Pier Construction</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Figure" /></td>
<td>❌ Large Truss</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Figure" /></td>
<td>❌ Falsework on River Bed</td>
</tr>
<tr>
<td>Two Span Steel Truss</td>
<td><img src="image" alt="Figure" /></td>
<td>✓ Imitates Main Span on Current Bridge</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Figure" /></td>
<td>❌ Cofferdam for Pier</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Figure" /></td>
<td>❌ Falsework on River Bed</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Figure" /></td>
<td>❌ Three Expansion Joint Assemblies</td>
</tr>
</tbody>
</table>

See Resource Table for Coarse Screening Memo
## Bridge Alternatives and Coarse Screening

<table>
<thead>
<tr>
<th>Structure Type</th>
<th>Figure</th>
<th>Coarse Screening</th>
</tr>
</thead>
</table>
| Three Span Steel Truss                | ![Diagram](image1.png) | ✓ Slender Deck  
✓ Imitates Former Victoria St. Bridge  
✗ Four Expansion Joint Assemblies  
✗ Falsework to River Bed  
✗ Cost |
| Arch (Steel)                          | ![Diagram](image2.png) | ✓ Utilize Current Piers  
✗ Constructability: Arch Delivery and Erection  
✗ Two Expansion Joint Assemblies  
✗ Falsework to River Bed  
✗ Cost (Initial and Maintenance) |
| Three Span Precast Concrete Segmental Box | ![Diagram](image3.png) | ✓ Prefabrication offers Superior Quality Product  
✗ Requires On-Site Fabrication Facility  
✗ Specialized Erection Equipment  
✗ Long Duration  
✗ Cost |

See Resource Table for Coarse Screening Memo
## Bridge Alternatives and Coarse Screening

<table>
<thead>
<tr>
<th>Structure Type</th>
<th>Figure</th>
<th>Coarse Screening</th>
</tr>
</thead>
</table>
| Three Span Precast Box Beam (B1000)  | ![Figure](image1.png) | ✓ Accelerated Construction; Less Formwork on Deck  
  × Constructability; Girder Erection in Middle Span  
  × Cofferdam for Pier  
  × Heavy Deck |
| Three Span Precast Box Beam (B800)   | ![Figure](image2.png) | ✓ Accelerated Construction; Less Formwork on Deck  
  ✓ Eliminates Expansion Joints providing Improved Durability  
  ✓ Constructability; Girder Erection in Middle Span  
  × Cofferdam for Pier |
| Four Span Precast Box Beam (B700)    | ![Figure](image3.png) | ✓ Slender Deck  
  ✓ Accelerated Construction; Less Formwork on Deck  
  ✓ Cost  
  × Cofferdam for Pier |

See Resource Table for Coarse Screening Memo
<table>
<thead>
<tr>
<th>Structure Type</th>
<th>Figure</th>
<th>Coarse Screening</th>
</tr>
</thead>
</table>
| Cable Stayed   | ![Diagram](image1) | ✓ Signature / Landmark Bridge
- Not Suitable Span Length (too short)
- Massive Tower Foundation Results in Significant Disturbance in River Bed
- Cofferdam for Tower
- Cost |

See Resource Table for Coarse Screening Memo
Bridge Alternatives Carried Forward

THREE SPAN RIGID FRAME
Bridge Alternatives Carried Forward

TWO SPAN PRESTRESSED CONCRETE GIRDER
Bridge Alternatives Carried Forward

SINGLE SPAN STEEL BOX GIRDER
THREE SPAN STEEL TRUSS
Bridge Alternatives Carried Forward

FOUR SPAN PRESTRESSED CONCRETE BOX GIRDER
BARRIER ALTERNATIVES

CONCRETE BALUSTER RAIL (RECOMMENDED)

Tower Street Bridge over the Grand River, Community of Fergus
David Street Bridge over the Irvine River, Community of Elora

PARAPET WALL WITH RAILING

BOX BEAM

For this study, several barrier classifications are available and these include:
- traffic ✗
- pedestrian ✗
- bicycle ✗
- combination (pedestrian)
- combination (bicycle) ✓

The construction of a combination (pedestrian) barrier of the concrete baluster rail type is recommended to be carried forward for this project. Should no comments be received that object to this recommendation then the EA will continue with this bridge barrier.
**Number of Lanes**
- Single lane two-way traffic (minimum 5.0 m) ✗
- Two-lane (minimum 8.5 m) ✓
- Four-lane ✗
- Multi-lane ✗
- Median (flush or raised) ✗
- Auxiliary lane(s) ✗

**Lane Widths**
- 3000 mm wide through lane ✗
- 3250 mm wide through lane ✗
- 3500 mm wide through lane ✓
- 3750 mm wide through lane ✗

**Side Clearance (Shoulder)**
- 500 mm wide shoulder ✗
- 1000 mm wide shoulder ✗
- 1500 mm wide shoulder ✓

**Sidewalk(s)**
- No sidewalks ✗
- One sidewalk (east side or west side only) ✗
- Two sidewalks (both sides) ✓

**Sidewalk Widths**
- Minimum 1500 mm wide sidewalk adjacent to curb and gutter
- Sidewalk width increased to 1800 mm along major roadways ✓
- Sidewalk width increased to 2400 mm at high pedestrian areas
Option 1A
- Two way traffic on an asphaltic concrete wearing surface and waterproofing system
- One 3500 mm wide Northbound Traffic Lane
- One 3500 mm wide Southbound Traffic Lane
- 1500 mm wide shoulders (side clearance)
- 1500 mm wide sidewalks

