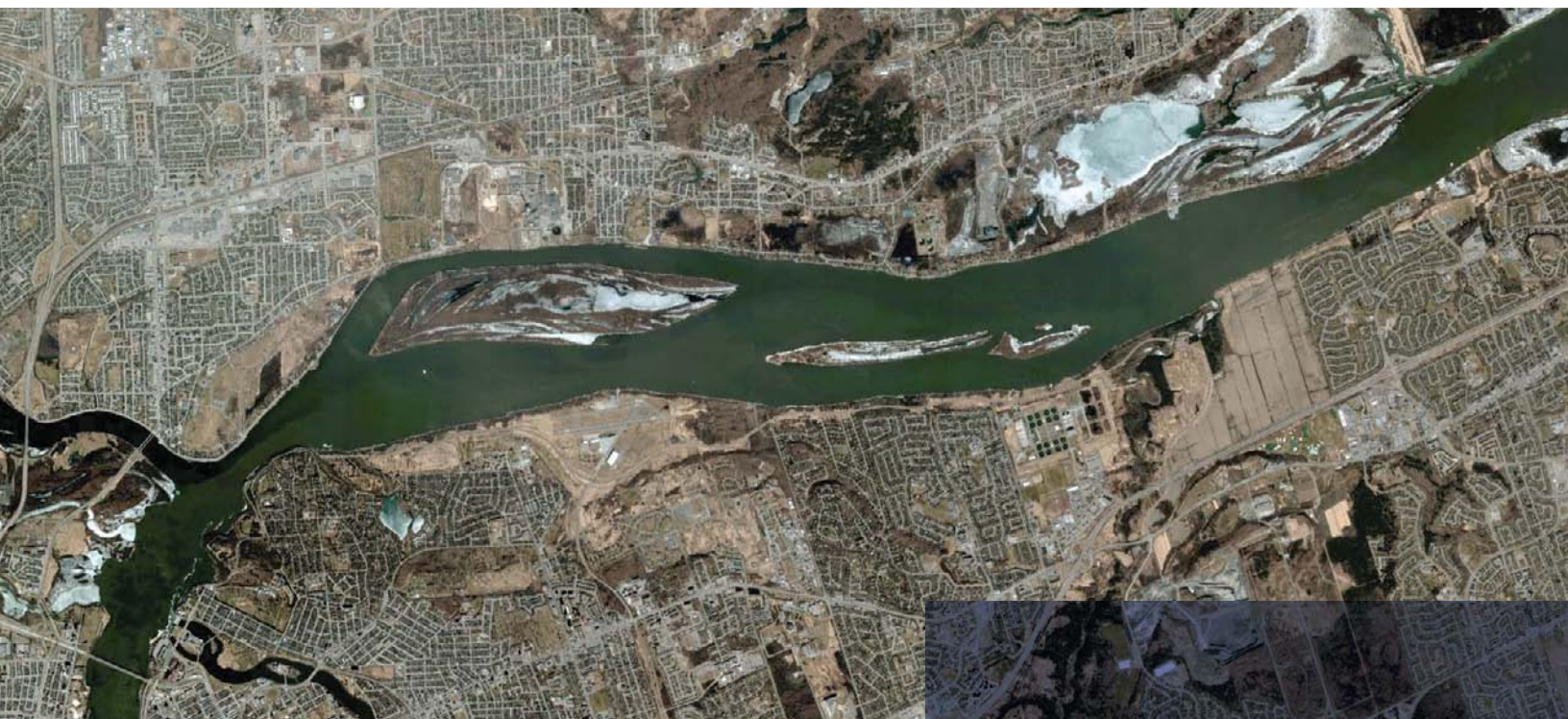




Future Interprovincial Crossings in the National Capital Region Environmental Assessment Study



Study Design Report

May 2010

NCC File No: SC2050

Future Interprovincial Crossings in the National Capital Region Environmental Assessment Study

Study Design Report

Final Report

NCC File No: SC2050

AECOM Delcan

Ref: 05-19680

May 26, 2010

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Executive Summary

Introduction and Background

The National Capital Commission (NCC), in partnership with the Ministry of Transportation of Ontario (MTO) and the ministère des Transports du Québec (MTQ), and in cooperation with the City of Ottawa and the Ville de Gatineau initiated the Interprovincial Crossings Environmental Assessment (EA) Study in 2006. The purpose of the Study was to examine all reasonable options to improve interprovincial transportation capacity across the Ottawa River to address long-term needs.

Phase 1, completed in 2009, confirmed the need for an additional interprovincial crossing, examined alternative solutions and identified the Kettle Island corridor (Corridor 5) as the preferred corridor location. The Study Partners decided to carry forward the three highest ranked corridors identified in the Phase 1 Study, Kettle Island, Lower Duck Island (Corridor 6) and Gatineau Airport/McLaurin Bay (Corridor 7), for further examination.

Phase 2 was initiated in October 2009 and is being undertaken in two stages. Phase 2A included the preparation of this Study Design Report, which sets out the Work Program, and describes the procedural and technical aspects of the assessment. Phase 2A also includes the preparation of a Canadian Environmental Assessment Act (CEA Act) Scoping document to direct activities during Phase 2B. The scoping document sets out the scope of the project and the scope of assessment for the Screening of the Interprovincial crossings project by Federal Agencies. During Phase 2B, the EA will be completed, leading to a recommended corridor out of the three under consideration.

Study Areas

In Phase 1 the general location of corridors were identified. This Study Design Report now defines Study Areas for Phase 2B. In particular, a *Site Study Area* was identified for each corridor carried forward. The Site Study Area is defined as the potential project footprint, namely, the area where new construction may take place, as well as areas or structures that may be modified, decommissioned or abandoned. The Site Study Area may not include all of the area required for mitigation measures. Figure E-1 illustrates the Site Study Areas of Corridors 5, 6 and 7.

During Phase 2B, alignments will be developed within the Site Study Areas. Alignments that were proposed and assessed during Phase 1 and not carried forward will not be reconsidered. The assessment and evaluation of alignments and corridors will consider the diverse features of the natural and built environments within the Study Areas.

Environmental Assessment Process

This study is being undertaken as a federal EA in accordance with the Canadian Environmental Assessment Act and the guidelines established by the Canadian Environmental Assessment Agency. During Phase 1, the Ontario Ministry of the Environment examined the project and determined that its legislation did not apply. Application of the Québec EA process has yet to be determined. Regardless, the Study Partners have decided that where the EA processes of Canada, Quebec and Ontario indicate different levels of requirements, in order to achieve the same goal, the more stringent and rigorous requirements will be applied.

