THE CORPORATION OF THE TOWN OF GEORGINA

REPORT NO. OID2025-0009

FOR THE CONSIDERATION OF COUNCIL
May 7, 2025

SUBJECT: COMMEMORATION OF THE OLD SHILOH BRIDGE

1. RECOMMENDATION:

1. **That Council receive Report No. OID2025-0009 prepared by the Capital Delivery Division, Operations & Infrastructure Department dated May 7, 2025 regarding Commemoration of the Old Shiloh Bridge;**

2. **That Council approve funding of $40,000.00 for commemoration of the Old Shiloh Bridge as recommended herein including: assembly of historical documentation, preparation of a scale model, and installation of commemorative plaques on or at the replacement bridge to be funded from Tax Rate Stabilization reserve; and,**

3. **That staff be authorized and directed to do all things necessary to complete the commemorative actions recommended herein, all in accordance with the Town's established policies and procedures.**

2. PURPOSE:

To present an analysis of various alternatives for commemoration of the Old Shiloh Bridge and to obtain Council authorization and approval of funding to carry out the recommended commemorative actions.

3. BACKGROUND:

The Operations & Infrastructure Department is responsible for maintaining the Town of Georgina's road network and infrastructure within the right-of-way including bridges.

The Old Shiloh Road Bridge is a concrete arch bridge that was built in 1925. The bridge is located on Old Shiloh Road, approximately 750 m west of Victoria Road, in the hamlet of Udora.

In 2022 Council approved capital business case 22-CI-OI-22 to undertake a Schedule B Municipal Class Environmental Assessment (MCEA) to analyze the bridge and determine the preferred repair or rehabilitation strategies for the Old Shiloh Road Bridge.

Ontario's MCEA process is a regulatory-based systematic approach to planning, evaluating, and decision-making for municipal infrastructure projects, ensuring that projects are environmentally sound, socially acceptable, and economically feasible.

As the result of a competitive procurement process, the Town retained Tatham Engineering to conduct the MCEA to analyze the existing structure, develop alternatives, and recommend the preferred design strategy.

The findings of the MCEA are available on the Old Shiloh Road Bridge MCEA project website and in Council Report OID2024-003 "Completion of the Municipal Class Environmental Assessment for the Old Shiloh Road Bridge". The preferred alternative determined for the Old Shiloh Bridge is to fully remove the existing structure and replace it with a two-lane structure. The MCEA also recommended that the bridge be commemorated due to its local cultural heritage value. One of the central commemoration recommendations was to assemble documentation pertinent to the history of the bridge.

In February 2024 Council directed staff to complete an analysis of costs, timelines and implementation considerations of the non-structural options for cultural heritage commemoration of the Old Shiloh Road Bridge including; an arch facade, reuse or relocation of portions of the bridge at an alternative location, or erection of a monument, plaque or art installation; and return to Council with a report on the non-structural commemoration options. It is important to consider these options now, as some of the options may impact the design of structural components/loading on the bridge.

Update on Construction

In Georgina's 2025 Budget deliberation process, Council approved the project for replacement of the Old Shiloh Bridge. As detailed in business case 25-CI-OI-07, staff were directed to complete: additional field investigations, design, construction and post-construction warranty support. Staff have acted on Council's direction to move forward and the following summarizes the status of the bridge replacement project as of the date of this report:

- The Owner's Advisor for Design-Build replacement of the bridge has been retained;
- Additional background investigations and field work have been completed;
- A competitive procurement process to select pre-qualified Design-Build Contractors has been completed with five very well-qualified firms/consortia short-listed to participate in a subsequent Design-Build Request for Proposals; and,
- Preliminary design and development of a Design-Build Request for Proposals for replacement of the Old Shiloh Bridge is nearing completion and expected to be issued for procurement in May 2025.

4. ANALYSIS:

Several non-structural options for commemoration of the Old Shiloh Bridge have been developed and evaluated. Evaluation criteria considered include the potential impact of the commemoration, potential audience exposure, key implementation factors that must be considered, and estimated costs. Recent cost estimates for design, construction and maintenance of commemorative alternatives considered in this evaluation were prepared by Tatham Engineering as part of its Owner's Advisory services for Design-Build replacement of the bridge. **Appendix 1** attached, summarizes the evaluation of the commemoration alternatives.

