



**City of Kingston
Information Report to Council
Report Number 19-164**

To: Mayor and Members of Council
From: Sheila Kidd, Commissioner, Transportation and Public Works
Resource Staff: Ian Semple, Director, Transportation Services
Date of Meeting: June 4, 2019
Subject: John Counter Boulevard Phase 5B – Design and Project Update

Executive Summary:

John Counter Boulevard (JCB) is an east-west transportation corridor that connects Princess Street to Montreal Street and transitions to Taylor-Kidd Boulevard on the west and the future Third Crossing on the east. The corridor has been undergoing a widening from two to four lanes along with upgrades to the active transportation (AT) and transit infrastructure as part of a five-phase project that began detailed design in 2009 and construction in 2011.

The JCB project is based on the recommendations of a Municipal Class Environmental Assessment, approved in 2006, and an associated project risk analysis and cost assessment that was completed shortly thereafter. The recommendations included widening JCB to 4-lanes and adding on-road cycling lanes and sidewalks to both sides of the road.

The multi-phase JCB project required detailed design for the various sections to be completed at different points in the project. Given the long timeline of the project there have been various changes incorporated into the design phases to reflect information gathered from technical studies, site constraints, and policy changes within the City.

This report provides an update on the design that has been incorporated into the completed phases of the JCB project, including enhancements that have been incorporated over the course of the project to better support Active Transportation (AT) and transit along the JCB corridor.

The final phase of the project, Phase 5B, involves widening JCB from Princess Street to Portsmouth Avenue and the construction of an overpass over the CN rail line. As part of the 2009 risk analysis and cost assessment work the design width of the bridge foundation and overpass deck was narrowed. This change maintained the on-road cycling lanes and the north side sidewalk however the south side sidewalk was removed.

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As directed in the Active Transportation Master Plan (ATMP) and through the development of the AT Implementation Plan the City has been reviewing opportunities to create City-wide AT networks, reduce sidewalk gaps, and eliminate barriers to active trips. As part of this work capital projects that are in design and construction, including JCB Phase 5B, are being reviewed to maximize AT opportunities.

This review showed that the single, north side sidewalk planned for the overpass was not consistent with the pedestrian network planned for the City-wide route along JCB and that the sidewalk gap on the south side created a disconnect in the pedestrian network. The optimal solution would include a sidewalk on both sides of the overpass.

The width of the overpass deck was set in 2009 and formed an input to the design of the underlying overpass support structure and work completed in an earlier phase of the project. Technical review showed that expanding the overpass deck at this point in the project would require redesign of the bridge support and structure, additional mitigation of environmentally sensitive lands, floodplain mitigation, and renegotiation of the agreement between the City and CN Rail due to the encroachment into adjacent lands.

If the design was determined to be feasible it is estimated to increase the capital cost by approximately \$3.5 million dollars and introduce a delay of approximately 30 months.

As the existing overpass and underlying support design completed in Phase 3 would only allow the sidewalk on one side of the deck, the City completed a review to determine the preferred AT facility that could be accommodated within the existing deck. Through this review the preferred option was determined to be a 2.0m wide sidewalk on the south side with on-road buffered cycling lanes on both sides of the overpass. This option provides direct connectivity for pedestrians between Princess Street, Via Rail, and Portsmouth Avenue, connected to the planned multi-use pathways. It also provides consistency for cyclists along the entire JCB corridor, and creates a pedestrian only facility that is buffered from vehicles.

Based on this review the overpass design has been modified to incorporate the south sidewalk as part of the planned construction and will reflect the cross-section outlined in Exhibit A, Option 1 - Preferred. This modification will not impact the capital funding or schedule required for JCB Phase 5B. As part of this review, the City also confirmed that if desired, the current overpass deck design will accommodate future changes related to the allocation of the travel lanes and use of the right-of-way. Opportunities to expand upon the AT functionality of the JCB corridor, including linkages to other components of the AT network will continue to be reviewed as part of the project work.

