

May 31, 2024

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To: City Council

Copy To: Executive Leadership Team  
Aileen Giesbrecht, City Clerk  
IIS Branch Managers

From: Craig Walbaum  
Acting Deputy City Manager

Subject: **Bridge Renewal Program Update**

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Edmonton has an extensive bridge inventory of approximately 347 bridges worth approximately \$2.6 billion in replacement value. This significant collection of assets requires ongoing inspection, maintenance and renewal to ensure they maintain their expected level of service. In the coming years, several key bridge structures will undergo renewal.

This memo provides an update on the City's bridge renewal program and scheduled bridge renewal projects, including specific information regarding work planned for the Low Level Bridges.

*For further background on the bridge renewal program, please see the report previously shared with Executive Committee on January 19, 2022 ([Item 6.2 Integrated Infrastructure Services Report IIS00814 - Bridge Program Update](#)).*

### **Bridge Renewal Program Downtown**

Numerous bridges in and around Downtown require significant investment in renewal over the current and future budget cycle. The following graphic depicts the anticipated construction timing for bridge renewal activities and related traffic network changes. Beyond those shown, other projects (such as neighbourhood renewal, LRT construction or maintenance activities) are also considered when planning the timing of these projects, including detours and network improvements.

	2024	2025	2026	2027	2028	2029
<b>Network Improvements to Support Construction</b>						
<b>Dawson Bridge</b>						
<b>Wellington Bridge</b>						
<b>Low Level Bridge (Southbound)</b>						
<b>Low Level Bridge (Northbound)</b>						
<b>High Level Bridge</b>						

Open	
Open, with construction underway	
Partial year closure, under construction	
Closed, under construction	

\*Schedules are subject to change as design advances.

As with other critical structures, the projects shown are prioritized based on condition and need to address safety and functional concerns and prevent unplanned closures. Deferral of any of the projects noted is not recommended.

*How travel might be impacted:*

Given the anticipated impacts to the transportation network resulting from the above-noted projects and others such as LRT construction and Imagine Jasper Avenue, Administration has carried out a variety of reviews to understand the potential impacts on goods movement, transit riders, vehicle drivers, and active mode users. Reducing capacity and/or closing connections, such as river crossings, will impact various aspects of travel, including travel behaviour, patterns, user experience, and network-wide congestion.

The degree of shift in travel behaviour will vary based on the severity of the impacts caused by individual projects. Some users may be compelled to take longer routes to reach their destination due to lack of direct access, while others have and will continue to adapt to the alternative routes to expedite their journey amidst ongoing Valley Line West LRT construction disruptions.

*What we are doing to help:*

During the morning and evening peak periods, commuters travelling from the suburbs to Downtown may experience increased delays (anticipated to range from 15-30 minutes, depending on the chosen route). To mitigate these delays to the best extent possible, Administration is implementing network improvements to bolster traffic flow and minimize travel disruptions during construction. The proposed network improvements include:

- Rossdale Road/Walterdale Bridge/Walterdale Hill Road two-way conversion
  - This will result in two-way traffic (north and southbound). Currently, these roadways and bridge are northbound only.
- 109 Street / Walterdale Hill Intersection reconfiguration
  - Adjustments to the intersection to accommodate new traffic patterns.
- 105 Street / 97 Avenue / Rossdale Road Intersection reconfiguration
  - Changes around Bellamy Hill intersection, 97 Avenue and Rossdale Road to facilitate the two-way traffic entering and exiting from 97 Avenue.

Design for these improvements is currently underway and a map of the proposed changes is shown in Attachment 1. These improvements will be implemented in 2025 prior to the closure of Wellington Bridge to manage the construction's traffic impacts on identified projects.

### **Low Level Bridges**

Recent decisions have been made related to Low Level Bridges that define the path forward for this important river crossing. Further details about the upcoming renewal work for Low Level Bridges are discussed below.

While commonly referred to as Low Level Bridge, this crossing of the North Saskatchewan River includes two parallel structures, one carrying southbound traffic and the other carrying northbound traffic, as well as pedestrians and cyclists.

The Low Level Bridge northbound structure was completed in 1900 and was the first bridge to cross the North Saskatchewan River in Edmonton (initially constructed to carry rail traffic). Recent data (2022) shows this bridge carries an average of 22,000 vehicles daily. The northbound structure underwent a major rehabilitation in 2006, during which it was strengthened and painted. The northbound bridge is on Edmonton's Inventory of Historic Resources and, as a result, warrants consideration of conservation.

The Low Level Bridge southbound structure was completed in 1949 to carry vehicle traffic. Recent data (2022) shows this bridge carries an average of 15,000 vehicles daily. The southbound structure underwent a major rehabilitation in 1994, which included strengthening and painting. The southbound structure was designed and built to resemble the northbound structure but is unique. Unlike the northbound structure, the southbound bridge carries no heritage designation. Extensive work and significant financial investment would be required to rehabilitate the southbound bridge to extend the service life by an estimated 20 years.

Both bridges are aging, requiring different maintenance and rehabilitation actions to ensure ongoing and safe operation. Though it is the oldest bridge, less extensive rehabilitation is required for the northbound bridge than the southbound one.

- In the short term, the northbound bridge will undergo rehabilitation for all travel modes. Based on the current use, the rehabilitation of the northbound Low Level Bridge is expected to extend its service life, though for a finite period of time. This is expected to extend the service life by approximately 20 years.
- The southbound bridge, however, will not undergo rehabilitation. Rather, it will continue to be maintained and supported by a proactive operations and maintenance plan to enable ongoing use of the bridge in the short term. There are anticipated to be periodic maintenance requirements to support the ongoing and safe operations. This approach, however, can only be applied for a finite period of time, estimated to be up to 10 years, until it is decommissioned. Planning will be initiated for the eventual decommissioning of the southbound bridge.

The future decommissioning of the southbound bridge will result in a loss of capacity to cross the river for active modes, transit, goods movement, and general traffic. A network study will be completed to evaluate the best way to replace the crossing capacity. This may include a new bridge crossing, widening of other area bridges, or other options. While this planning will examine options to replace the capacity that will be lost with decommissioning the southbound bridge, the review will also assess the future of the northbound bridge, knowing that the upcoming rehabilitation will extend the service life

for the northbound bridge for a finite period of time. This will include the review of the feasibility of options to retain or repurpose the northbound bridge.

### **Next Steps**

A proactive plan is being developed for communications related to a number of capital infrastructure projects underway and upcoming in and around Downtown Edmonton. The plan will aid the City in telling the story of these projects and the preparations underway for their delivery while managing connections to and from the Downtown core.

A network planning study, supported by engagement, will be completed to define how to replace the crossing capacity that will be lost upon decommissioning the southbound bridge. This may include a new bridge crossing, widening of other area bridges, or other options. This will consider replacing the capacity with a focus on the future, including changing population and employment, changing travel patterns and modes, and current and future climate resiliency, among other factors.

Funding for future decommissioning of the southbound bridge and the associated construction to replace lost capacity will need to be allocated in upcoming budget cycles, starting with planning and design in the 2027-2030 Capital Budget.

Administration plans to share further updates with Council regarding other bridge renewal projects at key milestones. Should Council wish for additional information regarding Low Level Bridges, a report can be brought forward for information.

If you have any questions about the bridge renewal program or the plans for Low Level Bridges, please contact Pascale Ladouceur, Branch Manager, Infrastructure Planning and Design.



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CW/cj

Attachment:

1. [Proposed Network Changes - Walterdale / Rosedale](#)