Figure E-1: Site Study Areas

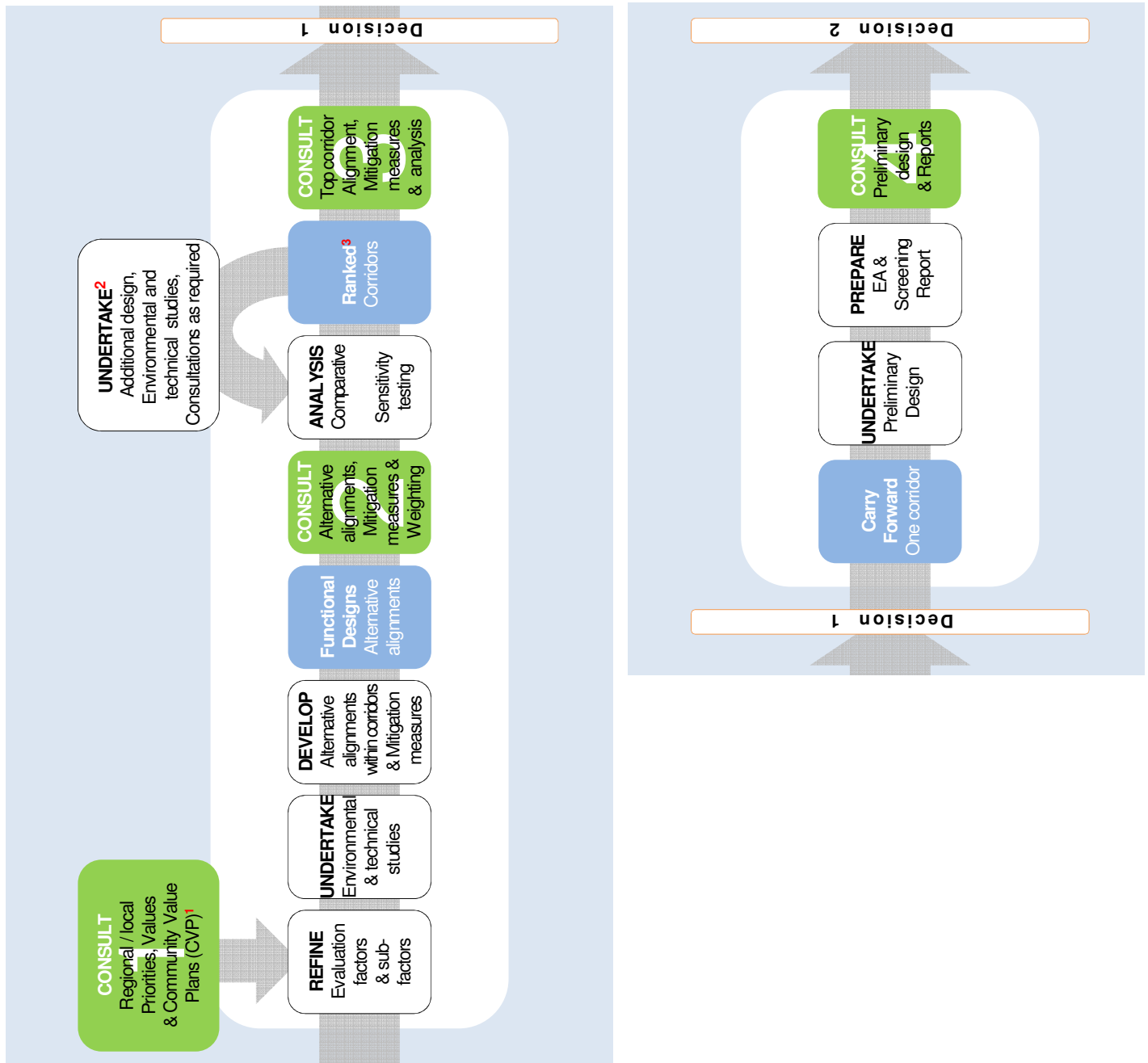


Site Study Area – Corridor 7

Work Program

Figure E-2 illustrates the Phase 2B process framework.

Figure E-2 : Phase 2B Process Framework



Phase 2B major tasks are as follows:

- Review previous material including correspondence that came in between Phase 2A and Phase 2B and coordinate with relevant studies such as the Interprovincial Transit Study and Strategic Goods Movement Study as well as city and provincial studies;

- Review and confirm the evaluation factors and sub-factors to ensure that any new public concerns or changes in legislation that may have occurred between the end of Phase 2A and the beginning of Phase 2B will be accounted for in Phase 2B work;
- Conduct field inventory of existing conditions including environmental and technical studies to provide a foundation for the development of alignments and the assessment and comparison of alternatives;
- Develop functional designs of corridor alignments to the extent needed to identify the best alignment within each corridor;
- Develop suitable mitigation measures to avoid or minimize environmental impacts;
- Evaluate the net impacts after the application of mitigation measures for each corridor alignment;
- Conduct a comparative analysis of the three corridors using the relevant evaluation factors and the reasoned argument approach and the multi-criteria decision aid approach;
- Rank corridors and test robustness of ranking. If corridor ranking is not robust, undertake any addition studies and consultation needed to further distinguish between the alternatives
- Once the ranking is robust, recommend the ranked list of the three corridors;
- Following a decision by the Proponent and Study Partners to carry forward the recommended corridor, complete preliminary design and cost estimate for that corridor;
- Assess the environmental effects and the likelihood of cumulative effects
- Prepare the Environmental Assessment Report;
- Prepare the Environmental Assessment Screening Report.

The List of Factors and sub-factors developed in Phase 1 was examined in Phase 2A. Sub-factors were deleted where they were not relevant to the current study area. In addition, some sub-factors were combined and modified to better reflect the characteristics of the three remaining corridors. This exercise also responded to public concerns in Phase 1 that there were too many sub-factors included in the analysis. The general list of factors and sub-factors suggested for Phase 2B work is:

Natural Environment: Species at Risk (SAR), air quality, fisheries and fish habitat, hydrotechnical, terrestrial, wetlands, environmentally significant and sensitive areas

Cultural Environment: Heritage and archaeological resources, aboriginal interests

Water Use and Resources: Water treatment facilities, wastewater treatment plants

Social Environment: Human health (air quality, noise and vibration), community impacts, aesthetics and views; boating and float plane activities, scenic parkways, recreational facilities

Land Use and Property: Official Plans, federal Master Plans, development, property requirements, museum, airports, hospital, residential, commercial, industrial, institutional, agricultural, contamination (soils sediment)

Economic Environment: Economic development

Traffic and Transportation: Trucking, traffic operations, transit operations, traffic safety, connectivity to non-motorized infrastructure

Costs Construction of the crossing connection and appropriate mitigation measures, property, operations, maintenance

Evaluation and Sensitivity Testing

Stakeholders, including the public, will be invited to contribute to the weighting of factors. Weighting scenarios put forward will be considered by a panel of experts, drawn from a broad range of natural, social and technical fields and with in-depth knowledge of the project. This panel will then generate weighting scenarios that will be used in the evaluation.

The top alignment in each corridor will be compared using a reasoned argument approach as well as a quantitative multi-criteria decision aid (pair-wise comparison). The results will then be tested using a range of weights. These tests will produce a ranking of the corridors with respect to their suitability as a new Ottawa River Crossing. If the results do not generally change within the range of weights tested, the ranking will be considered robust.

Project Schedule

A minimum 2 year duration is anticipated for the EA study, followed by one year for the review and approvals process.