The Request for Proposals (RFP) for the construction of JCB Phase 5B was issued in Q4 2018 and resulted in the receipt of five proposals from reputable companies. Given the size and scope of this project and the importance of transparency, the preparation of the RFP document including the development and oversight of the proponent team evaluations and selection process was provided by The Procurement Office, a consulting firm that specializes in public sector procurement.

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The results of the initial proposal evaluations yielded a short-listed group of the top two ranked proponents who subsequently participated in commercial confidential meetings with the City's evaluation team and were then invited to prepare a Best and Final Offer (BAFO) proposal.

The final evaluation of the BAFOs resulted in City of Kingston entering into the negotiation of the contract to construct the structure and realignment of John Counter Boulevard to facilitate a new grade crossing over the CN right of way. Negotiations are currently under way with the proponent who achieved the highest score and overall top-ranked proponent as determined through a rigorous procurement process.

The conclusion of these negotiations with a final agreement will mark the completion of the procurement phase and Council will be updated at that time. The finalization of the procurement will be followed by the commencement of construction of the project, anticipated to begin in Q3 2019.

Recommendation:

This report is for information only.

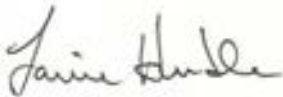
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Authorizing Signatures:



**Sheila Kidd, Commissioner,
Transportation and Public Works**



**Lanie Hurdle, Acting Chief
Administrative Officer**

Consultation with the following Members of the Corporate Management Team:

Gary Dyke, Commissioner, Corporate Enterprise Services	Not required
Peter Huigenbos, Acting Commissioner, Community Services	Not required
Jim Keech, President & CEO, Utilities Kingston	Not required
Desirée Kennedy, Chief Financial Officer & City Treasurer	Not required

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Options/Discussion:

John Counter Boulevard (JCB) is an east-west transportation corridor that connects Princess Street to Montreal Street and transitions to Taylor-Kidd Boulevard on the west and the future Third Crossing on the east. The roadway was identified for expansion from a 2-lane to 4-lane arterial as part of the Kingston Transportation Master Plan (KTMP), originally prepared in 2004 and reconfirmed as part of the KTMP updates in 2009 and 2015.

The recommended JCB widening was the subject of a municipal class environmental assessment (MCEA) that was completed in 2004 and received approval from the Ontario Minister of Environment and Climate Change in March 2006. The MCEA Environmental Study Report (ESR) concluded that the JCB corridor would include:

- A grade separated (bridge) crossing of the railway and Little Cataraqui Creek;
- Adequate vehicular capacity throughout the corridor through the provision of 4-lane urban cross section with common left turn lane through large sections to facilitate access/egress from adjacent business;
- Provision of sidewalks and cycling lanes on both sides of the roadway throughout the corridor; and
- Improvements to overall transportation safety.

Work on the project implementation recommendations from the approved ESR began in 2006 and included preliminary design, property negotiations for land acquisition, environmental permitting, and other work, including preliminary construction drawings, cost estimates, and specifications for the JCB corridor and overpass.

As part of this initial work, the City completed a risk analysis and cost assessment process to increase confidence in the project, identify risks, evaluate impact to cost and schedule, and determine methods to mitigate the concerns. The greatest risks identified through this process pertained to soil contamination, property requirements, cost sharing agreements with various stakeholders, wetland compensation, and the overall project cost.

The conclusion of the risk analysis and cost assessment process resulted in a recommended design of the JCB corridor in 2009 that was to include the following:

- A bridge over the railway and watercourse that includes four vehicle travel lanes, on-road cycling lanes on both sides, and a single sidewalk along the north side of the bridge.
- A roadway cross section that includes four vehicle travel lanes and one center turning lane with sidewalk and cycling lanes on both sides of the roadway.
- Replacement of underground sewer and gas infrastructure.
- New street lighting and traffic signals.
- New municipal road with signalized entrance to the Via Rail station.
- Increased accommodation for pedestrians, cyclists, transit users, and automobile traffic.

