



## STAFF REPORT ACTION REQUIRED

### Fort York Pedestrian and Cycle Bridge Alternative Design

<b>Date:</b>	November 1, 2011
<b>To:</b>	Public Works and Infrastructure Committee
<b>From:</b>	Executive Director, Technical Services
<b>Wards:</b>	Ward 19 – Trinity-Spadina
<b>Reference Number:</b>	P:\2011\Cluster B\TEC\PW11043 (AFS # 14397)

#### **SUMMARY**

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The purpose of this report is to identify alternative, lower cost options for a Pedestrian and Cycle Bridge from Wellington Street to Fort York over the GO Transit (Metrolinx) rail corridor, and to provide a status update on area planning activities relevant to the bridge funding possibilities.

City staff has identified five possible bridge options that range in cost from \$11.2 million to \$19.7 million, including all construction and related delivery costs. Three options that retain the original bridge alignment as determined by the original Environmental Study Report (ESR) completed in 2009, and the detailed design completed in 2010, would not require an EA addendum. Two of the options that include a new alignment would require an addendum.

Build Toronto is undertaking a Master Planning process for the Ordnance Triangle lands within which the pedestrian and cycle bridge would be located and have consulted with City staff. City staff is also engaged in a review of a development application at 30 Ordnance Street. Together, City staff and Build Toronto have identified opportunities to create value from the development that, when added to projected Section 37 and other development related funding, will exceed the cost of the bridge.

This report summarizes some of the possible funding opportunities for the bridge based on contributions from potential area development and the possible synergies available through a coordinated effort with area development.

## **RECOMMENDATIONS**

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### **The Executive Director of Technical Services recommends that:**

1. The Fort York Pedestrian Bridge be constructed with a visually appealing design consistent with either Alternative A1, A2 or A5, which provide an inclined arch support system based pedestrian bridge consistent with the original pedestrian bridge design but at reduced costs.
2. The Executive Director, Technical Services, Chief Planner and Executive Director, City Planning, Acting Director, Waterfront Secretariat and the Chief Corporate Officer be authorized to work with Build Toronto, and its development partners, to incorporate the design and construction of a pedestrian bridge, on behalf of the City, consistent with the planning objectives outlined in this report and in conjunction with the area development.
3. City Council request that the Chief Planner and Executive Director, City Planning consider the master plan being developed for the Ordnance triangle lands as part of the 5 year review Official Plan and the Municipal Comprehensive Review currently being undertaken and that the result be reported to Planning and Growth Management Committee no later than June 2012.

### **Financial Impact**

Current funding of \$21.44 million is included in the Waterfront Revitalization Initiative's 2011 Approved Capital Budget and 2012-2020 Capital Plan (Transportation Initiatives) in account CWR003-12, Transportation Initiatives.

Funds totalling \$1.716 million, net of HST Recoveries have been spent from this account in connection with the originally tendered Pedestrian and Cycle Bridge as follows: \$0.403 million, net of HST Recoveries, for the Environmental Study Report and \$1.313 million, net of HST Recoveries, for the design, preparation of contract documents and project expenses. The remaining funds of \$19.724 million are currently being maintained in the Waterfront Long Term Funding Plan and City Capital Plan, pending the identification of an appropriate lower cost bridge option over the rail corridors.

The original pedestrian bridge delivery costs were estimated at \$26.269 million. The delivery costs associated with the pedestrian bridge design options recommended in this report are estimated to range from \$17.958 to \$19.719 million (2011 dollars), representing an estimated savings of \$6.55 to \$8.311 million. The cost estimates include construction costs, engineering, construction administration and site services costs, and other associated project costs including railway and air rights purchase agreements costs.

In addition to the funds budgeted within the Waterfront Long Term Funding Plan and City Capital Plan, there are additional potential revenues associated or linked with the Construction of the Fort York/Ordnance Pedestrian Bridge through the anticipated development of the Ordnance Triangle Lands.

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City Council has asked Build Toronto to undertake a master planning initiative on the combined City land holdings in the Ordinance area with an objective of enhancing the overall value creation opportunity of redeveloping this area comprehensively and thereby providing other sources of revenue to reduce the debt requirement for the city as well as enhancing the city building aspects of this project.

