

Report to/Rapport au :

**Transportation Committee
Comité des transports**

and Council / et au Conseil

**October 16, 2012
16 octobre 2012**

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Capital/Capitale (17)

Ref N°: ACS2012-PAI-PGM-0244

**SUBJECT: RIDEAU CANAL MULTI-USE CROSSING NEAR CLEGG STREET
AND FIFTH AVENUE: ENVIRONMENTAL ASSESSMENT STUDY.**

**OBJET : PASSERELLE POLYVALENTE SUR LE CANAL RIDEAU PRÈS DE LA
RUE CLEGG ET DE L'AVENUE FIFTH : ÉVALUATION
ENVIRONNEMENTALE**

REPORT RECOMMENDATION

**That the Transportation Committee recommend Council approve finalization of the
Environmental Study Report for the Rideau Canal Multi-Use Crossing project as
described in this report and attached documents and posting of the Notice of Study
Completion.**

RECOMMANDATION DU RAPPORT

**Que le Comité des transports recommande au Conseil municipal d'approuver
l'entérinement du rapport sur l'étude d'évaluation environnementale du projet de la
passerelle polyvalente au-dessus du canal Rideau tel qu'il est décrit dans le présent
rapport et les documents ci-joints ainsi que la publication de l'avis de fin d'étude.**

Executive Summary

Assumption and Analysis

The origins of a Rideau Canal crossing near Clegg Street and Fifth Avenue dates back more than 100 years when a small ferry boat operated for several decades in this

vicinity. A bridge crossing at this location was also identified in the Holt Plan (1915); the Greber Plan (1950); and National Capital Commission (NCC) Plans (1968). Through the 1950s and 1960s, the NCC annually constructed a wooden footbridge in this vicinity in the winter months to provide this connection.

More recently, a crossing of the Canal at this location has been added to the Ottawa Cycling Plan (2008), the Ottawa Pedestrian Plan (2009) and the Old Ottawa East Community Design Plan (2010). In June 2009, Council directed staff to include sufficient funds for an Environmental Assessment of the Clegg/Fifth Avenue footbridge in the 2010 budget as part of the Ottawa Pedestrian Plan approval process.

The plan recommended in this report supports the City's transportation objectives to foster healthy communities by promoting active transportation through enhanced cycling and pedestrian connectivity. A new permanent high-level footbridge crossing is recommended as it minimizes distances between existing crossings, provides a more desirable pedestrian/cycling alternative to the existing crossings, and is expected to change travel behaviour for trips across the Canal resulting in approximately 2 500 users every day.

Financial Implications

The total preliminary estimated cost of the bridge, in 2012 dollars, is \$18 million. This includes the relocation of Colonel By Drive, intersection improvements, landscaping, engineering and contingency, but excludes property requirements. A peer review was undertaken to validate the estimated costs determined as part of the Environmental Assessment.

The 2013 Draft Capital Budget contains \$2 million to undertake design in 2013. Funding to undertake construction of the bridge will be identified in a future capital budget with an estimate based on detailed design and including inflationary increases in accordance with the Construction Price Index.

In addition, rehabilitation and relocation of an existing water main is being coordinated with the bridge works. The preliminary estimated cost for this work is approximately \$1 million. Funding for the water main work will be included in a future budget program.

Public Consultation/Input

Ongoing consultation with potentially affected and interested stakeholders has taken place over the course of this project. Stakeholders include Parks Canada (owner and administrator of the Rideau Canal), the National Capital Commission (land owners of the property adjacent to the Canal), City of Ottawa staff, members of the study's Agency and Public Consultation Groups and the general public.

A total of three public meetings were held over the course of the study, including a Visioning Charrette in March 2011 and an on-line consultation session in April 2012.

The NCC Board unanimously endorsed the recommended plan in June 2012 and Parks Canada has indicated support given specific construction protocols. The majority of public feedback indicates significant and strong public support.