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Due to the overall length and varying nature of the 3.6 km corridor from Division Street to Princess Street, the project design work was divided into several distinct phases. This phasing allowed the City to minimize disruption to the transportation network, advance less complex components of the project, begin property acquisition, and allow sufficient time for more complex design on some sections. The details of this phasing are as follows:

Phase	Scope	Detailed Design Timeline	Construction Timeline
1	Road widening from Division Street to Leroy Grant Drive	2009 – 2011	2012 – 2013
2	Road widening from Leroy Grant Drive to Sir John A. Macdonald Boulevard	2009 – 2011	2012 – 2013
3	Pre-loading for bridge abutments, wetland and floodplain compensation	2009 – 2015	2015 – 2018
4	Road widening from Sir John A. Macdonald Boulevard to Indian Road	2015 – 2016	2017 – 2018
5A	Portsmouth Avenue Realignment	2009 – 2017	2018 – 2019
5B	Bridge Construction; Road widening from Princess Street to Portsmouth Avenue	2009 – 2018	2019 – 2021

The JCB project is a complex, multi-phased project that required the detailed design for the various sections to be completed at different points in the project. Given the long timeline of the project, there have been various changes incorporated into the design phases to reflect information gathered from technical studies, site constraints, and policy changes within the City.

This report provides an update on the design that has been incorporated into the first four phases of the JCB project, including enhancements that have been incorporated over the course of the project to better support Active Transportation (AT) and transit along the JCB corridor.

This report also outlines how these changes have impacted the design of the AT components, particularly the sidewalks, on the railway overpass for Phase 5B, the most complex phase of the project. Finally, this report outlines the next steps for procurement and construction on this final phase.

Design Evolution of the JCB Right-of-Way – Phase 1 to 5A

Throughout the JCB project, the configuration of the right-of-way through the various phases has changed to accommodate enhancements for transit and active transportation. Phases 1 and 2 of the widening from Division Street to Sir John A. Macdonald Boulevard included the initial right-of-way configuration established in 2009 that consisted of four vehicle travel lanes and a center shared turning lane along with on-road cycling lanes and sidewalks on both sides of the road.

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Phase 3 of the project involved off-road pre-loading for bridge abutments along with wetland and floodplain compensation. Phase 3 did not involve any widening work.

Phase 4 of the widening from Sir John A. Macdonald Boulevard to Indian Road incorporated additional features for transit stops and reduced the width of the outer travel lane to create a buffered cycling lane on both sides of the road. This upgraded cycling facility reflected the draft recommendations of the City's Active Transportation Master Plan (ATMP). The widened sections of John Counter Boulevard from Phase 1 and 2 were also upgraded to reflect this buffered on-road cycling lane.

Changes to the Phase 2 intersection of JCB at Leroy Grant Drive have also been made to accommodate expanded transit rider accessibility and routing through the JCB corridor. Further changes are planned at this intersection in 2019 to accommodate the Leroy Grant Drive multi-use path that is under design to allow cyclists an easier transition from Leroy Grant Drive onto the buffered cycling lanes in place on JCB.

Design of the Right-Of-Way and Railway Overpass Deck – Phase 5B

The scope of the final phase of the JCB project includes the widening from Princess Street to Portsmouth Avenue along with a bridge over the CN rail line. The right-of-way design for the roadway segments of Phase 5B are consistent with the updated design completed for Phase 4 that includes buffered cycling lanes and expanded transit stops, with the exception of the railway overpass.

Based on the risk analysis and cost assessment work completed in 2009, the width of the bridge foundation and deck design was amended to remove the south side sidewalk and the center turn lane to leave a 4-lane configuration. The on-road cycling lanes and the north side sidewalk were retained. The rationale for the decision to remove the sidewalk from the south side of the overpass was as follows:

- No pedestrian demand mid-block for this section of walkway as it is wetland on both sides and inaccessible.
- All pedestrians could access the north sidewalk from signalized intersections at Portsmouth Avenue and Old Mill Road.
- The sidewalk was placed on the north side of the roadway as this was the high side of super-elevation, away from the roadway runoff.
- The decrease in the width across the structure resulted in a smaller embankment footprint, which reduced the impacts to wetland, storage and to the existing creek.
- The elimination of the sidewalk on the south side was a value engineering item, with an estimated cost saving of approximately \$1 million (2009 dollars).