Evaluation of Commemoration Alternatives

Non-Structural Arched Façades

Use of non-structural (i.e. decorative) arched façades would achieve high commemorative impact due to the visual cues closely representing the profile of the old bridge. Those visual cues will trigger memories of those who used the historical Old Shiloh Bridge.

The Old Shiloh Bridge is located in a rural area, with most bridge users being vehicular commuter traffic. There are relatively few pedestrians in the area and no current plans for a multiuse path or sidewalk to bring pedestrians from the commercial area of Udora. As a result, the non-structural arched facades would be viewed and experienced by only a small segment of Georgina's population.

A portion of the cost for the decorative arched façade is the additional structural components that will be required to be incorporated into the replacement bridge, such as support brackets, a wider deck, and larger abutments and girders. Non-structural arched façades will also require additional maintenance such as repainting or repairing when damaged. The use of non-structural arched façades is among the highest capital cost of the alternatives considered; requiring authorization of roughly $600k to $800k (i.e. 15% to 20% of the $3.9M budget for replacement of the bridge) of additional capital budget to construct the new bridge.

Given the high capital costs and low audience exposure, the option of non-structural arched façades is not recommended for further consideration.

Arch Shapes Incorporated into Concrete Barriers

Smaller scale arch shaped visual cues could be incorporated into concrete side barriers on the bridge using "form-liners" to emboss the concrete, or concrete barriers formed with arched shaped openings. While visually echoing the characteristic arch shape of

the historic bridge, these options achieve a relatively low commemorative impact due to their reduced scale and dimensions.

Similar to the arch facades, echoing of arch shapes in the concrete barriers would also be expected to be viewed and experienced by a relatively small group of people. Commuters using the bridge may be somewhat reminded of the old bridge due to the arched features on the barriers; however, new users or future generations are not likely to appreciate the significance of these architectural features.

There are no additional costs associated with structural accommodations for this option and no change to long-term maintenance costs. Incorporation of arch shapes into concrete barriers is a moderately low cost alternative; requiring authorization of roughly $90k to $160k (i.e. 2.5% to 4%) of additional capital budget to construct the new bridge.

Given the low commemorative impact and low audience exposure, the option of incorporating arch shapes into concrete barriers is not recommended for further consideration.

Reuse of the Existing Bridge

Reuse of the existing bridge would achieve high commemorative value by keeping the historic bridge in use. The bridge could be relocated to a pedestrian pathway requiring a bridge.

Removal and transport of the existing bridge in whole or pieces could prove to be very difficult. The arches on the bridge were constructed on-site and designed to always be in compression, meaning that if one section of an arch is compromised during the removal process, an arch or the entire bridge may collapse. Significant structural framing would be required to attempt to move the bridge. Transportation would also be extremely difficult given its size and mass, and careful planning and execution would be required. Detailed structural analysis, foundation design and supplementary support structures will be required to ensure stability of the bridge at its new location.

Of all of the commemorative options considered, the option to reuse of the existing bridge carries the highest cost along with the greatest degree of uncertainty regarding technical feasibility. If the bridge was relocated successfully, it would require significant maintenance to ensure structurally stability for its purpose. Reuse of the bridge would require authorization of a minimum of $1M (i.e. 25%) of additional capital budget, with the acknowledgement that additional funding may be required should unanticipated technical challenges in relocation need to be overcome.

Despite the high commemorative impact and broader audience exposure that could be achieved, given the high capital costs and risk uncertainties, the option of reusing the bridge is not recommended for further consideration.

Relocation of Part of the Existing Bridge

Part or all of one of the existing arch structures could be salvaged and relocated to a different location to act as a commemorative display. As described above, relocating the bridge entirely poses significant technical challenges. Alternatively, a visually characteristic section of one arch could be dismantled and re-assembled in a new location with somewhat lesser difficulty and risk. A section of bridge could be relocated and set-up as a permanent interpretive display at the Pioneer Village, Udora Hall, or other Town property.

This approach would achieve moderate to high commemorative impact by allowing those that view the arch segment to experience and appreciate its historic significance.

The degree of audience exposure achieved would depend on the location chosen for re-assembly of the arch structure, but would undoubtedly be greater than at the current location of the bridge.

This approach would require soil investigations and preparation of an engineered structural design to ensure adequate foundational support and long-term stability of the arch for safety. Reassembly of all or part of an arch from the existing bridge at a new location owned by the Town would require authorization of roughly $300k to $700k (i.e. 7% to 18%) of additional capital funding.