Résumé

Hypothèse et analyse

Les origines d'une passerelle traversant le canal Rideau près de la rue Clegg et de l'avenue Fifth remontent à plus d'un siècle; un petit traversier a relié pendant plusieurs décennies les deux rives dans ce secteur. Une passerelle est également indiquée à cet endroit dans le Plan Holt (1915), le Plan Greber (1950) ainsi que dans les plans de la Commission de la capitale nationale (CCN) (1968). Pendant les années 1950 et 1960, la CCN construisait chaque année une passerelle de bois pendant les mois d'hiver afin de relier les deux rives dans ce secteur.

Plus récemment, une passerelle à cet endroit a été intégrée dans le Plan sur le cyclisme d'Ottawa (2008), le Plan de la circulation piétonnière d'Ottawa (2009) et le Plan de conception communautaire de l'ancien quartier d'Ottawa-Est (2010). En juin 2009, le Conseil chargeait le personnel de prévoir dans le budget de 2010 les fonds nécessaires à la réalisation d'une évaluation environnementale visant la passerelle Clegg/Fifth, dans le cadre du processus d'approbation du Plan de la circulation piétonnière d'Ottawa.

Le plan recommandé d'une nouvelle passerelle polyvalente traversant le canal Rideau entre l'avenue Fifth et la rue Clegg, décrit dans le présent rapport, est conforme aux objectifs de transport de la Ville, qui visent à favoriser de saines collectivités en encourageant les modes de transport actifs grâce à la mise en valeur des liens cyclables et piétonniers. La construction d'une passerelle permanente élevée est recommandée afin de réduire les distances entre les points de traversée existants, et d'offrir aux piétons et aux cyclistes une option plus intéressante que les passages actuels. Elle devrait par ailleurs modifier les comportements de déplacement d'une rive à l'autre du canal et attirer quelque 2 500 usagers chaque jour.

Répercussions financières

L'estimation préliminaire des coûts totaux du pont s'élève à 18 millions de dollars, en dollars de 2012. Elle comprend le déplacement de la promenade Colonel By, les améliorations des intersections, l'aménagement paysager, l'ingénierie et la contingence, mais exclut les indemnités préliminaires pour expropriation de biens-fonds. Un examen par les pairs a été entrepris en vue de valider les coûts estimatifs déterminés dans le cadre de l'évaluation environnementale.

Les prévisions préliminaires du budget des immobilisations de 2013 réservent une somme de 2 millions de dollars à l'entreprise des travaux de conception en 2013. Les fonds nécessaires à la mise en chantier du pont seront définis dans un budget des immobilisations ultérieur, dont les estimations seront fondées sur les détails de la conception et tiendront compte des hausses inflationnistes, conformément à l'Indice des prix de la construction.

Par ailleurs, les travaux de réfection et de déplacement d'une canalisation d'eau existante seront effectués en coordination avec les travaux sur le pont. Les estimations préliminaires des coûts de ces travaux sont de l'ordre de 1 million de dollars. Le financement des travaux sur la conduite d'eau principale sera inclus dans un programme budgétaire ultérieur.

Consultation / commentaires du public

Une consultation permanente a été engagée pendant toute la durée de ce projet avec les parties intéressées ou susceptibles d'être concernées : Parcs Canada (propriétaire et administrateur du canal Rideau), Commission de la capitale nationale (propriétaire du bien-fonds adjacent au canal), personnel de la Ville d'Ottawa, membres de l'agence chargée de l'étude et des groupes de consultation publique, et membres du public.

Au total, trois réunions publiques ont été organisées au cours de l'étude, y compris une charrette de visualisation d'avenir en mars 2011 et une séance de consultation en ligne en avril 2012.

Le C.A. de la CCN a appuyé à l'unanimité le plan recommandé en juin 2012 et Parcs Canada a également signifié son soutien avec des protocoles précis de construction. La majorité des commentaires des membres du public apportaient un soutien important.

BACKGROUND

Plans for a crossing over the Rideau Canal near Clegg Street and Fifth Avenue date back almost a century. A new crossing at this location was identified in the Holt Plan (1915), the Gréber Plan (1950), and the National Capital Commission Plan (1968). As this was an important east-west desire line, a ferry operated for several decades in this vicinity, until approximately 1950. In the 1950s and 1960s, the National Capital Commission (NCC) constructed a wooden footbridge annually in the winter to provide this connection.

