Agenda – Council – June 20, 2019

Report – Standing Policy Committee on Infrastructure Renewal and Public Works – May 28, 2019

Item No. 8 Preliminary Design Study – Arlington Street Bridge Replacement and Related Roadworks – McDermot Avenue to Selkirk Avenue

STANDING COMMITTEE RECOMMENDATION:

On June 11, 2019, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Infrastructure Renewal and Public Works, as amended, and submitted the following to Council:

1. That the Base Option bridge design be approved for the Arlington Bridge Replacement project for further consideration and prioritized amongst other major unfunded capital projects through the development of a City Infrastructure Plan.

2. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

Report – Standing Policy Committee on Infrastructure Renewal and Public Works – May 28, 2019

DECISION MAKING HISTORY:

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On June 11, 2019, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Infrastructure Renewal and Public Works, with the following amendment:

- Delete Recommendation 2 and 3 and renumber the remaining recommendation accordingly

and submitted the matter to Council.

STANDING COMMITTEE RECOMMENDATION:

On May 28, 2019, the Standing Policy Committee on Infrastructure Renewal and Public Works concurred in the recommendation of the Winnipeg Public Service and submitted the matter to the Executive Policy Committee and Council.

The Standing Policy Committee on Infrastructure Renewal and Public Works received submissions with respect to the matter from the following:

- Councillor Santos, Point Douglas Ward, submitted a communication dated May 28, 2019
- Andrea Babinsky submitted a communication dated May 27, 2019
- Lynn Campbell submitted a communication dated May 27, 2019
- Christine West submitted a communication dated May 27, 2019
- Maria and Yuri Nosyk submitted a communication dated May 27, 2019
- Doug Panchuk submitted a communication dated May 27, 2019
- Eda Korchynski submitted a communication dated May 27, 2019
- Margita Ratzlaff submitted a communication dated May 27, 2019
- Mark Cohoe, Executive Director, Bike Winnipeg submitted a communication dated May 28, 2019

ADMINISTRATIVE REPORT

Title: Preliminary Design Study – Arlington Street Bridge Replacement and Related Roadworks – McDermot Avenue to Selkirk Avenue

Critical Path: Standing Policy Committee on Infrastructure Renewal and Public Works – Executive Policy Committee – Council

AUTHORIZATION

Author	Department Head	CFO	CAO
B. Neirinck	J. Berezowsky	M. Ruta	D. McNeil

EXECUTIVE SUMMARY

On July 13, 2016 Council considered the administrative report "Functional Design for the CPR Yards Crossing Study" and authorized the Public Service to proceed with a Preliminary Design Study to construct a new Arlington Street Bridge over the CP Yards.

This report summarizes the results of the preliminary design study and recommends a replacement option for the Arlington Street Bridge.

Two options were developed for the bridge design and are identified as the Base Option and the Enhanced Option. Both options provide identical functionality with three permanent traffic lanes (two northbound and one southbound), two unidirectional bike lanes and two sidewalks. The only difference between the Base and Enhanced Options is that the Enhanced Option replaces two spans of typical structural steel bridge girders with a single span steel arch which is about one-quarter of the 556 m long bridge.

The Class 3 Budget Estimates are $318.7 million for the Base Option and $342.8 million for the Enhanced Option based on the project being funded to commence in 2020.

The Public Service is recommending the Base Option bridge design for further consideration and prioritization amongst other major unfunded capital projects through the development of a City infrastructure plan.

RECOMMENDATIONS

1. That the Base Option bridge design be approved for the Arlington Bridge Replacement project for further consideration and prioritized amongst other major unfunded capital projects through the development of a City Infrastructure Plan.

2. That in order to secure the bridge alignment and related works within Canadian Pacific Railway ("CP") property prior to a further decision on Recommendation 1 being made, the City enter into, execute and deliver a pre-construction agreement with CP and such other agreements as determined necessary by the City Solicitor/Director of Legal Services to implement the intent of the foregoing (the "Ancillary Agreements").

3. That authority be delegated to the Chief Administrative Officer to negotiate and approve the terms and conditions of the pre-construction agreement and the Ancillary Agreements, in accordance with the report and such other terms and conditions deemed necessary by the City Solicitor/Director of Legal Services to protect the interests of the City.