Consultation

Consultation with the First Nations, public, communities and stakeholders will be an important part of Phase 2B. Opportunities to provide input have been built into the consultation program to allow for a meaningful dialogue with citizens and organizations throughout the National Capital Region. The input received will complement and inform the technical assessment at key intervention points in the EA Study.

Various methods will be used to reach out to citizens broadly within the Region, and specifically within the communities that are impacted most (both directly and indirectly) by a future decision on a crossing. These methods include on-line consultation, surveys, meetings with groups and communities as well the broad public.

There are four series of consultation activities identified at this time.

- *Round 1: Priorities and Values* will promote the start of Phase 2B to engage the public in the process. The public will be invited to contribute to an update of the evaluation factors and sub-factors. Communities along the corridors will help to develop Community Value Plans.
- *Round 2: Corridor-specific Input* will discuss the alternative alignments that were investigated and the rationale for the selection of the preferred alignment within each corridor, including how public input was used in the determination. At this time, the public will be asked to provide any additional input on the alignments and corridors and to provide their ideas on weighting for the evaluation.
- *Round 3: Ranked Corridor Input* will announce the results of the comparative analysis and sensitivity testing and the decision on which corridor is to be carried forward. The consultation will describe how public input was used in the analysis and weighting.

- *Round 4: Review of EA Study Report and Preliminary Design* will include an opportunity for the public to contribute to the preliminary design during its development. After the preliminary design and documentation have been prepared, additional consultation will take place to present the results of the study and describe how public input to the preliminary design has been incorporated.

The First Nations communities involved in this project include the Algonquins of Ontario (AOO) and the Kitigan Zibi Anishinabeg (KZA). They have expressed their desire for meaningful involvement in this EA Study. The AOO have stated that consultation and accommodation of Algonquin interests must be part of the planning, design and construction phases and funding must be provided to participate fully in all phases. The NCC remains committed to ongoing consultation with the AOO and KZA.

The approach to consultation with the AOO and KZA will be confirmed prior to the beginning of Phase 2B based on discussions directly with these communities and amongst the Study Partners.

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1 Introduction

The National Capital Commission (NCC), in partnership with the Ministry of Transportation of Ontario (MTO) and the ministère des Transports du Québec (MTQ), and in cooperation with the City of Ottawa and the Ville de Gatineau initiated the Interprovincial Crossings Environmental Assessment (EA) Study in 2006.

Deficiencies in the current transportation system have resulted in increased auto emissions, traffic delays and heavy truck traffic in the urban core of the City of Ottawa as the National Capital Region (NCR) continues to grow. The purpose of the Study therefore was to examine all reasonable options to improve interprovincial transportation capacity across the Ottawa River to address long-term needs. The objectives of the project, taken from Phase 1 Main Report page 1-1 are:

- Enhance quality of life for residents of the National Capital Region (NCR);
- Reduce peak-hour congestion across the Ottawa River screenline – an imaginary division used to measure traffic volume and capacity – and achieve a specific level of service (LOS D);
- Enhance the regional economy;
- Provide provincial–municipal highway connections;
- Link existing truck routes;
- Provide high mobility and accommodate all modes of travel;
- Complement transit objectives and plans;
- Minimize natural, socio-economic, and cultural impacts; and
- Maximize societal benefits.

1.1 Background and Context

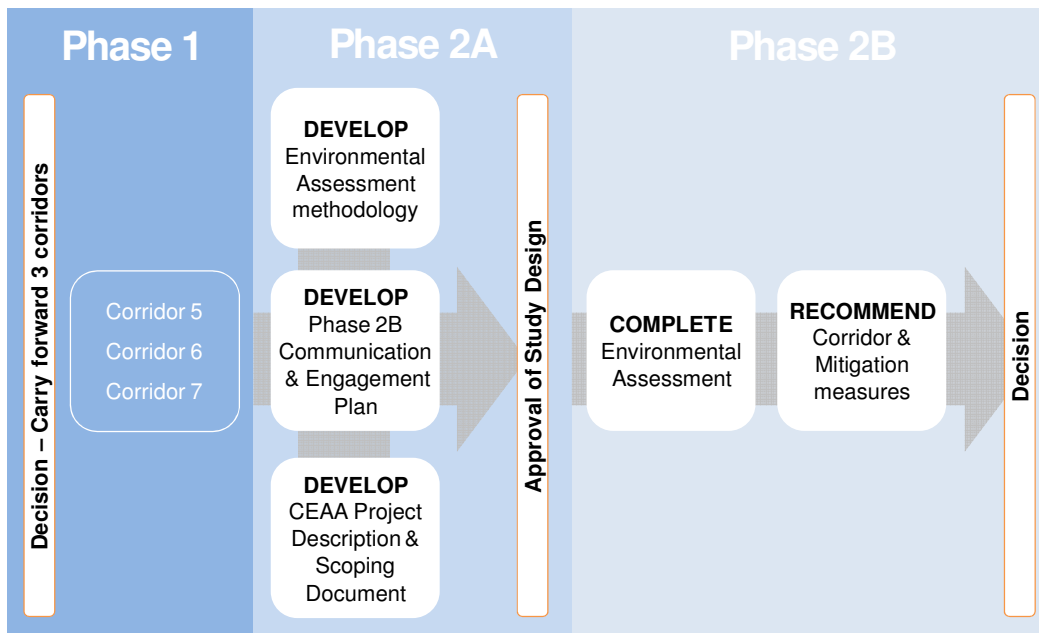
The Interprovincial Crossings EA Study is being undertaken in two phases. Phase 1 of the study was initiated in 2006, and was completed in January 2009 by Roche-NCE. The objectives of Phase 1 were to confirm the need for additional interprovincial crossing locations, to propose and evaluate alternative solutions and to prioritize the solutions. During this phase, it was determined that there is a demonstrated need for a new interprovincial crossing. Ten corridor locations were proposed, evaluated, and ranked based on several evaluation criteria. A preferred corridor location (the Kettle Island Crossing) was determined as a result of the Phase 1 study.

At the end of Phase 1, the consultant recommended Corridor 5 be carried forward for further study. The Study Partners decided to carry forward the three highest ranked corridors identified in the Phase 1 Study for further examination, including Kettle Island, Lower Duck Island and Gatineau Airport/McLaurin Bay. This was done to more fully examine community, transit and economic issues.

Phase 2 was initiated in October 2009 and is being undertaken in two stages. Phase 2A is being undertaken by AECOM-Delcan Co-Enterprise and includes the preparation of a Study Design and Canadian Environmental Assessment Act (CEA Act) Scoping document to direct activities during Phase 2B. The scoping document sets out the scope of the project and the scope of assessment for the Screening of the Interprovincial Crossings project by Federal Agencies. During Phase 2B, the EA will be completed, leading to a recommended project corridor out of the three under consideration. As part of this next phase, measures to further avoid, reduce or eliminate adverse environmental effects will be recommended.

A simplified diagram of the Interprovincial Crossings EA Study is presented in Figure 1.1. A more detailed diagram for Phase 2B is provided later in this report.