Build Toronto has identified that the value creation realized by including the pedestrian bridge as part of the overall Master Plan for the Ordinance lands and its proposed redevelopment scenario will generate significant Section 37, and other development related funding which is expected to be a minimum of \$5 million. These funds could be used to offset a portion of the direct costs associated with the bridge. The proceeds to Build Toronto from the value created by this development will exceed the remaining cost of the bridge. In addition, in moving ahead now the City will benefit in the next four years from an enhanced dividend flow from Build Toronto that would not have been possible in the absence of this comprehensive redevelopment and which will directly and positively impact the finances of the City. This additional dividend flow forms part of the monetization target identified in the Monetization Potential of City Assets submitted to the November 1, 2011 Executive Committee.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

## **DECISION HISTORY**

At its meeting on October 29<sup>th</sup> and 30<sup>th</sup>, 2008, Council approved the construction of the Pedestrian and Cycling Bridge, in accordance with the staff report entitled “Toronto Waterfront Revitalization Initiative Five-Year Business Plan/Ten Year Forecast (2008-2017).” The report can be found at:

<http://www.toronto.ca/legdocs/mmis/2008/cc/decisions/2008-10-29-cc25-dd.pdf>

Tender documents for Tender Call 353-2010, Contract 10FS-34S for the construction of the Pedestrian and Cycle Bridge, were prepared in accordance with the recommendations of the Environmental Study Report, “Fort York Pedestrian and Cycle Bridge, Class Environmental Assessment, Environmental Study Report, December, 2009”, prepared by Stantec Consulting Ltd. The report can be found at:

[http://www.toronto.ca/involved/projects/ftyork\\_bridge/pdf/esr/esr\\_report.pdf](http://www.toronto.ca/involved/projects/ftyork_bridge/pdf/esr/esr_report.pdf)

At its meeting on August 18<sup>th</sup>, 2010, Public Works and Infrastructure Committee granted authority to the City Solicitor to negotiate and execute agreements with rail companies affected by the construction of the Pedestrian and Cycle Bridge, Contract 10FS-34S. The report can be found at:

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<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2010.PW35.7>

At its meeting on April 26<sup>th</sup>, 2011, Public Works and Infrastructure Committee referred Item PW3.13 to the General Manager, Transportation Services, the Executive Director, Technical Services and the Director, Purchasing and Materials Management to recommend to PWI an alternative, lower cost Pedestrian and Cycle Bridge over GO Transit Tracks from Wellington Street to Fort York. The report can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2011.PW3.13>

On May 17, 18 and 19, 2011, City Council adopted GM3.21, approved the terms of transfer to Build Toronto of eight properties, and declared surplus three properties for the purposes of a turnover to Build Toronto (including 45 Strachan Avenue and 10 Ordnance Street). Three additional properties were to be the subject of a master planning process by Build Toronto.

Report (April 14, 2011) from the Chief Corporate Officer on Transfer of Properties to Build Toronto and Declaration of Surplus - Second Quarter 2011

<http://www.toronto.ca/legdocs/mmis/2011/gm/bgrd/backgroundfile-37549.pdf>

Appendices 1-11 to the report (April 14, 2011) from the Chief Corporate Officer

<http://www.toronto.ca/legdocs/mmis/2011/gm/bgrd/backgroundfile-37550.pdf>

At its meeting of September 15, 2011, in considering Item GM7.4, "Declaration of Surplus for Transfer to Build Toronto – 10, 11 and 25, Ordnance Street and 45 Strachan Avenue", Government Management Committee (GMC) requested, among other matters, that the Chief Corporate Officer in consultation with the General Manager of Transportation Services and the Waterfront Secretariat report to the October 12, 2011 GMC meeting on the funding, design and timing associated with the inclusion of a pedestrian bridge on the Ordnance properties.

(August 31, 2011) Staff Report - Declaration of Surplus for Transfer to Build Toronto - 10, 11 and 25 Ordnance Street and 45 Strachan Avenue

<http://www.toronto.ca/legdocs/mmis/2011/gm/bgrd/backgroundfile-41275.pdf>

Appendix 1- 11 and 25 Ordnance Street

<http://www.toronto.ca/legdocs/mmis/2011/gm/bgrd/backgroundfile-41336.pdf>

Appendix 2 - 10 Ordnance Street and 45 Strachan Avenue

<http://www.toronto.ca/legdocs/mmis/2011/gm/bgrd/backgroundfile-41337.pdf>

At the Government Management Committee of October 12, 2011, staff provided a brief report "Status of Bridge Connection within the Ordnance Lands" and indicated that the Executive Director, Technical Services was scheduled to report to Public Works and Infrastructure Committee on November 3, 2011 regarding the pedestrian and cycle bridge.