4. That the proper officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

REASON FOR THE REPORT

On July 13, 2016 Council considered the administrative report "Functional Design for the CPR Yards Crossing Study" and authorized the Public Service to proceed with a Preliminary Design Study in order to progress from a class 4 cost estimate to a class 3 cost estimate.

This report outlines bridge design options along with corresponding class 3 cost estimates for Council consideration.

IMPLICATIONS OF THE RECOMMENDATIONS

By accepting the Base Option bridge design the Public Service will consider and prioritize this project amongst other major unfunded capital projects through the development of a City Infrastructure Plan.

It is important to note an unplanned permanent bridge closure may occur without notice, resulting in significant traffic impacts in the area if the bridge deteriorates beyond repair or if it becomes economically impractical to repair it.

The Public Service will have the authority to enter into a pre-construction agreement with CP Rail that will formalize operational and construction constraints within the CP Yard as well as the strategic abandonment of the L-Lead spur line that allows the new Arlington Bridge to be constructed immediately west of the existing alignment. The agreement would bind both parties for a limited time frame to be determined. Without this pre-construction agreement there is a significant risk that the results of the preliminary design study will not be valid, requiring further study and budget assessment.

The Public Service would need further approval in the future to begin negotiations for land acquisition. No existing rights are extinguished nor are owners prevented from current or future applications to develop these lands.

HISTORY/DISCUSSION

On July 13, 2016 Council considered the administrative report "Functional Design for the CPR Yards Crossing Study" and authorized the Public Service to proceed with a Preliminary Design Study for a new Arlington Street Bridge over the CP Yards.

The century-old Arlington Bridge is nearing the end of its service life. It is currently safe, but unplanned temporary closures can occur at any time to undertake reactive maintenance. Currently, trucks, buses and fire trucks are using alternative routes for transportation and the movement of goods due to load restrictions on the bridge. There is a concern that further deterioration of the Arlington Bridge may result in its unplanned permanent closure.

A permanent closure of Arlington Bridge will divert pedestrians and cyclists needing to cross the CP Yards. The nearest crossings for pedestrians and cyclists to cross the CP Yards would be McPhillips Street or Slaw Rebchuk Bridge. Using McPhillips Underpass via Logan Avenue and Jarvis Avenue would add a 1.65 km walk equating to an additional 25 minutes to cross the Yards.

Extensive pubic engagement was undertaken both in the previous functional design study as well as during the preliminary design study. The public engagement identified that the bridge is important to the surrounding communities. Public engagement information can be found on Public Works' project website.

Two alternatives for the bridge design were developed and identified as the Base Option and Enhanced Option. The only difference between the Base and Enhanced Options is that the Enhanced Option replaces two spans of typical structural steel girders with a single span steel arch which is about one-quarter of the 556 m long bridge length.

The Executive Summary of the preliminary design report done by Stantec, included as Appendix A, summarizes the differences between the Base Option and the Enhanced Option. Drawings of the Bridge Options and related roadworks are provided in Appendix B. Appendix C provides further detail on the property acquisition requirements noted in Appendix A.

Both options have the same functionality with three lanes of vehicular traffic (2 northbound and 1 southbound), two unidirectional bike lanes and two sidewalks. The proposed three-lane configuration expands at the foot of the bridge (Logan intersection) to four lanes plus left turn lanes in all directions to improve traffic movements. This lane configuration also allows for unidirectional bike lanes of each side of the bridge and Arlington Street off the bridge.

Unidirectional bike lanes are the appropriate and safest facility type for two way traffic on the bridge and street. A unidirectional cycling facility is also best suited to be applied to future phases on Arlington Street as this route will eventually take people on a bike to Portage Avenue and beyond. The Arlington Street Bridge is expected to be a critical component of the bicycle network to connect the North End to Downtown as there are no adequate bike crossings of the CP Yards and Mainline within the City except at Anabella Street in Point Douglas.

