

# The Hudson Bridge Replacement Project

Projects that bring communities together

# Hudson Bridge – The Options

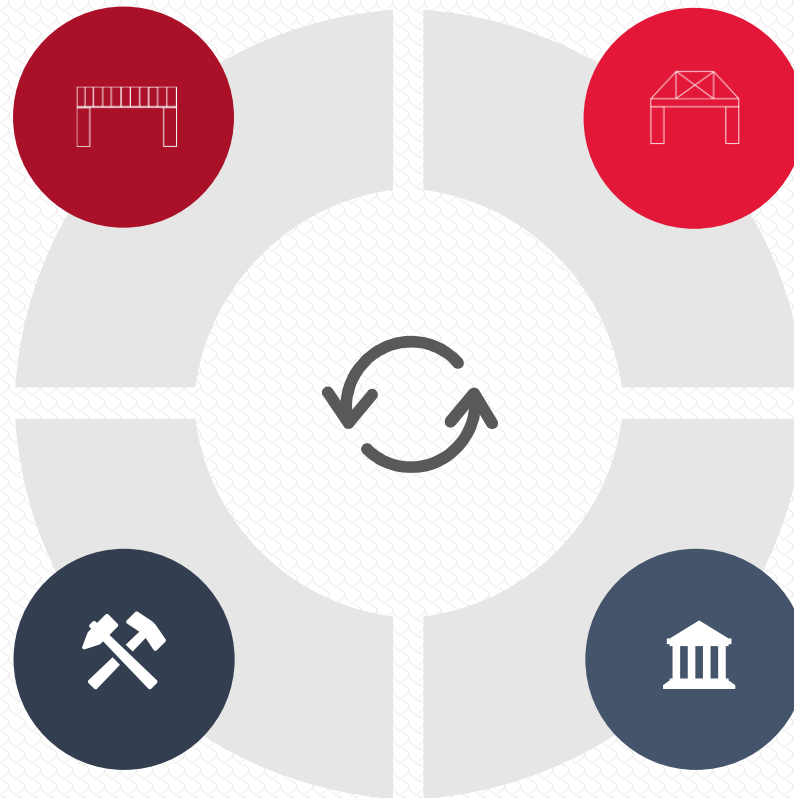
Gananoque wants to hear from YOU- Community involvement in the bridge replacement process benefits all of us!

## Option 1 – Modular Bridge

Modular bridge design is one of the most common styles of modern bridges used today. Their pre-fabricated style allows for strong, light weight custom bridges that are installed quickly and efficiently

## Option 3 – Rehabilitation (vs. Replacement)

Understanding why opting to replace as opposed to rehabilitating the bridge is the best option for the Gananoque Community



## Option 2 – Truss Bridge

The truss bridge is a classic style of bridge design. Common in early 1900's bridge construction, the truss style is still regularly used in modern designs.

## Preservation of Structural Components

The Hudson Bridge has significant cultural heritage in the Gananoque Community. Discover options for reusing structural components in order to preserve a piece of our history



# Option 1 – The Modular Bridge (Single Lane & Pedestrian Walkway)



'Mabey Modular Bridge,' Mabey Bridge, AlgonquinBridge.com



Due to the simplicity of the fabrication and assembly of its modular components, modular bridges are becoming exceedingly popular around the world. These bridges are built using a unit-assembly system that can be arbitrarily added to and each bridge can be adapted to meet the requirement of its site.



## Pros

- Rapid Availability
- Lightweight Constituent Parts
- Light inherent weight due to high-strength steel
- Short Construction Time
- Inexpensive

## Cons

- Does not match original truss style
- Higher Maintenance



Estimated Date of Completion: October 2019



# Option 2 – The Truss Bridge (Single Lane & Pedestrian Walkway)



'Single Lane Truss – Bridge Street,' Town of Bigfork, Montana, bigfork.com



Truss bridge is a type of bridge whose main element is a truss which is a structure of connected elements that form triangular units. Truss bridges appeared very early in the history of modern bridges and are economic to construct because they use materials efficiently.



## Pros

- Matches original design aesthetic
- Lower Maintenance
- Lightweight constituent parts
- Light inherent weight due to high-strength steel

## Cons

- 75% more expensive than modular design
- Labour & Equipment Intensive Installation Process
- Longer closure



Estimated Date of Completion: October 2019



# Option 3 – Rehabilitation (The Challenges)



In 2014 Keystone Bridge Management was retained by the Town of Gananoque to perform a structural inspection and provide the Town with its findings. With consideration of these findings, it is in Greer Galloway's opinion that the structural steel is approaching its maximum life span.