The resulting deck width to meet these conditions formed the design basis for the bridge foundation started as part of Phase 3 and determined the right-of-way available on the deck to be constructed as part of Phase 5B.

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Assessing Design Options for Phase 5B

As directed in the Active Transportation Master Plan (ATMP) and through the development of the AT Implementation Plan, the City has been reviewing opportunities to create citywide AT networks, reduce sidewalk gaps, and eliminate barriers to active trips. As part of this work, capital projects that are in design and construction, including JCB Phase 5B, are being reviewed to maximize AT opportunities.

This review showed that the on-road cycling lanes and the single, north side sidewalk planned for the overpass were not consistent with the AT facilities planned for the citywide route that was being developed from Taylor-Kidd Boulevard at Collins Bay Road through to Gore Road at Highway 15. Specifically, that the on-road cycling lanes were not buffered and the sidewalk gap on the south side created a disconnect in the pedestrian network.

Technical analysis supported a change to the vehicle lane width on the overpass to accommodate the buffered cycling lane planned for the remainder of the corridor.

This change was incorporated into the design that was released for RFP in late 2018.

While the review indicated the optimal pedestrian solution would include a sidewalk on both sides of the overpass, the width of the deck and the underlying support structure and work completed in Phase 3 would not support this option without expanding the overpass deck. Technical review showed that expanding the overpass deck at this point in the process would require the following:

- Redesign of the fill material location in proximity to the rail line.
- Modifications to the pre-load material previously placed as part of Phase 3 and time for the installation of additional drains and material.
- Additional time of a minimum of 24 months for the settlement of any new materials placed.
- Structural re-design to the overpass and deck to accommodate weight and width change.
- Additional mitigation of the environmentally sensitive lands and floodplain area.
- Realignment of a branch of the creek.
- Renegotiation of the agreement between the City and CN Rail due to encroachment into adjacent lands.
- Increased construction time due to increased CN restrictions for work near their rail line
- Additional capital estimated at approximately \$3.5M and overall delay in finishing Phase 5B of an estimated 30 months.

As a result, the City completed a review to determine the preferred AT facility that could be accommodated within the defined deck width. This review considered three options, attached as Exhibit A, as part of this work:

- Sidewalk on north side of bridge, 2 on-road buffered cycling lanes, and 4 vehicle lanes (existing layout).

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- Sidewalk on south side of bridge, 2 on-road buffered cycling lanes, and 4 vehicle lanes (Option 1).
- Multi-use path on south side of bridge for pedestrians and cyclists, on-road buffered cycling lane on north side of bridge only, and 4 vehicle lanes (Option 2).

Through this review, it was determined that Option 1 provides the best connectivity and fewest barriers to use compared to the other options. More specifically the south side sidewalk option:

- Allows direct connectivity for pedestrians between Princess Street and the Via Rail Station from the west and Portsmouth Avenue from the east.
- Connects to the existing and planned multi-use path network on Portsmouth Avenue, Leroy Grant Drive, and the Third Crossing without having to cross JCB.
- Provides a consistent buffered cycling facility on both sides of JCB that is planned to extend from Collins Bay Road to Third Crossing.
- Provides an accessible pedestrian-only facility with a 2.0m buffer from vehicles.

Based on this review, the Phase 5B design has been modified to incorporate the south sidewalk as part of the planned construction and will reflect the cross-section outlined in Exhibit A, Option 1 - Preferred. This modification will not impact the capital funding or schedule required for Phase 5B.

As part of this review, the City also confirmed that the current overpass deck design will accommodate future changes to the allocations of the travel lanes and use of the right-of-way. Specifically, the design will allow for a sidewalk to be added on the north side of the overpass if the planned vehicle travel lanes are reallocated into an alternate configuration such as a three lane, peak travel configuration or single direction transit priority lane.

The functional operation of these potential options requires additional study that would need to be completed as part of an amendment to the completed environmental assessment, informed by corridor level analysis that could be included in future updates to the KTMP.