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(September 27, 2011) Staff Report - Status of Bridge Connection Within the Ordnance Lands

(<http://www.toronto.ca/legdocs/mmis/2011/gm/bgrd/backgroundfile-41346.pdf>)

## **ISSUE BACKGROUND**

Tender Call 353-2010, Contract 10FS-34S for the construction of the Pedestrian and Cycle Bridge over GO Transit Tracks from Wellington Street to Fort York, was issued by the Purchasing and Materials Management Division on December 24<sup>th</sup>, 2010.

The Purchasing and Materials Management Division opened tenders for Tender Call 353-2010 at its Public Opening on February 3<sup>rd</sup>, 2011.

The Staff Report to PWI of March 25<sup>th</sup>, 2011 requested authority to award Tender Call 353-2010, Contract 10FS-34S, to BOT Engineering & Construction Ltd., in the amount of \$25,333,916.35 including all applicable taxes and charges (\$22,419,395.00 net of all applicable taxes and charges and \$22,813,976.35 net of HST Recoveries) having submitted the lowest bid meeting specifications in conformance with the Tender requirements.

At its meeting on April 26<sup>th</sup>, 2011, Public Works and Infrastructure Committee referred Item PW3.13 to the General Manager, Transportation Services, the Executive Director, Technical Services and the Director, Purchasing and Materials Management to recommend to PWI an alternative, lower cost Pedestrian and Cycle Bridge over GO Transit Tracks from Wellington Street to Fort York.

Staff of Technical Services subsequently evaluated alternative, lower cost alternatives for the Pedestrian and Cycle Bridge, including alternative profiles, alignments, structural systems and materials. Simultaneously, Build Toronto is to undertake a Master Planning process for the Ordnance Triangle lands within which the pedestrian and cycle bridge would be located. The coordination of the area development and the construction of the pedestrian bridge have sufficient potential for cost savings through a financial partnership and construction synergies to warrant more detailed discussions between the City, Build Toronto and its development partners.

## **COMMENTS**

The contents of this report have been discussed with the General Manager of Transportation Services and the Director of Purchasing and Material Management and The report was developed in cooperation with the Chief Planner and Executive Director of City Planning, the Acting Director of the Waterfront Secretariat and the Chief Corporate Officer.

### **Pedestrian Bridge Design Options**

Staff of Technical Services evaluated five (5) alternative bridge structures for comparison with the originally tendered design. The original design consisted of two (2) x 100 m spans with an oblique crossing over the rail corridors and supported on a central pier in Ordnance Park. The original design consisted of curved bridge decks and inclined support arches.

A significant reduction in the cost of the bridge would be achieved by reducing the span lengths over the rail corridors and replacing the central pier with an earth berm in Ordnance Park. A ramp from 10 Ordnance, west of the berm, would connect the path on the berm with Ordnance Triangle. Shorter bridge spans, separated by an earth berm, are common features of the five (5) alternative bridge structures considered. All of the alternatives present cost savings through the use of a berm to support the bridge structure(s) rather than the original pier design. Coordination of the pedestrian bridge construction with development of the adjacent lands may provide opportunities for cut/fill balancing that may not otherwise be possible. Such cut/fill balancing may provide for an enhanced park development in the area as well as a further cost savings opportunity.

The five (5) alternative, lower cost bridge structures, with comparison to the original design, are illustrated in Figures 1 to 5 and summarized in Table 1. The cost estimates are shown to illustrate construction costs and other projects costs. Other project costs include engineering, contract administration, ESR addendum (if necessary), air rights agreement costs etc. as they relate to each alternative.

Alternative A1 most closely maintains the significant features of the original design, including a curved deck supported by inclined arches and crossing the rail corridor in the oblique alignment in accordance with the Environmental Study Report. Alternative A2 maintains the inclined arches and crosses the rail corridor in an oblique alignment in accordance with the Environmental Study Report but with a straight deck. Alternative A5 maintains the inclined arches but utilizes a straight deck configuration on a new alignment. As a result, Alternatives A1, and A2 (as well as Alternative A4 which is not recommended) will not require an addendum to the Environmental Study Report and maximize the use of costs already incurred in preparing the Environmental Study Report of the original design. Alternatives A3 and A5 will both require an addendum to the Environmental Study Report, at additional time and cost.

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The procedure for securing air rights over the rail corridor required for Alternatives A1, A2 and A4 is anticipated to follow the procedure of the original design. However, due to the footprint into the rail corridor for Alternatives A1 and A4, it is expected that the air right costs will be higher than the other alternatives. Securing air rights for Alternatives A3 and A5 may incur additional cost due to the new alignment.