The City of Ottawa Official Plan, City Strategic Plan and Transportation Master Plan (TMP) support sustainable and active transportation, and place an emphasis on connecting communities. The TMP's implementation of the active transportation network is guided by the Ottawa Cycling Plan (OCP) and the Ottawa Pedestrian Plan (OPP), and calls for mode share increases to three per cent and ten per cent respectively.

As part of Council's approval of the OCP and the OPP, staff were directed to add a new multi-use crossing of the Rideau Canal in the vicinity of Clegg Street and Fifth Avenue, and this change will be reflected in the next TMP update.

The Old Ottawa East Community Design Plan was approved in August 2011, and also identifies the need for a new crossing of the Rideau Canal in the vicinity of Clegg Street as part of the community's bicycle and pedestrian infrastructure and as a measure to enhance connectivity beyond the neighbourhood level.

In 2011, the NCC completed the Rideau Canal Corridor Pedestrian Crossing Study which identifies and prioritizes locations where access to the multi-use pathways along the Canal

conflicts with vehicle movement along the parkways and where pedestrian crossing signals are warranted. The study concluded that intersection improvements should take place at Colonel By Drive and Clegg Street and Queen Elizabeth Drive and Fifth Avenue, and that these intersections meet the City's warrants for pedestrian signalization and therefore are considered priority locations for improvements.

Council dedicated funds to the Environmental Assessment (EA) of a multi-use crossing over the Rideau Canal in the 2010 budget. The EA study was formally initiated in 2011 after the Statement of Work was approved by Transportation Committee and has followed the Municipal Class EA process for Schedule "C" projects which involves identifying problems and opportunities, evaluating alternative planning solutions, evaluating alternative design concepts and preparing an Environmental Study Report for public review and approval.

The recommended plan presented in this report supports the City's transportation objectives by providing sustainable and active transportation options. The footbridge is expected to be used for more than 2 500 trips per day. This estimate is conservative, as it only accounts for utilitarian trips that will be converted from automobile to either pedestrian or cycling trips due to improved mode choices and does not account for recreational trips (i.e. joggers) nor events at Lansdowne Park.

DISCUSSION

In support of the City's Official Plan, Transportation Master Plan, Cycling Master Plan and Pedestrian Master Plan, it is recommended that a new multi-use crossing over the Rideau Canal be constructed between Fifth Avenue and Clegg Street to foster healthy communities by promoting active transportation through enhanced cycling and pedestrian connectivity.

This recommended plan was developed through an iterative and comprehensive stakeholder engagement program with key agencies including the NCC, Parks Canada, the Ward Councillor, City staff and members of the public. To guide the study team towards a recommended plan, a series of guiding principles were established at the outset of the project and are presented in Table 1.

Table 1: Guiding Principles of the Study

	Guiding Principles
Linkages	<ul style="list-style-type: none"> • Plan the crossing in a manner which improves connections between Old Ottawa East and the Glebe and offers increased access to amenities and key destinations on both sides of the Canal. • Plan the crossing to enhance east-west connectivity by linking the crossing to the broader pedestrian and cycling networks.