Figure 1.1 Interprovincial Crossings Study Process



1.2 Purpose of this document

The Study Design Report sets out the framework for the EA study activities in Phase 2B. More specifically, this Study Design Report sets out the Work Program, which describes the procedural and technical aspects of the assessment, including:

- The methodology outlining how Phase 2B activities will occur;
- The evaluation criteria to be considered in the environmental assessment;
- The functional design work on the three corridors and preliminary design work on the top corridor to a level of detail necessary to evaluate their impacts on the natural, social, cultural and economic environments;
- The identification of potential environmental effects;
- The development of mitigation measures for potential environmental effects;
- The methodology for the comparative analysis/evaluation of corridors;
- A consultation plan describing the proposed means of public participation within the EA study process;
- A schedule for the various stages of work, including the interdependencies between various technical steps and public involvement.

A draft version of this report was submitted for public review during the course of Phase 2A. Public comments received on this report, as well as how they have affected the Phase 2B Work Program and Consultation Process, are presented in Chapter 6.

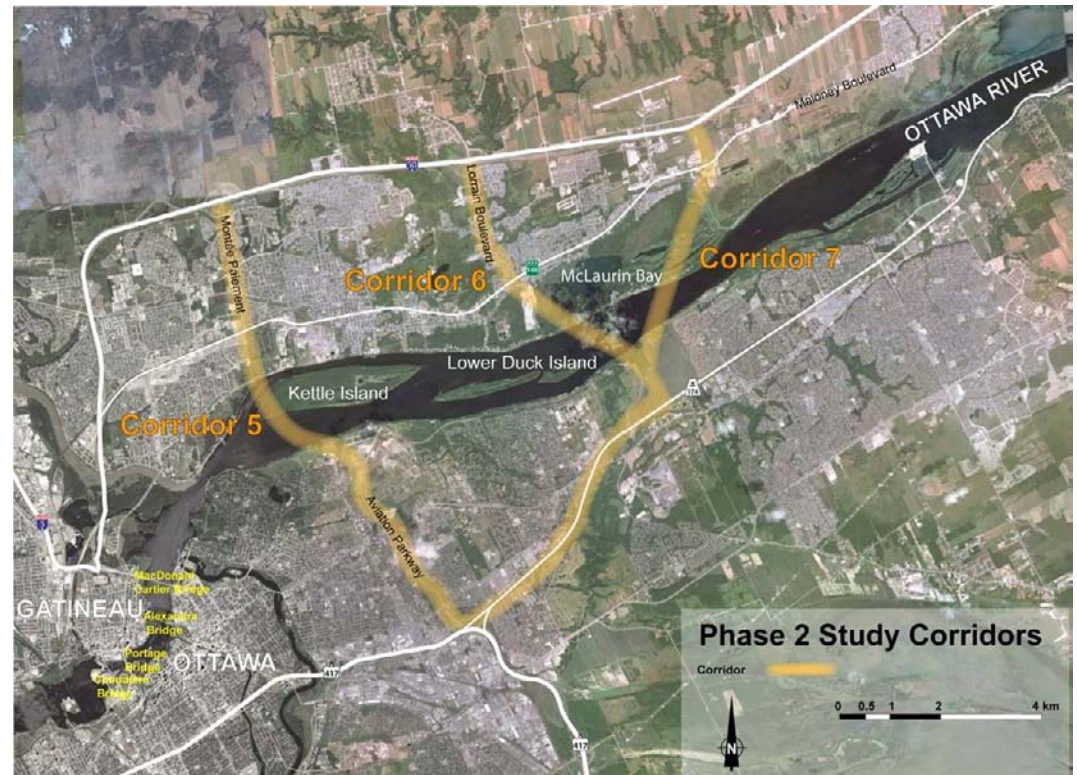
This Study Design Report is being developed for the National Capital Commission (NCC), the proponent of the interprovincial crossing environmental assessment, its study partners the ministère des Transports du Québec (MTQ) and the Ministry of Transportation of

Ontario (MTO). This study is also being prepared in collaboration with the City of Ottawa and the City of Gatineau.

2 Study Location and Corridors

This chapter describes the study area for the three corridors to be considered in Phase 2 of the EA study. As noted, the three highest ranked corridors were carried forward from Phase 1 to Phase 2 of the study. They are shown in Figure 2.1. More detailed maps of the 3 corridors and the concept alignment within the corridor developed in Phase 1 are provided in Figures 2.2 to 2.4.

Figure 2.1 Approximate Locations of Corridors 5, 6 and 7



This chapter also presents the criteria to be used for the development of alignments within each corridor, as well as the key environmental features in proximity to the corridors under study.