Alternative A1 utilizes more of original design, drawing details and contract documents and therefore maximize the use of engineering costs already expended. Alternatives A2 and A4 are expected to incur additional design costs for the alternative straight deck layout. Alternatives A3 and A5 will require additional design costs for the straight deck layout and alternative truss support system.

Access to the railway corridor to allow for the construction of the pedestrian bridge is not expected until 2014, once Metrolinx has completed their current construction activity within the corridor. Given this timing and the proximity to the development lands, construction conflicts resulting in constructor issues related to obligations under the Occupational Health and Safety Act may arise. The need to separate the projects in time and space to manage the constructor issue may create delays in either the development of the area or the construction of the pedestrian bridge. Delivery of the pedestrian bridge through the area development works may present the optimum delivery timelines and provide further cost efficiencies. All of the design alternatives support this delivery approach.

Based on these considerations, Alternative A1, A2 and A5 all present visually appealing design options that are consistent with the key features of the original design, at reduced costs. While Alternative A3 and A4 provide further cost reduction opportunities, key features of the original design, namely the inclined arch support system, are not maintained with these options.

**Table 1**  
**Alternative Summary**

Alternative	Deck Layout	Structural System	Span Lengths	Rail Crossing	Environmental Study Report	Construction Costs* (million)	Other Project Costs* (million)	Total Costs* (million)	Costs To Date * (million)
Original Design	Curved	Inclined Arches	100 m 100 m	Oblique	Complete	\$22.814	\$3.455	\$26.269	\$1.716
A1	Curved	Inclined Arches	90 m 70 m	Oblique	No Addendum	\$16.844	\$2.875	\$19.719	--
A2	Straight	Inclined Arches	85m 65 m	Oblique	No Addendum	\$16.273	\$2.646	\$18.919	--
A3	Straight	Vertical Trusses	64 m 64 m	New alignment	Addendum Required	\$10.604	\$2.596	\$11.21	--
A4	Curved	Vertical Trusses	90 m 70 m	Oblique	No Addendum	\$11.050	\$2.465	\$13.515	--
A5	Straight	Inclined Arches	64 m 64 m	New alignment	Addendum Required	\$15.084	\$2.873	\$17.958	--

\* All costs are shown net of HST recovery



## **Planning Considerations**

### **Rationale for Pedestrian Bridge**

As extensively outlined in the Environmental Assessment documents, the identified need in the area is a desired off-street pedestrian and cyclist connection between the Niagara Street Neighbourhood north of Fort York and the Martin Goodman Trail network to the south, potential and current development parcels adjacent to Fort York, and the Toronto Waterfront Garrison Creek Trail network. Barriers and restrictions to pedestrian and cyclist movement in the study area include existing and proposed roads (Strachan Avenue and Bathurst Street bridges, Gardiner Expressway) and the CN/GO Transit rail corridors. Area neighbourhoods and parks are currently divided by the existing rail corridors. Public use of the area and access to Fort York is impacted by the Gardiner Expressway Corridor, the rail corridors and the presence of area land uses such as a municipal yard, parking lots and industry.

The identified opportunity is to connect existing parks and trails through a strategic north-south open space connection over the railway corridor, raising the profile of Fort York and improving access to it, and improving linkages to the waterfront. A structure over the rail corridor would connect Trinity Bellwoods Park, Stanley Park, Fort York, June Callwood Park, Coronation Park, and the Martin Goodman Trail, thus establishing continuity from the original Lake Iroquois Shoreline to Lake Ontario. This would improve pedestrian and cyclist sense of safety and comfort by providing an alternative to higher traffic routes such as Strachan Avenue and Bathurst Street, enhance access to the Fort and increase its public presence. Achieving this opportunity is consistent with policies in the City's Official Plan, and Bike Plan, and previous area planning studies and community involvement around this issue since 1996 and should be seen as a city building initiative.