Location	<ul style="list-style-type: none"> • Locate the crossing such that it reduces trip lengths when compared to existing crossings, and thereby promotes sustainable transportation modes as more desirable ways to travel. • Situate the crossing in a location that minimizes and mitigates impacts to natural systems including wildlife, vegetation, surface water and other location-specific environmental features. • Situate the crossing in a location that maximizes design opportunities to integrate with and make a positive visual contribution to its setting. • Situate the crossing in a location that maximizes opportunities for place making and provides a new vantage point for users to appreciate the Canal. • Situate the crossing in a location that minimizes impacts to adjacent communities.
Length / Landing	<ul style="list-style-type: none"> • Implement innovative design approaches to ensure the crossing is compatible with the Canal's operation and maintenance, considering the Canal's role as a skateway and a navigable waterway. • Design the crossing to be universally accessible, including to those in strollers and wheelchairs, with special consideration to how pedestrians and cyclists can safely access nearby pathways and cross adjacent driveways. • Design the crossing to ensure integration of landings with adjacent pathways and road networks, and to ensure the safe interaction of pedestrian, cyclist, and vehicular traffic. • Design the crossing to be respectful of the Canal's important built heritage context and protective of the Canal's walls and bed. • Design landings with the goal of creating an enhanced sense of place through increasing accessibility and safety, and promoting a variety of uses.
Looks	<ul style="list-style-type: none"> • Design the crossing in a manner that respects and draws on the local, Capital and National heritage, while incorporating modern technology in its design and construction. • Design an iconic structure, which balances the design qualities of a landmark crossing with the responsible use of public funds. • Design the crossing so that its look and scale complement its setting. • Design the crossing with consideration to how it looks and functions in different environmental conditions, such as different seasons and different times of day and night. • Design the crossing so that it does not detract from, but rather enhances, the National Historic Site and World Heritage Site designations. • Design the crossing so that it provides amenities to support opportunities for safe, enjoyable, and memorable experiences for different user groups and enhances the opportunity for all Canadians to appreciate the unique setting of the Rideau Canal.

Project Need

This project aims to address a series of specific problems and opportunities that were identified based on review of the City's policy documents, the National Capital Region Origin-Destination Survey (2005) data, and previously completed studies for improvements to existing crossings in the study area.

1. *The Canal acts as a barrier to active transportation.*

At approximately 2km long, the length of the Rideau Canal between Pretoria Bridge and Bank Street Bridge is one of the longest linear east-west barriers in the City's urban pedestrian and cycling network.

2. *There is limited opportunity to improve active transportation facilities on existing infrastructure.*

Bank Street and Pretoria Bridge have minimum and/or sub-standard pedestrian and cycling facilities and limited opportunity for improvement due to geometric constraints and heritage considerations.

3. *A new bridge will change travel behaviour.*

Based on a review of trip characteristics and demographics in the study area, this study identified that more individuals use motorized modes for trips across the Canal than for trips between other similar nearby neighbourhoods. This is believed to be a direct result of the location and quality of pedestrian and cycling crossings in the area. Enhanced connectivity can help improve the use of active transportation and support the City's target mode shares of 10% walking and 3% cycling by 2031. It is projected that a new crossing would be used by 2 500 people per day.

To define the type of crossing required to address these problems and opportunities, a range of alternative planning solutions, crossing types, and crossing locations were considered. The discussion of these alternatives is presented below.

To address the problems and opportunities noted above, an exploration of all reasonable and feasible solutions was carried out. Specifically, this study evaluated the following options:

- Do nothing and maintain the existing condition;
- Modify the existing crossings to provide enhanced pedestrian and cycling facilities; and
- Build a new permanent crossing.

The "do nothing" approach will not resolve or address the identified problems and opportunities, and the existing 2km barrier to east-west travel across the Canal will remain a deterrent to active trips.

A new permanent multi-use crossing is recommended as it minimizes distances between existing crossings, provides a more desirable pedestrian/cycling alternative to the existing crossings, and is expected to change travel behaviour for trips across the Canal resulting in approximately 2 500 users every day. In addition to linking communities and improving

mode choice, a new bridge also creates an opportunity to create a public amenity space, providing access to the Rideau Canal and adjacent parklands during all times of the year.

Alternative Crossing Types

Three alternative crossing types were next developed and evaluated:

- An underpass (tunnel);
- A high-level crossing; and
- An operable mid-level crossing.

Plan view drawings of the alternative crossing types are presented in Document 1, which demonstrates the required length of ramps for alternative crossing types at broader and narrower sections of the Canal.

The advantages and disadvantages of each alternative crossing type were evaluated (Table 2). Based on this evaluation, it is recommended that a new high-level bridge best addresses the identified problems and opportunities and City objectives. This solution provides the greatest opportunity to create a direct, safe, and enjoyable crossing experience while reducing long-term operation and maintenance costs.