Figure 2.2 Corridor 5 - Kettle Island



Figure 2.3 Corridor 6 - Lower Duck Island

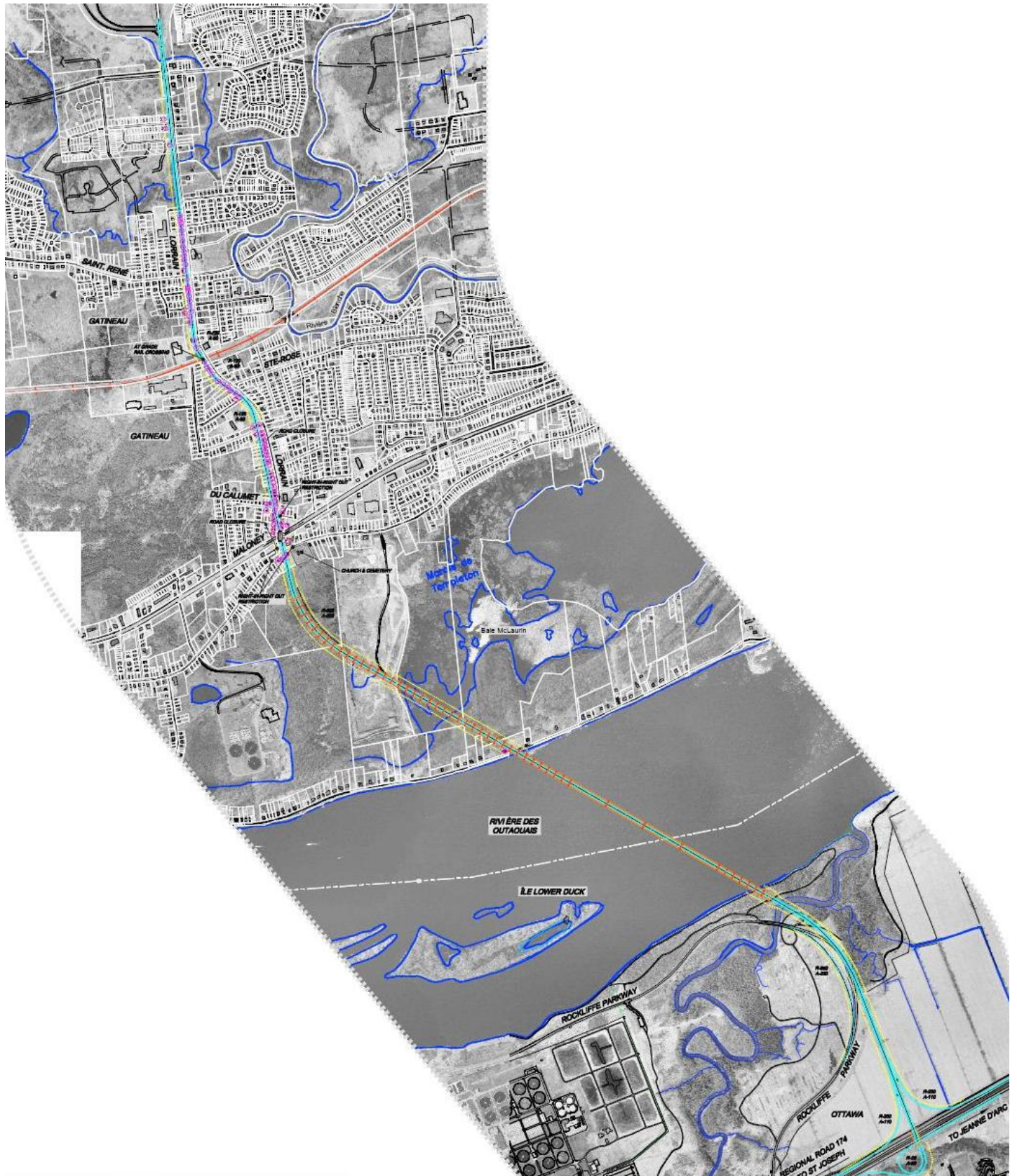
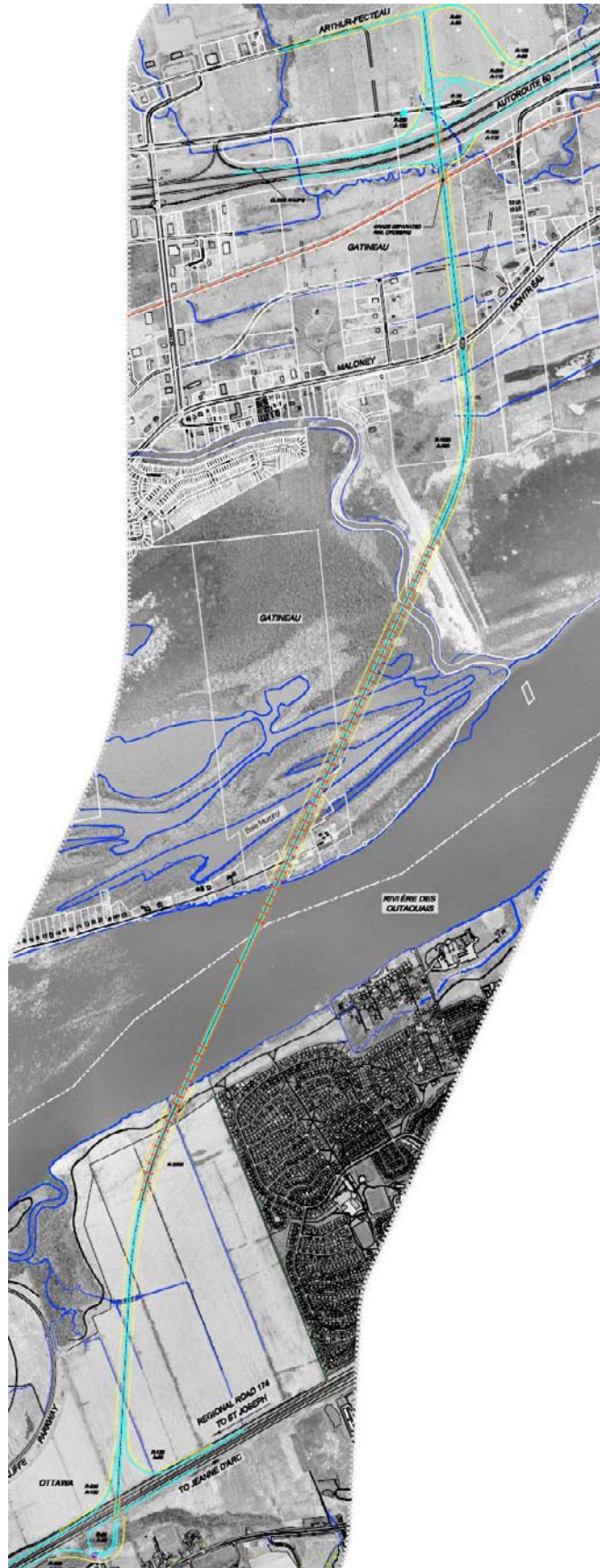


Figure 2.4 **Corridor 7 - Gatineau Airport
/ Baie McLaurin**



2.1 Study Areas

Study areas are defined, taking into account ecological, technical and social considerations and professional judgment regarding the probable geographic extent of likely environmental effects. The “study area” for the Interprovincial Crossing Study will therefore vary, depending on the component of the environment being examined. For example:

- For noise modelling, the study area includes major roads within 600 m of the road being studied;
- For traffic operations, the study area is regional, using the overall travel demand forecasting model developed for the National Capital Region;
- For wetlands, the study area is the overall wetland system potentially impacted.

In general, study areas related to the various components of the environment will be defined in Phase 2B, when the required technical studies are being done.

The following geographic study area definitions are being used for this study. The specific boundaries for the various components of the environment will be described in the study documentation.

<i>Site Study Area</i>	The Site Study Area is the potential project footprint, namely, the area where new construction may take place, as well as areas or structures that may be modified, decommissioned or abandoned. The Site Study Area may not include all of the area required for mitigation measures.
<i>Local Study Area</i>	The Local Study Area is that area existing outside the Site Study Area boundary, where there is a reasonable potential for the occurrence of environmental effects from the project. The boundaries may change, as appropriate, following a preliminary assessment of the spatial extent of potential environmental effects.
<i>Regional Study Area</i>	The Regional Study Area is defined as the area within which there is the potential for cumulative effects.

Within the potential boundaries of physical infrastructure (i.e. the Site Study Area), alternatives such as various horizontal alignments, vertical profiles and cross-sections will be considered. The Site Study Areas to be considered during Phase 2B are illustrated on Figures 2.5 to 2.7, which follow the descriptions provided below:

- **Corridor 5:** from Autoroute 50 to Maloney Boulevard, construction is expected to be contained within the boundaries of the existing Montée Paiement right-of-way (current four-lane divided arterial). From Maloney Boulevard to the north river shore, construction will require acquisition of new right-of-way. The horizontal alignment is expected to be an extension of Montée Paiement southerly with potential to swing easterly into a portion of the existing golf course. At the north shore the study area expands to the west to consider area required for the potential relocation of the Rue Jacques Cartier intersection with Rue Saint Louis. Across the river, the road alignment will need to follow appropriate geometric design standards for the speed of traffic, considering the location of the road on the north and south shores. The width of the study area across the river may be several hundred metres as illustrated, though

obviously both ends will be controlled by the corridor on land. From the south shore to Highway 417, construction will be generally within the NCC-owned corridor. A portion of the federal lands between the Aviation Museum and the Montfort Hospital on the east side of the Aviation Parkway will be included in the study area. No changes to the Aviation Parkway alignments are proposed between Montreal Road and Ogilvie Road where the Aviation Parkway is currently a 4 lane divided roadway. At the Highway 417 interchange, the study area will extend along Highway 417 and Ottawa Road (OR) 174 for a distance of about 1 km to include the area potentially required for the construction of suitable ramp connections.