Procurement Status for Phase 5B

As one of the largest transportation infrastructure projects the City has undertaken and given the importance of transparency, the City secured the service of The Procurement Office, which is a consulting firm that specializes in public sector procurement and has expertise with the enhanced RFP model and trade treaty requirements. The Procurement Office previously and successfully assisted the City in the procurement of the Third Crossing Project under the IPD procurement method. The Procurement Office guided City staff in the preparation of the RFP documents including the development of the evaluation and selection process. The Procurement Office also provided oversight throughout the entire procurement to ensure the processes established in the RFP were strictly adhered to.

On November 29, 2018, and in consultation with The Procurement Office, staff finalized and issued the Request for Proposals (RFP) for "John Counter Boulevard Bridge and Roadway Construction Phase 5B Princess Street East of Portsmouth Avenue".

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The RFP for “John Counter Boulevard Bridge and Roadway Construction Phase 5B Princess Street East of Portsmouth Avenue” closed on February 27, 2019 with the receipt of five submissions from companies across Canada. Proposals were received from:

- Coco Paving Inc.
- Dagmar Construction Inc.
- Gordon Barr Ltd.
- RW Tomlinson Ltd.
- Toronto Zenith

The City’s evaluation team consisted of two City staff members and two members from the design consultant’s team. In keeping with the terms of the RFP evaluation process, the proposals received from each of the proponent teams were evaluated against Initial Evaluation Criteria that included:

- Experience, Qualifications and Company Profile (22 points)
- Understanding of Objectives, Proposed Project Plans and Scheduling (35 points)
- Public and Stakeholder Relations and Communications Plan (10 points)
- AODA Compliance (3 points)
- Pricing (30 Points)

Two of the five proposals met the minimum overall ranking required to move on to the next phase of the evaluation. The top two ranked proposals from proponent teams following the initial evaluation were then invited to enter into concurrent negotiations with the City of Kingston. During these concurrent negotiations, the City provided each of the short-listed proponents with any additional information (supplementary disclosure documents) in order to seek further information and proposal improvements from each short-listed proponent. The City also held two Commercially Confidential Meetings (CCMs) with the short-listed proponents and the City’s evaluation team.

The CCMs allowed for meaningful dialogue regarding each short-listed proponent’s proposal and provided feedback to the proponents to identify potential gaps and discussions of potential alternate approaches to fulfill the RFP’s requirements. Short-listed proponents were then able to revise their initial proposal submissions and submit their Best and Final Offer (BAFO) proposal for final evaluation and ranking. Each BAFO was evaluated against the Final Evaluation Criteria that included:

- Experience, Qualifications and Company Profile (22 points)
- Understanding of Objectives, Proposed Project Plans and Scheduling (35 points)
- Public and Stakeholder Relations and Communications Plan (10 points)
- AODA Compliance (3 points)
- Pricing (30 Points)

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The evaluation team independently evaluated the submitted BAFOs and then submitted the evaluation results to The Procurement Office who performed the final ranking calculations ultimately identifying the highest ranked proponent team.

Next Steps

The design will be updated to shift the bridge overpass sidewalk to the south side based on the recent review that was completed. The project team is working to finalize the contract negotiation with the highest ranked proponent and award the RFP for construction of Phase 5B. It is anticipated that construction will commence in Q3 2019.

Opportunities to expand upon the AT functionality of the JCB corridor including linkages to other components of the AT network will continue to be reviewed as part of the project work.

Existing Policy/By-law:

Not applicable

Notice Provisions:

Not applicable

Accessibility Considerations:

The design elements of Phase 5B include upgraded intersection crossings, sidewalks, and transit stops that increase the overall accessibility of the JCB corridor.

Financial Considerations:

The work to be awarded for the construction of Phase 5B of the JCB project is within the approved capital budget.

Any future changes to modify sections of the JCB roadway or bridge overpass deck to new configurations will require additional capital funds for design and construction.

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Other City of Kingston Staff Consulted:

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Rob Lambert, Project Manager Construction, Engineering Services

Anthony Simmons, Manager Construction, Engineering Services

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Exhibits Attached:

Exhibit A – JCB Overpass Right-Of-Way Options

JCB Overpass Right-Of-Way Design Options