Table 2: Evaluation of alternative crossing types: underpass, high-level crossing, and mid-level crossing

	Advantages	Disadvantages
Underpass (Tunnel) NOT RECOMMENDED	<ul style="list-style-type: none"> • Avoids interruption of the navigation envelope. • Minimizes visual impacts to the Rideau Canal cultural landscape. • Provides a sheltered crossing. 	<ul style="list-style-type: none"> • Underground crossing reduces visibility of crossing users and compromises personal safety. • Lack of natural surveillance increases sense of isolation and potential for incidence of crime. • May require CCTV surveillance or on-site security. • Tunnels are prone to leaking and result in increased life cycle costs. Tunnel would need to be watertight, and would require pumping. • Requires mechanical and electrical systems, resulting in increased lifecycle costs. • Does not provide new opportunities for users to appreciate the Canal landscape. • Ramp lengths would be comparable to a high-level crossing (> 300 m) due to depth requirements of a tunnel.
Mid-level (moveable) bridge NOT RECOMMENDED	<ul style="list-style-type: none"> • Provides viewing opportunities from the structure. • Reduces ramping requirements and potential impacts of ramps on Canal landscape. • Allows for a visible and safe crossing experience. • Presents an opportunity for an iconic addition to this important cultural landscape. 	<ul style="list-style-type: none"> • Disrupts pathway connectivity. • Encroaches on the navigation envelope disrupts passage for taller marine traffic. • Requires a full-time staff person on duty at all times trained in the operation of the structure (as per <i>Navigable Waters Protection Act</i> regulations). • Requires complex mechanical systems, resulting in increased lifecycle costs.

<p>High-level (fixed) bridge</p> <p>RECOMMENDED</p>	<ul style="list-style-type: none"> • Provides viewing opportunities from the structure. • Avoids interruption of the navigation envelope. • Allows for a visible and safe crossing experience during all seasons and at all times of day or night. • Presents an opportunity for an iconic addition to this important cultural landscape. • Reduced lifecycle costs, as compared to other alternatives. 	<ul style="list-style-type: none"> • Results in long ramps, which may be greater than the size of the crossing's span. • Scale of structure could be visually intrusive.
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Alternative Crossing Locations

To assess site-specific opportunities and constraints and identify the optimal location for a new high-level, fixed bridge, the study area was divided into the following three potential location alternatives:

- The North Alternative
- The Central Alternative
- The South Alternative

A series of evaluation criteria was developed and refined through consultation with key project stakeholders and the general public. Criteria were divided into five factor areas: natural environment, local community, cultural environment, transportation, and technical considerations. A representative suite of design alternatives was then developed for each location alternative to test the range of opportunities and constraints at each site and to ensure a full understanding of the advantages and disadvantages of each location.

A comprehensive screening was then carried out which concluded that the Central location is preferred for the following reasons:

- The Central location is the only alternative where it is feasible to safely connect to the east-west and north-south pathway system without requiring extensive ramping over the Canal and adjacent landscape. This location provides good connection to

the two-way street network which follows a continuous grid pattern linking key destinations via designated cycling routes;

- Ramping requirements and encroachment into the Rideau Canal World Heritage Site landscape are minimized at this location through the ability to provide safe, controlled, at-grade crossings of Queen Elizabeth Drive and Colonel By Drive;
- This location minimizes the distance between existing crossings, serves an existing desire line, and provides the greatest potential to generate new active trips; and
- Land uses adjacent to the Central location promote natural surveillance during different times of day and in different seasons.

Additional information about the alternative crossing locations, evaluation criteria, design alternatives and the evaluation summary is provided in Document 2.

Recommended Plan

Once a preferred location was selected, a comprehensive design exploration was carried out and considered the bridge landings, structure type and alignment of the bridge deck, among other features.