- **Corridor 6:** from Autoroute 50 to Maloney Boulevard, the Site Study Area will include Lorrain Boulevard and adjacent properties. From Maloney Boulevard to the north river shore the Site Study Area includes lands between the water treatment plant and McLaurin Bay. The width of the study area across the river is several hundred metres as illustrated. The ends will be controlled by the location of the corridor on land. From the south shore to Ottawa Road 174, the corridor extends from the westerly boundary of the Greenbelt (including the Montreal Road interchange and the east edge of the Canotek development) to the easterly side of the Phase 1 concept alignment for Corridor 6. The Site Study Area also includes land south of OR 174 as needed to construct an interchange and potential connections to St. Joseph Boulevard. The corridor also includes the OR 174 right-of-way (widening proposed) from this new interchange to Highway 417 interchange where ramp improvements will be considered.
- **Corridor 7:** The Site Study Area north of Autoroute 50 will be in the open space between the highway and the airport, sufficient to develop a new interchange and service roads to connect to the existing road network. From Autoroute 50 to Maloney Boulevard, the study area will include open area that follows the Phase 1 Corridor 7 concept alignment between Rue de Granby and Montée Chaudet. The need to connect with the Site Study Area on the south shore of the Ottawa River (within the Greenbelt), requires that Corridor 7 swing upstream and cross the McLaurin-Murphy Bay wetlands at an angle. The Site Study Area has been shown as wide as possible to allow for development of alignments within these natural areas. From the south shore to OR 174, the Site Study Area will be from the easterly boundary of the Greenbelt to the westerly side of the Corridor 7 concept alignment as developed during Phase 1. The corridor also includes the OR 174 right-of-way (widening proposed) from this new interchange to Highway 417 interchange where ramp improvements will be considered.

Figure 2.5 Corridor 5 Site Study Area

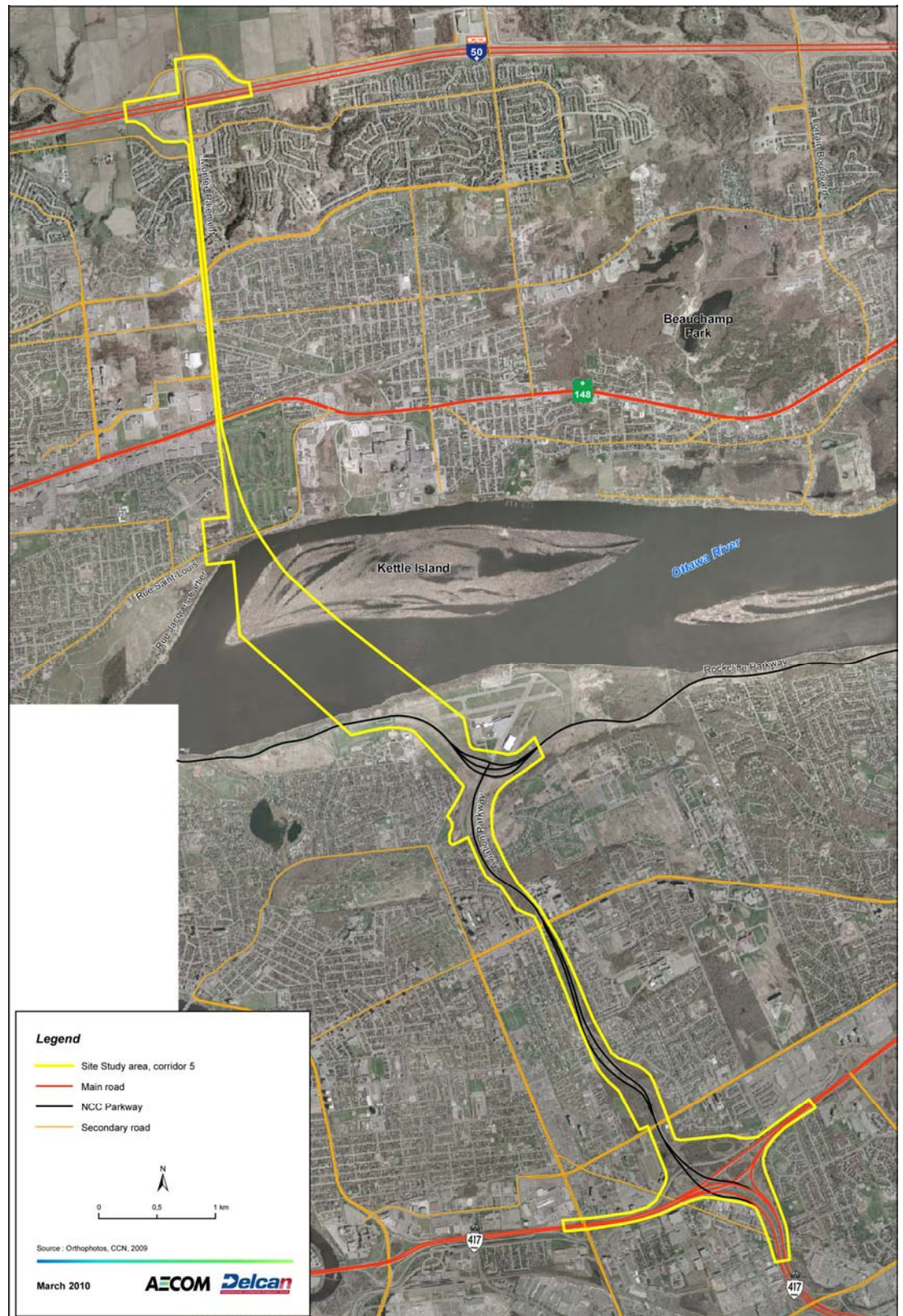
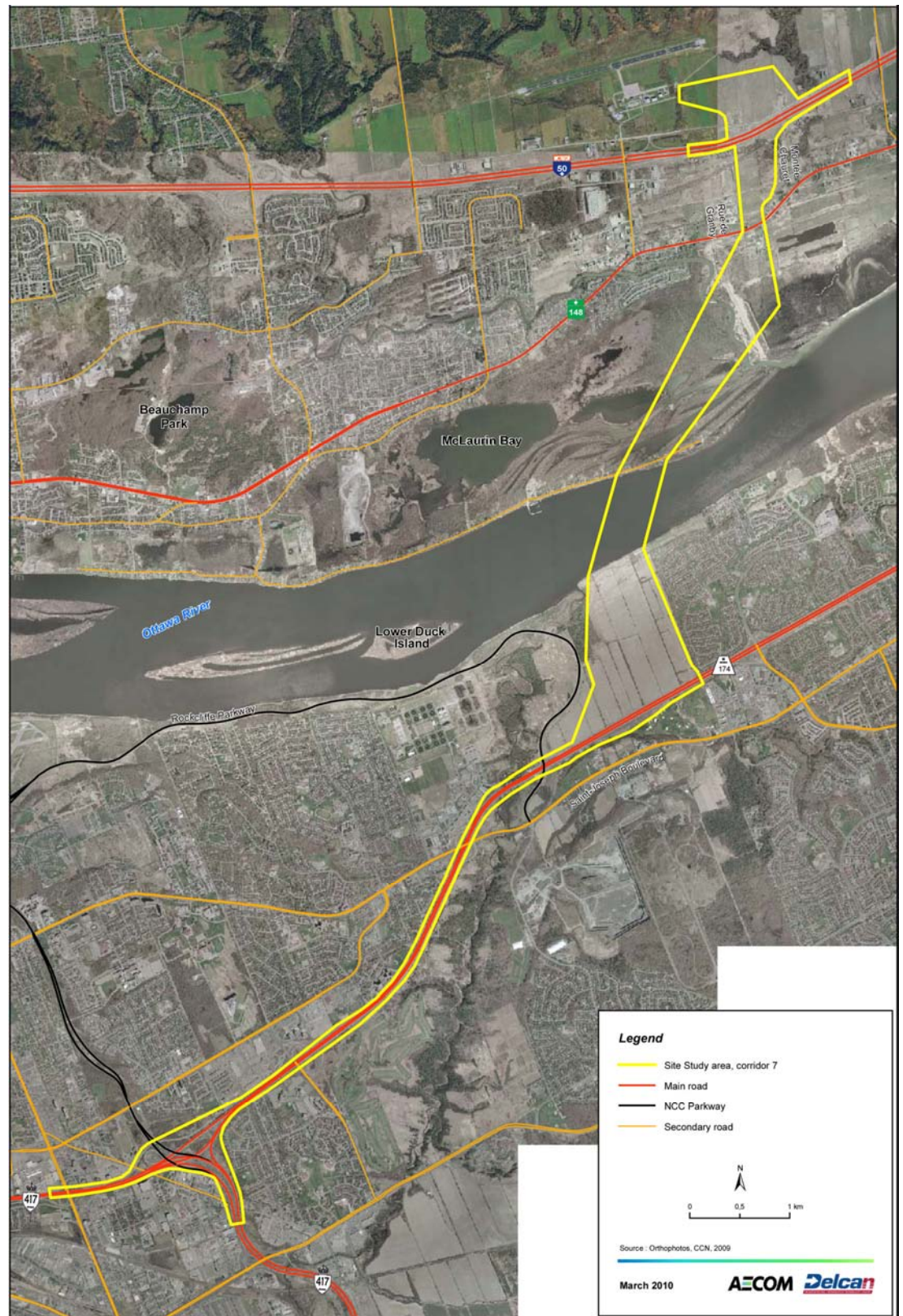


