

Walterdale Bridge Replacement Concept Plan

Recommendation:

That Transportation and Public Works Committee recommend to City Council:

That the Walterdale Bridge replacement alignment and “signature” structure as outlined in Attachments 1 and 2 of the April 12, 2011, Transportation Department report 2011TD7838 be approved.

Report Summary

This report details the concept planning work completed for the Walterdale Bridge replacement.

Previous Council/Committee Action

- At the January 25, 2011, Transportation and Public Works Committee meeting, the following motion was passed:
That Administration focus efforts on the planning and community consultation process on the bridge with the immediate access egress being the main focus while still protecting future approaches to the bridge.
- At the April 7, 2009, Transportation and Public Works Committee meeting, the following motion was passed:
That Administration continue with plans to replace the Walterdale Bridge based on Option 1 as outlined in the March 6, 2009, Transportation Department report 2009TD4147.

This option includes demolishing the existing bridge and replacing the bridge with a modern “signature” structure, connecting to existing roadways.

Report

Alignment Recommendation

- Three alignment options (east, base, west) were presented at the January 25, 2011, Transportation and Public Works Committee meeting.
- The options were presented as four lanes with three lanes northbound and one potential lane southbound as an exclusive access to the Kinsmen Sports Centre from the north bank. After further analysis of the potential southbound lane access to the Kinsmen Sports Centre, the cost premium for the additional lane could not be justified based on the estimated use. The three lane cross section allows the north end of the bridge to be placed east of the existing bridge. The recommended bridge alignment is slightly east of and slightly skewed from the existing bridge (Attachment 1).
- The recommended alignment provides the safest design for vehicle operation from Queen Elizabeth Park Road/Walterdale Hill Road to River Valley Road including access and egress to the Kinsmen Sports Centre.
- One key benefit of the recommended alignment is that it allows for the existing bridge to remain in service during construction. The west option also posed this advantage; however, the alignment did not present the safest design for vehicle operation.

- The alignment is also advantageous from a utility perspective. The utilities can remain on the existing bridge and do not require temporary relocation or de-servicing during construction prior to being placed on the new bridge. This simplifies utility coordination, reduces construction cost, and ensures the project schedule will not be affected by utility relocation complications.
- With this alignment, bridge placement on the north river bank will require relocation of the existing Interpretive Belvedere Site associated with the Fort Edmonton Cemetery and Traditional Burial Ground. From a historical perspective, this location has recently been monitored and tested as part of the Memorial Park Project development following the re-alignment of Rosedale Road. Sites west of the existing bridge have not been tested for cultural features and testing would be a requirement prior to and during construction.
- The required roadway improvements to the existing network associated with the bridge alignment are also outlined in Attachment 1. This includes a reconfigured intersection at Queen Elizabeth Park Road and Walterdale Hill Road controlled by a signal that will provide enhanced operation and safety at the intersection. The roads will be raised to meet the new bridge elevation. Additional land is required to accommodate these improvements, but existing areas of road right of way on the north and south banks may become surplus and present an opportunity for additional park space or enhancements to Kinsmen Park.
- The recommended bridge alignment will connect to the existing road network north and south of the bridge with associated roadway improvements and will allow for road network improvements on the south bank if required in the future.
- Neighbourhood and business access through the area will be maintained during construction with periods of closure to allow completion of roadway tie-ins. Access to the Kinsmen Sports Centre will be improved with a new access/egress configuration as outlined in Attachment 1. A detailed summary of the Concept Planning Study progress and recommendation is included in the project report Executive Summary in Attachment 3.
- The north bank alignment requires additional study in the next project phase of the project. Over the remainder of 2011 and most of 2012, the project includes completion of considerable consultation with Aboriginal stakeholders and the development of a city-wide cultural Management Plan. This plan will outline a re-interment protocol should human remains be found during construction, consistent with Government of Alberta requirements. An amendment to the formal cemetery boundary identified in the West Rosedale Area Redevelopment Plan will also be required.

Bridge Style Recommendation

- After consideration of project constraints, aesthetics, integration into the urban environment, and input from the public, a through-arch structure is recommended for the new bridge. Drawings and rendered

illustrations are outlined in Attachment 2.

- The arch is a functional signature bridge that will form an attractive entrance to Downtown. The arch cables provide a buffer between vehicle traffic and trail/sidewalk users. The arch will maintain a similar curved shape to pay homage to the existing truss structure. A significant advantage of the arch bridge in terms of environmental impact is it can be constructed as one span from bank to bank without piers in the river.
- The involvement of the artist on the design team throughout the project stages is expected to result in enhanced value for the art component of the project, and is intended to integrate art into the bridge project, either as part of the bridge structure or in a way that complements the signature bridge and the context of the surroundings.

Pedestrian and Cyclist Accommodation

- Pedestrian facilities on the bridge include a multi-use trail on the east side and a sidewalk on the west side. Opportunities for enhancement of pedestrian facilities will be considered in the next phase of design. The proposed pedestrian/cyclist facilities on the bridge have been designed in consideration of the connection to the existing area walk and trail facilities, as well as future facilities.

Environmental/Historical Consideration

- A full environmental impact assessment has been initiated for the recommended alignment and will be completed in the preliminary design phase. One full year is

required to complete physical fieldwork and environmental collection to support the environmental impact assessment.