### **Relationship to the Ordnance Triangle Planning Process**

At City Council's request, Build Toronto has initiated master planning to determine how to best redevelop four City properties in the Ordnance lands area – 45 Strachan Avenue, 10 Ordnance Street, and 11 and 25 Ordnance Street. Build Toronto has moved quickly on this process and has entered into a joint venture agreement with the other private property owner adjacent to the City sites. By developing the site with the adjacent joint venture property owner, it significantly improves the size, configuration and functionality of the overall area including a new Park site, and the inclusion of a bridge connection as part of the overall Master Plan. This would allow for an important link connecting Stanley Park south to Fort York through the newly created park on the joint venture lands as well as providing a critical connection for the emerging residential community in East Liberty Village to the new park and bridge connection. A range of acceptable pedestrian bridge options can be integrated into the Master Planning exercise and would reflect the City planning objectives and principles contained in the area planning work to date

In its review of the lands Build has been in discussions with City Planning staff and the owner of 30 Ordnance Street who is currently proposing to develop that property with a mixed-use project including two residential towers. Build has agreed with the owner of 30 Ordnance Street to look at a joint master plan for the City lands and the private holdings. The private lands were the subject of a site specific Official Plan Amendment to permit residential uses on lands designated for Employment. A site specific rezoning application is now under review for the 30 Ordnance property.

The Official Plan designates the City-owned lands on the Ordnance Triangle as *Employment Areas* (Map 18) and locates the site within an *Employment Districts* on the Urban Structure Map (Map 2). If the Build Toronto Master Plan includes a proposal for residential uses, an Official Plan Amendment is required. Under the current policy framework Employment Districts cannot be converted to residential uses unless the City undertakes a municipal comprehensive review of the impact of removing these lands from the City's inventory and the effect it would have on long term employment targets. This review is now underway in conjunction with the Official Plan Review. The subject lands are also located within the boundaries of the Garrison Common North Secondary Plan. While there are several area specific policies within the Secondary Plan, no area specific policy applies to the Ordnance Street lands to permit additional or different uses than those provided for within *Employment Areas*. These lands are therefore subject to the general objectives for the Secondary Plan as a whole and rely upon the parent Plan to provide land use permissions on an individual site basis.

Under Former City of Toronto Zoning By-law 438-86 the subject site is zoned I1 D3 (Attachment 6). The I3 zoning classification permits a wide range of industrial and commercial uses up to a total density of 3.0 times the area of the lot. The maximum permitted height for the site is 18.0 metres. Again, introduction of residential uses would require a rezoning.

Under Section 37 of the Planning Act, the City may request contributions for community benefits as part of an approval of increased height and density. If residential uses are added to the site and or height and density increase, the approval would be subject to a Section 37 Agreement. Community benefits could include contributions toward the cost of the proposed bridge and other capital improvements associated with the parks in and around the bridge.

Once the matters of land use are resolved the project would have to go through the City's Site Plan Approval Process.

It is important that the decision on the final design of the bridge be coordinated with the master planning of the entire triangle to create the optimum relationship between the development of the bridge and the creation of useable open space to serve any new residents, existing residents and visitors to the area. High quality design of both private development and improvements to the public realm is an important planning objective as it achieves a sense of place and attracts new investment.

The principal land use issue raised by the proposed redevelopment of the Ordnance Street lands is the conversion of the subject lands from employment or industrial uses to residential uses.

To obtain the necessary permissions to develop the Ordnance Street lands for residential purposes should that be the outcome of the master planning exercise underway, amendments to both the Official Plan and Zoning would be necessary, including appropriate amendment to the Garrison Common North Secondary Plan. As the master plan should be prepared in the context of the existing provincial planning framework, the City's Municipal Comprehensive Review currently underway provides an opportunity to facilitate the necessary review. This report therefore recommends that the Chief Planner and Executive Director be requested to consider the master plan being developed for the Ordnance triangle lands as part of the 5 year review Official Plan and the Municipal Comprehensive Review currently being undertaken.

Further, any rezoning application will also be evaluated to determine the appropriateness of the scale and massing of each proposal to determine the potential built form, traffic and public realm impacts, amongst others.

## **Conclusions**

It is recommended that the Fort York Pedestrian Bridge be constructed with a visually appealing design consistent with either Alternative A1, A2 or A5, which provide an inclined arch support system based pedestrian bridge consistent with the original pedestrian bridge design but at reduced costs. Further, it is recommended that the Executive Director, Technical Services, Chief Planner and Executive Director, City Planning, Acting Director, Waterfront Secretariat and the Chief Corporate Officer be authorized to work with Build Toronto, and its development partners to develop the design and construction of a pedestrian bridge consistent with the planning objectives outlined in this report and in conjunction with the area development.

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## SIGNATURE

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Peter M. Crockett, P. Eng.  
Executive Director  
Technical Services

## ATTACHMENTS

Figure 1 – Alternative A1  
Figure 2 – Alternative A2  
Figure 3 – Alternative A3  
Figure 4 – Alternative A4  
Figure 5 – Alternative A5