Option 1B
- Two way traffic on an asphaltic concrete wearing surface and waterproofing system
- One 3500 mm wide Northbound Traffic Lane
- One 3500 mm wide Southbound Traffic Lane
- 1500 mm wide shoulder (side clearance) on east side
- 1500 mm wide sidewalk on east side
- 1200 mm wide shoulder (side clearance) on west side
- 1800 mm wide sidewalk on west side
Option 2A X-Section

- Two way traffic on an asphaltic concrete wearing surface and waterproofing system
- One 3500 mm wide Northbound Traffic Lane
- One 3500 mm wide Southbound Traffic Lane
- 1500 mm wide shoulders (side clearance)
- 1800 mm wide sidewalk on east side
- 1500 mm wide sidewalk on west side

Option 2B X-Section

- Two way traffic on an asphaltic concrete wearing surface and waterproofing system
- One 3500 mm wide Northbound Traffic Lane
- One 3500 mm wide Southbound Traffic Lane
- 1500 mm wide shoulder (side clearance) on east side
- 1200 mm wide shoulder (side clearance) on west side
- 1800 mm wide sidewalks
Bridge Cross Section and Sidewalk – Alternative No. 3

Option 3A

- Two way traffic on an asphaltic concrete wearing surface and waterproofing system
- One 3500 mm wide Northbound Traffic Lane
- One 3500 mm wide Southbound Traffic Lane
- 1500 mm wide shoulders (side clearance)
- 2400 mm wide sidewalk on east side
- 1500 mm wide sidewalk on west side

Option 3B

- Two way traffic on an asphaltic concrete wearing surface and waterproofing system
- One 3500 mm wide Northbound Traffic Lane
- One 3500 mm wide Southbound Traffic Lane
- 1500 mm wide shoulder (side clearance) on east side
- 2400 mm wide sidewalk on east side
- 1200 mm wide shoulder (side clearance) on west side
- 1800 mm wide sidewalk on west side
Bridge Cross Section and Sidewalk – Alternative No. 4

Option 4A

Option 4B

Option 4C

- Two way traffic on an asphaltic concrete wearing surface and waterproofing system
- One 3500 mm wide Northbound Traffic Lane
- One 3500 mm wide Southbound Traffic Lane
- 1500 mm wide shoulders (side clearance)
- 1500 mm wide sidewalk on east side
- 1500 mm – 2400 mm (varies) wide sidewalk on west side
Bridge Cross Section and Sidewalk – Alternative No. 5

Option 5

Option 5 X-Section

- Two way traffic on an asphaltic concrete wearing surface and waterproofing system
- One 3500 mm wide Northbound Traffic Lane
- One 3500 mm wide Southbound Traffic Lane
- 1550 mm wide shoulder (side clearance) on east and west side
- 1800 mm wide sidewalk on east and west side

(The above bridge deck cross section (10100 mm width) matches that of the approach (Metcalfe Street) roadway cross section and other recently reconstructed roads, including Water Street and McNab Street)
## Detour Options – Vehicular Traffic (Cars and Trucks)

1. **Designation of David Street as the Primary Detour Route**
   - Would limit out-of-way travel to less than 1.5 km
   - The need for temporary traffic signals at Wellington Road 7 is anticipated
   - The David Street and Geddes Street intersection would be unable to accommodate turning truck traffic

2. **Use of Woolwich Street (through Salem)**
   - Increases out-of-way travel, up to 4 km
   - 18 tonnes load restriction on the Woolwich Street bridge would limit truck access

3. **Use of St David Street Bridge (through Fergus)**
   - Out-of-way travel increased to 5.7 km from Guelph but 11 kms for local trips
   - Use of South River Road would result in increased safety concerns due to sight distance constraints and without provisions for pedestrians

4. **Designation of Multiple Route Alternatives (by direction)**
   - Would limit traffic impact on any one corridor
   - Limits the out-of-way travel by direction
Over 500 pedestrians cross the bridge daily. On September 5, 2015, 1 out of every 7 pedestrians surveyed had crossed the Badley Bridge after parking on the south side of the river. To accommodate these pedestrians and cyclists the following detour options are being considered:

1. Construction of a temporary pedestrian bridge
   - Increased cost with no lasting benefit

2. Use of the Bissel Park Bridge
   - Out-of-way travel (1.6 km) reasonable for cyclists but not pedestrians
   - Without accommodating pedestrians, concerns regarding access to parking and businesses south of the river are not addressed

3. Prior Construction of the Victoria Street Pedestrian Bridge
   - Timing of the planned pedestrian structure remains uncertain
Following this meeting we will:

• Finalize the Recommended Plans
• Public Information Centre No. 2 – winter/ spring 2016
• File the Environmental Study Report (ESR) – fall 2016

How can you remain involved in the Study?

• Request that your name/e-mail be added to the mailing list
• Provide a completed comment sheet
• Contact the County’s representative or the consultant at any time

Any of our representatives that are present can assist you with the above activities.

Thank you for your participation in tonight’s meeting. Your input into this study is valuable and appreciated. Please provide your completed comment form on or before December 18, 2015. All information is collected in accordance with the Freedom of Information and Privacy Act.