- The arch bridge significantly reduces long-term environmental impacts as it does not require piers in the river. Demolition and removal of the existing bridge will require in-stream work, but can be completed independent of the new bridge construction.
- Management of the cultural land areas and resources is a critical element to completion of the project. Considerable assessment and review has been completed during this planning stage. The recommended alignment places the north bridge abutment east of the existing location. A Historical Resources Impact Assessment has been initiated for the recommended alignment.
- Fort Edmonton Cemetery and Traditional Burial Ground - Meetings with Aboriginal Elders and an on-site ceremony have taken place. With the recommended alignment, additional consultation with Aboriginal groups is required. Should the project encounter human remains, a cultural resource management plan is being reviewed, outlining a re-interment protocol.
- Interpretive Belvedere - The recommended bridge alignment will require relocation of the existing Interpretive Belvedere Site at the northeast corner of the existing Walterdale Bridge. A concept strategy for the replacement, reconstruction, and relocation of the Interpretive Belvedere Site is being developed and will follow into the later phases of design. This is an

opportunity to relocate the Interpretive Belvedere Site to a location that provides an enhanced public profile and better access to the site. Re-location of this Interpretive Belvedere Site will require archaeological monitoring and testing and will be completed in accordance with provincial requirements.

- Removal of the Existing Walterdale Bridge - The existing Walterdale Bridge will be removed from the site. The bridge is currently listed on the Inventory of Historic Resources. Following the approval of the Walterdale Bridge replacement recommendation, a report to City Council will be prepared for approval of the removal of the bridge from the historic inventory and requirements for demolition. Re-use of the existing bridge is currently under review.

Land Use Integration

- The bridge replacement recommendation has been coordinated with the other area plans including the West Rosedale Urban Design Plan, re-purposing of the EPCOR Generating Station Project, and the Kinsmen Master Plan Project.
- The plan meets the goals of the Capital City Downtown Plan to focus on improved pedestrian connections to the River Valley, urban design excellence, and historic preservation.
- Administration is preparing a report to respond to two motions made at the March 8, 2011, Transportation and Public Works Committee meeting. These motions relate to the repurposing of the EPCOR generation station and the

redevelopment of lands in the West Rosedale area. Further design work and the development of a Capital Budget Profile for the Walterdale Bridge will take into considerations these two other important projects.

Cost

- Concept level cost (in 2011 dollars) of the three-lane arch bridge including minor required approach road modifications and removal of existing bridge is approximately \$132 million. A cost summary is outlined in Attachment 4.
- As a cost comparison, a base three-lane girder bridge is estimated at \$98 million and a base two-lane girder bridge is estimated at \$89 million.

Timelines/Schedule and Next Steps

- Timely delivery of design and approval are a major risk to implementation of the project. Effort will be required to maintain the following schedule:
 - Transportation and Public Works Committee – April 12, 2011
 - Pre-Assessment Consultation with Edmonton Design Committee – April 19, 2011
 - Concept Design to City Council for Approval – April 27, 2011
 - Preliminary and Detailed Design Phase – May 2011 – February 2013
 - Construction – 24 – 30 Months

Policy

The Walterdale Bridge replacement is consistent with policies identified in the Transportation Master Plan.

Public Consultation

- Initial interviews with stakeholders and the first public open house were held in late 2010. In early 2011, after the alignment and bridge style were chosen, follow up contact was made with stakeholders and a second public information session was held.
- Consultation with aboriginal elders and stakeholders has taken place. Elders who are spiritual advisors from appropriate First Nations and Métis communities indicate they have been respectfully and meaningfully consulted.
- A historical statement of justification has been submitted to Alberta Culture and Community Spirit outlining the project scope and consultation to date. In response, formal provincial requirements for further consultation with specific Aboriginal groups will be provided.

Budget/Financial Implications

The budget for the Walterdale Bridge replacement has not been identified in the Capital Budget. Budget requirements will be reviewed as part of the upcoming 2012 - 2014 budget process.

Legal Implications

The Traditional Burial Ground/Fort Edmonton Cemetery is a designated cemetery under the *Cemeteries Act*, RSA 2000, c. C-3. Provincial approval is advisable prior to removal of the Belvedere Interpretative Structure and/or undertaking construction within the cemetery.

The City must comply with public consultation requirements specified in

the Area Redevelopment Plan and the common law.

Justification of Recommendation

The recommended plan is consistent with the Transportation Master Plan, meeting the strategic objective of a well maintained infrastructure. The bridge replacement adheres to objectives for a signature quality bridge identified by City Council. The bridge alignment and minor roadwork present the best possible geometric design to provide a safe and operational corridor between Queen Elizabeth Park Road/Walterdale Hill and River Valley Road. Approval of the Concept Plan allows Administration to seek budget approval to proceed with preliminary engineering and detailed engineering, initiate utility relocations, internal property acquisition and to continue to meet public consultation objectives and requirements.

Attachments

1. Roadway and Bridge Alignment Recommendation
2. Bridge "Signature" Style Recommendation
3. Walterdale Bridge Replacement and Approach Roads Evaluation Report - Executive Summary
4. Cost Estimate

Others Reviewing this Report

- M. Koziol, Acting General Manager, Asset Management and Public Works Department, and General Manager, Capital Construction Department
- R. G. Klassen, General Manager, Planning and Development Department
- L. Cochrane, General Manager, Community Services Department

- D. H. Edey, General Manager,
Corporate Services Department