Some of the key design requirements that were considered for all alternatives included:

- Maintain the navigation envelope (6.7 m by 25.0 m);
- Be compact, transparent, quiet, gentle;
- Minimize visual impact of the structure and approach ramps for drivers, pathway and Canal users;
- Minimize long ramps over water and parallel to Canal banks;
- Maintaining continuity of the Canal walls;
- Minimize piers in the water (no more than 2);
- Be in scale with its setting;
- Include seamlessly integrated and continuous cycling access;
- Provide universal and equitable access; and
- Be as slender and light as possible within the viewscape.

Preferred Design

The Recommended Plan is a multi-use, high-level footbridge crossing the Rideau Canal, connecting Fifth Avenue to Clegg Street (see Document 3). The bridge gradually arcs both vertically at a maximum five per cent slope and horizontally over the water as it crosses the Canal and the navigational envelope required by Parks Canada. Over the water, the continuously curving 3.5m wide bridge deck gradually widens out to 6.5m creating a pedestrian-friendly lookout zone that is 3.0m wide and approximately 70m long. A durable and climate-appropriate wooden decking is proposed to delineate this space from the travelled portion of the pathway. The wooden lookout area includes backless benches to promote the views towards both the north and south. The bridge is flanked by continuous finely-scaled vertical aluminium railings, angled outward to promote a greater sense of space on the bridge itself. LED lighting is integrated into the design of the handrails in order to enhance safety and visibility in the night environment, while maintaining an

understated lighting scheme for the bridge. It is important to note that many of these design features will require further exploration and consideration in the detailed design phase of the project.

The bridge deck is supported on three v-frame piers which are located to provide points of support throughout the span, enabling a consistent deck structure of minimum depth. The two primary v-frame structures in the Canal are supported on elliptical concrete piers framing the main navigation channel. A smaller, v-frame pier is proposed in an enlarged and rehabilitated Lily Pond to support the west landing of the structure.

On the east side of the Canal, the bridge lands on the vegetated median between Colonel By Drive and Echo Drive in a combination stair and switchback ramp arrangement. A lookout is proposed at the north end of the switchback ramp. The upper portion of the ramp is designed with an open span to promote visibility and maintain the light visual appearance of the structure. The lower ramp abutment and staircase are supported by wedge-shaped stone walls. Colonel By Drive will be relocated approximately four metres to the west in order to accommodate the east landing. Landscaping improvements include a new plaza at the foot of the stairs and ramp centred on the existing mature oak tree, tree plantings screening residences on Echo Drive, shrubs along Colonel By Drive, and new pedestrian lighting and furniture.

On the west side of the Canal, the bridge flies over an enlarged and rehabilitated Lily Pond, before returning to grade just north of Fifth Avenue. A small plaza will be designed where the ramp meets the sidewalk and multi-use pathway. Landscaping improvements include new stone pond edges, realigning of the existing pathway to suit the new pond edge, planting of new trees, shrubs and ornamental grasses, and new pedestrian lighting and furniture.

In order to enhance pedestrian safety, controlled crossings are required at the intersections of Colonel By Drive and Clegg Street and Queen Elizabeth Drive and Fifth Avenue. These intersections were identified as warranting improvements based on the NCC's Rideau Canal Corridor Pedestrian Crossing Study (2011). Full signalization is recommended as this project will introduce a greater volume of pedestrian and cyclist traffic at these intersections.

Utility Improvements

A 457 mm watermain built in 1910 runs east-west underground from Fourth Avenue across to between Clegg and Herridge Streets, conflicting with the recommended location of the bridge. In 2001, the City recommended the replacement of this watermain. New 406 mm stubs for a watermain exist at Fourth Avenue and at a location 80m north of Clegg Street. Opportunities to combine construction of the bridge and watermain replacement will be explored through the detail design process.

Project Cost Estimate

The total preliminary estimated cost of the bridge, in 2012 dollars, is \$18 million. This includes the relocation of Colonel By Drive, intersection improvements, landscaping,

engineering and contingency, but excludes property requirements. A peer review was undertaken to validate the estimated costs determined as part of the Environmental Assessment.

The 2013 Draft Capital Budget contains \$2 million to undertake design in 2013. Funding to undertake construction of the bridge will be identified in a future capital budget with an estimate based on detailed design and including inflationary increases in accordance with the Construction Price Index.