Figure 2.6 **Corridor 6 Site Study Area**



Figure 2.7 Corridor 7 Site Study Area



2.2 Criteria for Alignments within Corridors

No geometric design work has been done during Phase 2A to confirm the feasibility of potential alignments within the Site Study Areas. As a result, the feasibility of any new alignments proposed after Phase 1 must be examined in Phase 2B. New corridors proposed and assessed during Phase 1 and not carried forward will not be re-examined. In Phase 1, criteria were established to guide the identification of suitable corridors. The important criteria relevant to Phase 2 are summarized as follows:

- The corridor must satisfy interprovincial transportation demand (all modes including pedestrians, cyclists, public transit and cars) and be available for truck traffic;
- The corridor must connect the provincial highway system, specifically the controlled access highways (Highway 417 in Ontario and Autoroute 50 in Quebec);
- The corridor must link with arterial roads and highways to avoid collector and local roads which normally do not serve significant amounts of through traffic;
- The corridor must have a geometric design that corresponds to a suitable design speed for this roadway;
- The corridor must consider potential impacts to the environment as defined by the factor areas.

These criteria remain valid and will need to be followed for any new alignments identified during Phase 2B.

2.3 Key Environmental Features

The local study area related to the corridors under consideration includes diverse features of the natural and built environments that will need to be included in the assessment and evaluation. With consideration for the factor areas developed during Phase 1, Table 2.1 provides example environmental features under each factor area:

Table 2.1 Key Environmental Features by Factor Areas

Factor Area	Example Factors	Example Environmental Features
Natural	Species at Risk, fish habitat, terrestrial, wetlands, environmentally significant and sensitive areas	Ottawa River, islands, McLaurin Bay and Marais des Laiches wetlands, woodlands, Greenbelt, Green's Creek valley, Blanche River, Lac Beauchamp, tributaries
Cultural	Archaeological and heritage resources, First Nations interests	Islands in the Ottawa River, built heritage features
Water Use and Resources	Water and waste water treatment plants,	Gatineau water treatment plant, Ottawa wastewater treatment plant,
Social and Land Use and Property	Communities, noise, aesthetics, recreation (cycling, walking, boating, float plane activities), parks Residential, commercial, institutional lands, development, museum, runways, agricultural	Montfort Hospital, Parc de Lac Beauchamp, Rockcliffe Airport, Gatineau Airport, Water-based aircraft mooring areas, neighbourhoods, churches, schools, Ottawa River cottages
Economic	Economic development	Business and industrial parks, residential development, transportation network
Traffic, Transportation and Costs	Trucks, transit, operations, traffic safety and non-motorized infrastructure	Municipal and provincial road networks, transit networks, designated truck routes, riparian slopes

During Phase 2A consultations, the public offered further examples of environmental features, which will be included in the Phase 2B work. Some of these are described in the table indicating comments received from the public in Chapter 6. During Phase 2B, all relevant environmental features will be identified and studied where they contribute to the assessment and evaluation of the corridor or the development of a preliminary design. The environmental features will be considered in the further refinement of the list of factors and sub-factors

3 Environmental Assessment Process

This study is being undertaken as a federal EA in accordance with the Canadian Environmental Assessment Act and the guidelines established by the Canadian Environmental Assessment Agency. The Act provides for careful review of projects so that they do not cause significant adverse effects. It also provides for public participation. During Phase 1, the Ontario Ministry of the Environment examined the project and determined that its legislation did not apply. Ontario remains a Study Partner and will contribute its expertise to Phase 2. Furthermore, the Study Partners have decided that where the EA processes of Canada, Quebec and Ontario indicate different levels of requirements, in order to achieve the same goal, the more stringent and rigorous requirements will be applied.

The EA legislation of the federal government includes processes to describe the work required for various types of projects. The federal process categorizes EA work into screenings, comprehensive studies, panel reviews and mediation. The CEA Act requires consideration of a broad range of factors regardless of whether it is a screening, comprehensive study or panel review.

The Interprovincial Crossings Study requires a screening level assessment. Development of a bridge is not covered in the Comprehensive Study List Regulations. This Study Design Report details the proposed requirements for this screening.

With respect to Panel reviews and mediation, the Federal Minister of the Environment may refer the project to a panel if public concerns warrant.