Despite the high commemorative impact and broader audience exposure that could be achieved, given the high capital costs, the option of erection of a part of the bridge at a new location is not recommended for further consideration.

Scale Model Display

A scale model can be constructed to visually recreate the Old Shiloh Bridge and its surroundings including Old Shiloh Road, the Pefferlaw River, and its rural setting. Staff discussions with expert architectural model builders suggest that a realistic three dimensional scale model could be constructed with model dimensions of roughly 60cm x 90cm, mounted on a decorative stand and encased in a transparent acrylic box. The model would be accompanied by an interpretive sign describing some of the history of the Old Shiloh Bridge.

A scale model display would achieve high commemorative impact as it would visually present the structure and its place in the community, while providing a learning opportunity for those who are unaware of the cultural heritage of the Old Shiloh Bridge.

The scale model could be placed in an indoor high-traffic pedestrian area such as the common area outside the Council Chamber in the new Civic Centre, the MURC, or

Udora Hall. The degree of audience exposure achieved by this approach would be the highest of all the commemorative alternatives considered.

Construction of a scale model display would require authorization of roughly $30k (i.e. 0.7%) of additional capital funding.

Due to the high commemorative impact, large audience exposure and low cost, it is recommended that the Town implement construction of a scale model display as its primary commemorative action.

Commemorative Plaque

Commemorative plaques can be installed at each end of the replacement bridge. The commemorative plaque can include an outline/image of the historic bridge and contain text highlighting the bridge's local history and cultural significance. The plaque will provide a learning opportunity for those who examine it.

The plaque will provide medium to high commemorative impact given the image and historical description, however the degree of audience exposure achieved would be low, focused primarily on pedestrians using the bridge.

Installation of commemorative plaques would require authorization of roughly $10k (i.e. 0.2%) of additional capital funding.

Given the high commemorative impact and low cost, it is recommended that plaques be installed on the replacement bridge as a secondary commemorative action.

5. RELATIONSHIP TO STRATEGIC PLAN:

Delivering Service Excellence:

- Proactively manage infrastructure and assets to ensure service continuity.

6. FINANCIAL AND BUDGETARY IMPACT:

Business cases 20-OI-5 and 22-CI-OI-12 (approved by Council Resolution C-2022-0215) authorized expenditures on the Old Shiloh Bridge for an initial geotechnical investigation and performance of the Municipal Class Environmental Assessment (totaling $146k).

Approved business cases 24-CI-OI-16 and 25-CI-OI-07 ($250k and $3.9M respectively) provide funding specific to investigation, engineering, design and construction of replacement of the Old Shiloh Bridge, but do not include funding for commemorative actions.

This report requests authorization of funding in the amount of $40,000 for creation of a commemorative scale model display of the Old Shiloh Bridge and installation of historical marker plaques at the location of the bridge to be funded from Tax Rate Stabilization reserve.

7. PUBLIC CONSULTATION AND NOTICE REQUIREMENTS:

Public communication has been an important source of feedback to assess the bridge's local cultural heritage value. The MCEA portion of the project included the communication touch points listed below:

Public Consultation Activities	Date	Role in Schedule B MCEA
Notice of Study Commencement - Website publication - Delivery to local property owners and stakeholder groups - On-site project signage	March 30, 2023 to April 13, 2023	Mandatory
Notice of Public Information Centre - Website publication - Delivery to local property owners and stakeholder groups - Publication in local newspaper	April 26, 2023 to May 11, 2023	Enhancement
Public Information Centre	May 17, 2023	Enhancement
Website/Social Media Posting of Project Documents	Continuous	Enhancement
Notice of Study Completion	May 1, 2024	Mandatory

During the engineering and construction phases of the project, staff will continue to keep local residents, Council and stakeholder groups informed as to the progress of the project with briefing notes, website postings, project status updates, notifications in advance of commencement of construction works and other communications as may be required.