In addition, rehabilitation and relocation of an existing water main is being coordinated with the bridge works. The preliminary estimated cost for this work is approximately \$1 million. Funding for the water main work will be included in a future budget program.

RURAL IMPLICATIONS

There are no rural implications associated with this report.

CONSULTATION

Ongoing consultation with potentially affected and interested project stakeholders has taken place over the course of this project. Stakeholders include Parks Canada (owner and administrator of the Rideau Canal), the National Capital Commission (land owners of the property adjacent to the Canal), members of the study's Agency and Public Consultation Groups and the general public.

A total of three Public Open Houses were held throughout the study. Bilingual notification was published during the month prior to each Open House in local newspapers and on the project website. The consultation efforts also included a Visioning Charrette, an online consultation forum and several meetings with the Agency and Public Consultation Groups.

In general, the public and agencies have been supportive of this project and the recommended plan. Table 4 summarizes the major issues identified through the consultations and how they have been addressed. Summary reports detailing consultation activities and feedback received are appended in Document 4.

Table 3: Commonly Expressed Comments and Responses

	Comment	Response
Public	Effect of a new crossing on on-street parking in Old Ottawa East, resulting from events at Lansdowne Park	A parking analysis was completed to analyze the impact of a new crossing on on-street parking in the study area during Civic Centre Arena events at Lansdowne Park. No increase in day to day on-street parking demand is expected as a result of the revitalization of Lansdowne Park. During large, infrequent, stadium events, on-street parking demand is expected to increase throughout the study area, regardless of whether or not there is a new bridge. The City of Ottawa plans to implement a series of Transportation Demand Management (TDM) measures to reduce neighbourhood parking demand during these events. During frequent arena events, a crossing in the center of the study area is expected to result in a slight increase in on-street parking in the vicinity of the crossing's east landing area. Monitoring is recommended to identify and implement mitigation measures as required.
	Effect of the east landing on views of the Canal from adjacent properties	The preferred location for the east landing was carefully selected and considered the availability of space to land the bridge, as well as potential visual impacts on adjacent residents and users of Colonel By Drive, a Ceremonial Route and Capital Arrival Route. Landing the bridge in the vegetated median between Colonel By Drive and Clegg Street provides an opportunity to partially shield the east landing of the bridge from residents along Echo Drive by retaining or replanting the existing screen of trees on the east edge of this buffer. While visual impacts have been minimized to the extent possible, some impacts to ground-level views are expected during winter months when existing vegetation is less dense. The preferred design maintains clear views of the Canal from Colonel By Drive.
	Effect on the Lily Pond	Integration of the west landing of the bridge with the existing landscape on the west side of the Canal was an important consideration. The option of moving the west landing closer to the Canal Ritz was explored. This alternative would require the removal of mature trees and would expose bridge users to the service façade of the restaurant, which is currently screened by these trees. The recommended plan integrates a rehabilitated pond as a key design feature of the crossing. The NCC's Advisory Committee on Planning Design and Realty expressed support for this alternative.
	Safe crossing of Queen Elizabeth Drive and Colonel By Drive.	The intersections of Queen Elizabeth / Fifth and Colonel By / Clegg were identified as warranting improvements based on the NCC's Rideau Canal Corridor Pedestrian Crossing Study (2011). As this project will introduce a greater volume of pedestrian and cyclist traffic at these intersections, measures to improve these intersections were studied. As part of this project, it is recommended that both intersections be fully signalized with

		an associated cost of \$300,000.
Agency	Choice of construction material – durability, maintenance	The design concept represents an architectural vision and specifies materials for consideration during detail design. A durable and climate-appropriate wood species, such as responsibly-sourced ipe wood, is recommended for the wood deck and wood handrail. In order to address concerns regarding rusting of the steel elements of the bridge, it is proposed that the steel elements of the bridge be painted by the manufacturer, and also painted on-site once installed to maximize coverage and reduce the risk of rusting. The selection of architectural steel with no rough edges will also minimize the risk of rusting. The materials to be used in the construction of the bridge will be confirmed during detail design in consultation with City maintenance and asset management staff.
	Accessibility and maintenance within the raised deck portion on the bridge.	A number of design considerations will need to be revisited in detail design, including measures to ensure seamless access, measures to prevent snow from being pushed onto the skateway below the bridge, measures to facilitate snow removal by machine, incorporating conduits or drains in the box girder and shaping the concrete so that water drains away from the bridge and does not enter the Canal, and snow storage on the bridge during winter months.