The report identified numerous deficiencies in the bridge structure including:

- Rutting in the deck surface
- Impact damage to the approach guiderail
- Corrosion of the:
  - Stringers
  - Floor Beams
  - Top and bottom chord
  - Abutment Bearings



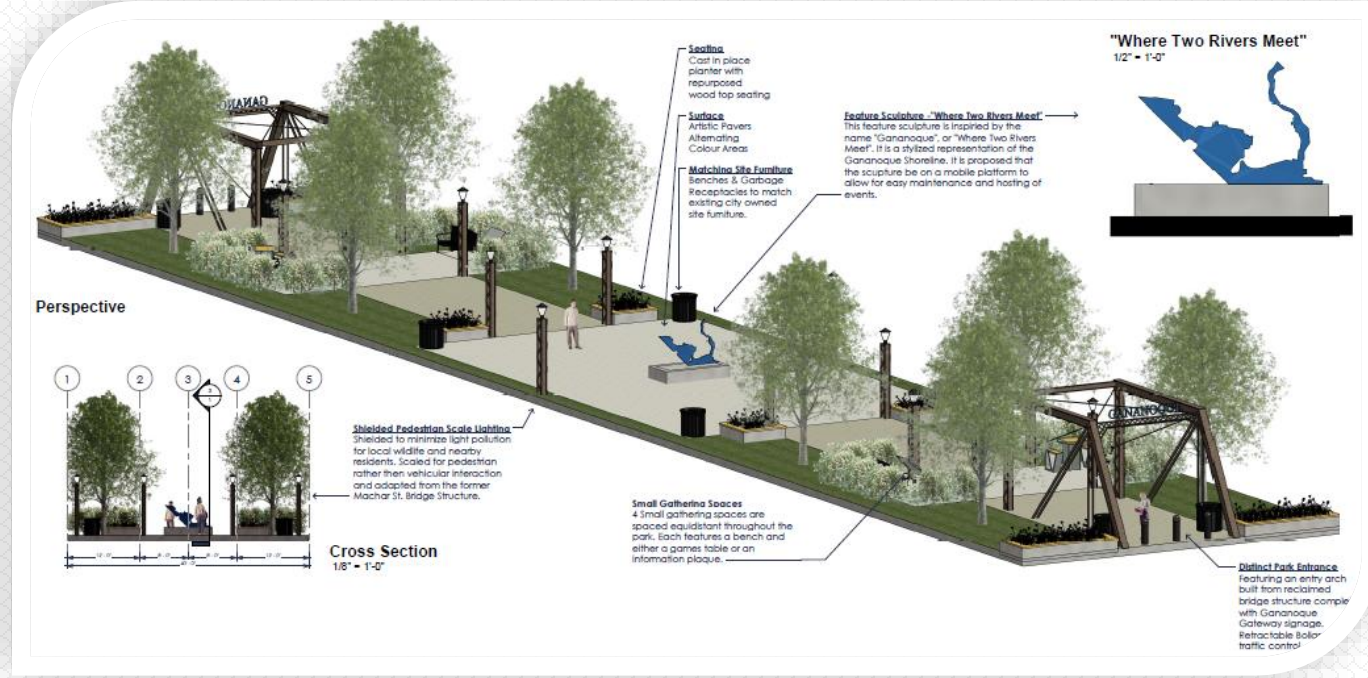
A cautionary Load Posting of 20 tonnes was established after a report noting irregular deflection on the North side of the bridge



The Report ultimately recommended that the structure be replaced by 2020, and by 2030 would be considered no longer viable for vehicular traffic. Further inspection could potentially suggest an even earlier is closure required.



# Preservation of Cultural Heritage

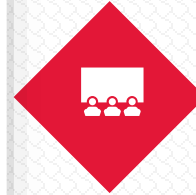


*"A pedestrian friendly recreation space is proposed to infill the under-used municipal street next to the Island Harbour Club in Gananoque Ontario. The open areas of the re-purposed Market St. plaza are suitable to be used for a variety of events and gatherings."*

**- Proposal by RMP Construction & Development Ltd.**  
(Visit [www.rmpconstruction.ca/market-st](http://www.rmpconstruction.ca/market-st) for further details)



Originally constructed in 1898 as the TIR Snapper Bridge, the Town of Gananoque purchased the bridge from CN in 1924 for \$500. The Bridge was converted to a road bridge and installed at its new location where it remains today, almost 100 years later!



A plaque commemorating the Hudson Bridge and its history in our community will be presented at the former site of the Hudson Bridge. Additionally, components of the bridge will be saved.



RMP Construction & Development Ltd. has proposed a design to reuse structural components to preserve the cultural heritage of the Hudson Bridge.



A sculpture: "Where Two River's Meet" is the proposed central feature of the park. The sculpture is a stylized representation of the shoreline where the Gananoque and St. Lawrence rivers meet.



Along with cultural heritage, preserving the environment is of the utmost importance. In addition to a phase 1 archeological and environmental study, there will also be measures in place for species at risk, bird protection and erosion & sediment control.