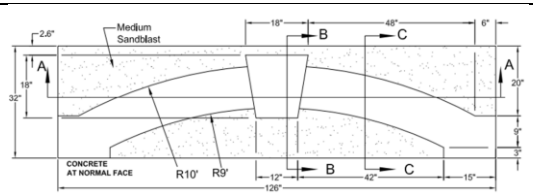
8. CONCLUSION:

The Old Shiloh Bridge has cultural heritage and should be commemorated. Through analyzing various alternatives, it is recommended that the Town create a scale model display and mount historical plaques at the bridge location. These actions would be complemented by assembly of relevant historical documentation. Implementation of these recommendations will achieve high impact commemoration of the Old Shiloh Bridge with a large audience at reasonable cost.

APPROVALS

Prepared By:	Owen Sanders, Senior Project Manager
Reviewed By:	Neil MacDonald P.Eng. Manager, Capital Delivery
Recommended By:	Michael Vos, Director, Operations and Infrastructure
Approved By:	Ryan Cronsberry, Chief Administrative Officer

Appendix 1: Assessment of Commemoration Alternatives

Option	Description	Impact	Audience Exposure	Key Implementation Factors	Cost	Example
Arch façades	Timber or steel arch façade installed on the outside of the new bridge deck.	High. Arches will appear visually similar to historic structure.	Low. Rural area with primary users of bridge being local commuters and relatively few pedestrians.	Increased loading on new bridge means larger structural components. Will require additional maintenance.	$700k to $800k	
	Concrete arch façade installed on the new bridge deck.	High. Arches will appear similar to existing structure.	Low. Rural area with primary users of bridge being local commuters and relatively few pedestrians.	Can be constructed along bridge railings, meaning bridge deck does not need to be larger. Barrier and arch may accumulate snow and salt laden water, leading to increased maintenance. Increased load on bridge may require larger structural components.	$500k to $600k	
Embossed solid concrete barrier	The exterior side of the concrete barriers include architectural arched "formliners" to emboss the arch shape on the concrete surface.	Medium-low. Arch shapes in barrier serve as reminder of historical arched bridge, but do not provide impactful visual cues of scale and size.	Very low. Audience would be users viewing the bridge from outside the barriers (watercourse users or pedestrians walking outside the bridge area).	"Formliners" are typically used only on the exterior side of barrier only to avoid snag points for vehicles if striking the barrier. Minimal structural accommodations are needed with this option. This type of barrier is suitable for Old Shiloh Road.	$90k to $110k	

Option	Description	Impact	Audience Exposure	Key Implementation Factors	Cost	Example
Decorative concrete barrier	The bridge barriers would have open arches (not exactly as shown in the example photo).	Medium-low. Arch shapes in barrier serve as reminder of historical arched bridge, but do not provide impactful visual cues of scale and size.	Low. Rural area with primary users of bridge being local commuters and relatively few pedestrians.	Minimal structural accommodations are needed with this option. This type of barrier is suitable for Old Shiloh Road.	$140k- $160k	
Reuse of the existing bridge	Reuse the bridge as a pedestrian bridge in another area of Town.	Highest. This would keep the bridge in use, providing maximum commemorative value.	Medium. A suitable watercourse or low lying area would need to be found. Likely only the audience using the walking / cycling would benefit.	Uncertain feasibility. Arches may not support self-weight and collapse or crumble when being removed for transport. Structural stability of relocated bridge will be difficult to ensure.	$1,000,000	
Erection of all or part of the existing bridge	All or part of one existing bridge arch could be salvaged and relocated to be displayed.	Very high. Displaying a section or the full bridge would visually remind the audience of the existing structure in its current setting. The audience could physically touch the existing bridge.	Medium. The number of people who experience the display would be dependent on the location chosen, but would undoubtedly be more than the current bridge location.	Similar feasibility challenges as reuse of bridge, at somewhat lesser magnitude. Investigations and engineering design required to ensure structural stability at new location. An outdoor location Pioneer Village, Udora Hall or other publicly accessible area.	$300k to $700k	

Option	Description	Impact	Audience Exposure	Key Implementation Factors	Cost	Example
Scale model	A three dimensional realistic scale model of bridge and its surrounding area.	High. The model visually displays the historic bridge in its setting.	High. The model could be placed in a high-traffic-pedestrian area such as the new Civic Centre for maximum exposure.	Few limitations	$20k - $30k	
Plaque	A commemorative plaque.	Medium to high. The plaque can include a photo and text describing the bridge's local importance and history.	Low. Rural area with primary users of bridge being local commuters and relatively few pedestrians.	The plaque would be located at the ends of the new bridge.	$5k ea.	