COMMENTS BY THE WARD COUNCILLOR

Councillor Chernushenko stated:

“This Environmental Assessment study stands as an outstanding example of our city staff and its consultants engaging in an open and responsive fashion with all members of the community. The public meetings, the communications with community associations and local residents, and the willingness to listen to and respond to criticism and requests for clarification have been done admirably. As a result, I believe the ultimate recommendations of the report reflect the consensus of the community. A strong majority of immediate residents as well as many from outside the ward who have participated in the EA process have confirmed that a multi-use crossing of the Rideau Canal in the location identified, and with the design attributes recommended will make a very positive addition to the transportation linkages, and the economic and social life of both the immediate area and the city as a whole, with minimal negative impacts.

Construction of the Corktown Bridge has shown how a bridge whose value was uncertain, and whose costs met with significant criticism proved to be a resounding success, improving linkages for travel on foot and by bicycle, reducing automobile travel and congestion, contributing to lower air pollution and greenhouse gas emissions and attracting considerable tourism interest. A new bridge between Fifth Ave and Clegg Ave can be expected to duplicate the successes of the Corktown Bridge by creating an uninterrupted and safer east-west route serving the immediate communities and playing

a key role in solving some of the significant congestion and mobility challenges that will accompany the opening of a redeveloped Lansdowne Park.”

LEGAL IMPLICATIONS

There are no legal impediments to implementing the recommendations in this report.

RISK MANAGEMENT IMPLICATIONS

There are no risk management impediments to receiving the recommendations in this report.

FINANCIAL IMPLICATIONS

The financial implications associated with this project are contained in the body of this report. Funding for the design of the bridge is included in the 2013 draft capital budget. Construction funding will be included for consideration in a future year’s capital budget.

ACCESSIBILITY IMPACTS

The design of this footbridge crossing will meet all Federal, Provincial and Municipal accessibility requirements.

ENVIRONMENTAL IMPLICATIONS

The introduction of a multi-use bridge will enhance the City’s existing active transportation network and increase the number of active trips taken across the Canal. Any mode shift from vehicular travel to active travel will result in positive externalities from a public health and air quality perspective.

In order to minimize impacts to the natural environment resulting from the construction of the project, a number of mitigation measures were identified and outlined in Document 5.

TECHNOLOGY IMPLICATIONS

There are no technology implications associated with this report.

TERM OF COUNCIL PRIORITIES

A footbridge over the Rideau Canal between Fifth Avenue and Clegg Street is supportive of the following Term of Council Priorities:

- TM3: Provide infrastructure to support mobility choices
- TM4: Promote alternative mobility choices

- ES3: Reduce environmental impact
- HC2: Improve parks and recreation
- HC4: Improve arts and heritage

SUPPORTING DOCUMENTATION

Document 1	Cross-sections for Underpass, Mid-level and High-level Crossing
Document 2	Alternative Crossing Locations, Criteria, Design and Evaluation
Document 3	Recommended Plan
Document 4	Public Consultation Record
Document 5	Environmental Impacts and Mitigation Measures

DISPOSITION

Following Council approval, the Environmental Study Report for the Rideau Canal Multi-Use Crossing project will be finalized and a Notice of Completion will be published.

Public Works Department Comment

The Public Works Department is supportive of the report recommendations, and will work with Planning and Growth Management to identify all requirements for intersection signalization, including responsibility for installation and operating maintenance costs for these locations as both Queen Elizabeth Driveway and Colonel By Drive are NCC roadways, and Fifth Avenue and Clegg Street are City of Ottawa roadways.