Both alternatives can be temporarily reconfigured to accommodate four vehicular traffic lanes. This temporary configuration is expected to be required when adjacent crossings of the CP Yards at McPhillips Street Underpass and Slaw Rebchuk Bridge require reconstruction or rehabilitation. A four lane configuration is not required on a permanent basis to achieve acceptable long term performance. Beyond three lanes there would be diminished return on investments and improvements to traffic flow. Adding a fourth lane would offer little to no benefit as the lane balancing off the bridge (number of effective traffic lanes moving through on Arlington) would not work unless substantial additional property was taken from the west side of Arlington south of Logan Avenue.

The Enhanced option offers the same aesthetic features as the base option except two steel girder bridge spans (25 % of the bridge length) are replaced with single span arch that offers a skyline feature that can be viewed from a distance. It has one less pier in the CP Yards. The Enhanced Option was favored by the community and the Public Advisory Committee (PAC) but the Base Option was still supported by the community and PAC if additional aesthetics were added.

The Class 3 Budget Estimates are $318.7 million for the Base Option and $342.8 million for the Enhanced Option based on the project being funded to commence in 2020. If the project is delayed, construction inflation needs to be added to the budget which is currently projected to be 3% annually. The above amounts include an additional $34.6 million for the Base Option and $37 million for the Enhanced Option, above the Stantec Class 3 estimates identified in Appendix A, to account for the assumption that the City will solely fund the project and utilize 100% debt financing.

The City's Debt Strategy outlines parameters which establish debt limits. The City's remaining capacity to borrow and stay within the Debt Strategy is approximately $150 million. Thus, if the City issued $318.7 million (Base Option) of additional debt to fund the Arlington Street Bridge project, it would exceed the Debt Strategy.

An Options Evaluation Matrix is included in Appendix A. The criteria, comparative weighting and scoring were undertaken by Stantec and a Technical Steering Committee assigned to the project. The evaluation criteria included several categories including capital cost, life cycle cost, impact to CP Rail operations, schedule, constructability and aesthetics. Based on the scoring, there was a slight preference to the Enhanced Options scoring 91.5 out of 100 versus 89.9 out of 100 for the Base Option.

The Public Service is recommending the Base Option bridge design for further consideration and prioritization amongst other major unfunded capital projects through the development of a City infrastructure plan. This is based on a significant budget requirement difference of $24.1 million.

The Public Service will continue to maintain the bridge as long a practical subject to available maintenance funding. However, when maintenance is no longer viable the bridge will be permanently closed. A definite time frame cannot be determined but could occur at any time.

FINANCIAL IMPACT

Financial Impact Statement Date: February 1, 2019

Project Name:

Preliminary Design Study – Arlington Street Bridge Replacement and Related Roadworks – McDermot Avenue to Selkirk Avenue

COMMENTS:

There is no financial impact associated with the recommendations of this report.

There is no capital budget for this project at this time. Funding for the $318.7 million base option (Class 3 estimate) is being referred for further consideration and prioritization amongst other major unfunded capital projects through the development of a City Infrastructure Plan.

"Original Signed by J. Ruby, CA, CPA"
J. Ruby, CA, CPA
Manager of Finance & Administration

CONSULTATION

This Report has been prepared in consultation with:

- Legal Services (as to Legal issues)
- Planning Property and Development Department (as to Property Issues)

OURWINNIPEG POLICY ALIGNMENT

This report aligns with Our Winnipeg – Sustainable Transportation, Section 05-2 Major Street Network. This includes sustainability of the road network assets, strategic street network improvements, and strategies to improve active transportation.

The 2011 Transportation Master Plan (TMP) identified Arlington Street Bridge replacement as a medium-term priority (by 2021).

Replacement of the Arlington Street Bridge will renew a deteriorated asset and provide traffic capacity when McPhillips Underpass and Slaw Rebchuk Bridge require renewal. The bridge replacement will allow improve traffic flow with an additional southbound lane on the bridge and improved intersections along the study area. The new bridge will allow for transit routes. An active transportation route will be provided across the CP Yards where one currently does not exist today.

SUBMITTED BY

Department: Public Works
Division: Engineering
Prepared by: B. A. Neirinck, P.Eng.
Date: March 26, 2019

Attachments:
Appendix A – Stantec Executive Summary
Appendix B – Drawings
Appendix C – Property