3.1 Permits and Authorizations

A complete list of anticipated federal, provincial and municipal permits that may be required will be developed during Phase 2B of the EA Study. These may include, but are not limited to, permits and authorizations under the following statutes:

- Fisheries Act, Department of Fisheries and Oceans
- Navigable Waters Protection Act, Transport Canada
- Ontario Water Resources Act
- Québec Loi sur la qualité de l'environnement
- Ontario Heritage Act
- Québec Loi sur les biens culturels

3.2 Related EA Regimes

As noted, this study is a federal EA study, and is subject to the Canadian Environmental Assessment Act (CEA Act).

Ontario EA Requirements

Since the Project has been identified as a federal undertaking and the NCC has been identified as the Proponent for the purposes of the Phase 2 EA Study, the Ontario Ministry of Environment (MOE) has determined that their legislation does not specifically apply as discussed above. As noted above, the federal EA Study process will incorporate the information requirements of the provincial process where those are more rigorous than the Federal requirements.

Québec EA Requirements

Application of the Québec environmental assessment process has yet to be determined. Should the Project be considered as a federal Project by the Province and that the provincial process does not apply, then this EA Study process will incorporate the requirements of the Québec process where those are more rigorous than the federal requirements.

The requirements of the Quebec process will be addressed by the Phase 2B consultant.

4 Work Program

The work program described in the following chapter represents a continuation of activities carried out in Phase 1. Much work has already been completed in the environmental assessment of future interprovincial crossings in the National Capital Region. The work program presented here builds upon this prior work by describing analyses of technical, environmental and social aspects related to each corridor in order to properly assess potential environmental effects stemming from the project.

The framework guiding this EA study is presented in Figure 4.1 and then Phase 2B activities are described in more detail.

Phase 2B major tasks are as follows:

- Review previous material and coordinate with relevant studies;
- Review and confirm the evaluation factors and sub-factors to ensure that any new public concerns or changes in legislation that may have occurred between the end of Phase 2A and the beginning of Phase 2B will be accounted for in Phase 2B work;
- Conduct field inventory of existing conditions;
- Develop functional designs of corridor alignments;
- Develop suitable mitigation measures to avoid or minimize environmental impacts;
- Evaluate the net impacts after the application of mitigation measures;
- Conduct comparative analysis of the three corridors using the relevant evaluation factors and an established process;
- Recommend a ranked list of the three corridors;
- Following a decision by the Project Proponent and Study Partners, complete preliminary designs and cost estimate for the recommended corridor;
- Prepare the Environmental Assessment Report;
- Prepare the Environmental Assessment Screening Report.

Public participation is an integral component of the EA study process. In this Interprovincial Crossing EA study, the public will be involved throughout the process. Involvement will include refinement of evaluation sub-factors, review of corridors and alignment designs and their assessment, input into the comparative evaluation, including weighting, and preliminary design for the selected corridor alignment.



The following section details the work program leading to the eventual recommendation of one corridor for the future interprovincial crossing. Chapter 5 presents a description of the Public Consultation Plan for Phase 2B. However, in order to describe a comprehensive and coherent work program for Phase 2B activities in Chapter 4, references are made throughout this chapter as to when and what kinds of public input will be sought during certain key steps in the work program. Points of consultation are indicated throughout this chapter with the icon on the left.

4.1 Review of Previous Material

At the start of Phase 2B of the EA Study, tasks will be undertaken to

- Review and analyze project documentation prepared to date;
- Review and summarize correspondence received from the public and stakeholders between completion of the Phase 2A work and the commencement of Phase 2B work;
- Coordinate with studies currently underway and consult with authorities on relevant studies documented in municipal planning documents.

The purpose of this work is to ensure that the consultant and project stakeholders are familiar with the work undertaken to date and the issues and concerns brought forward to Phase 2. Consultation on this material will be combined with Round 1 consultations on priorities and values.

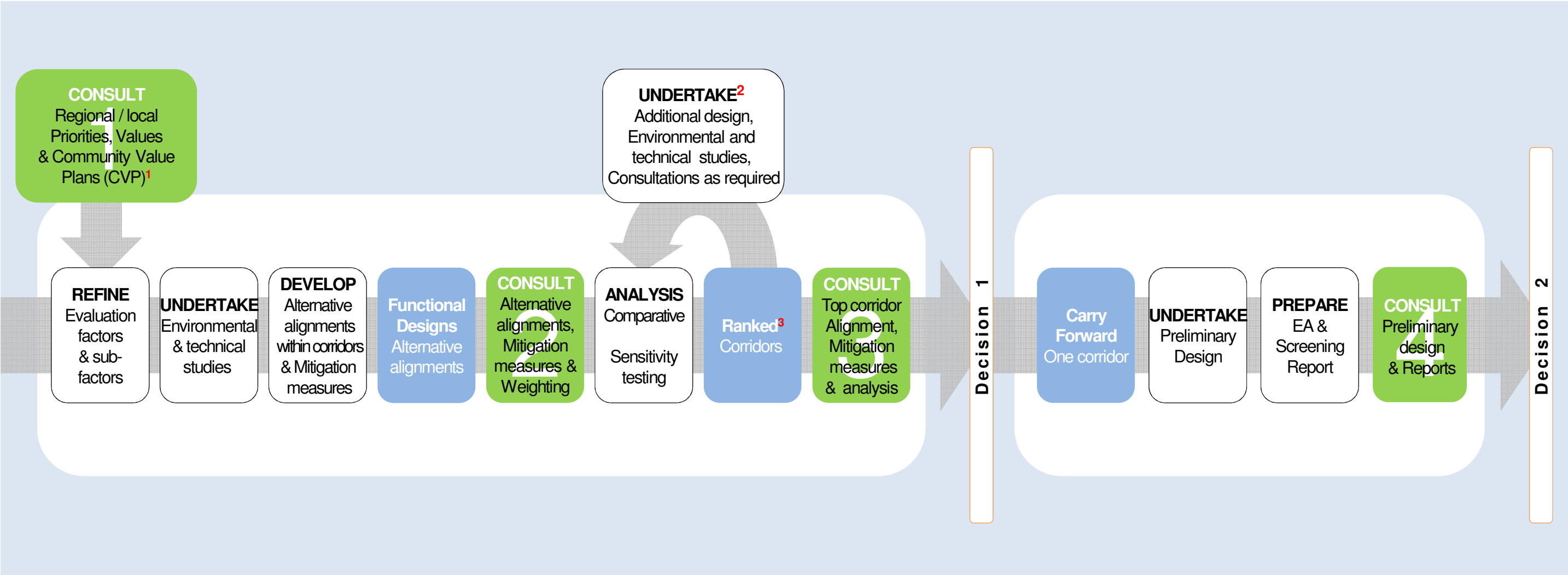
The review and analysis of existing project documentation will include Phases 1 and 2A. The analysis will provide background on the project and focus on items of interest carried forward to Phase 2B, such as this Study Design Report and recommendations from the Study Partners and their organizations.

The review and analysis of correspondence will focus on the period between the end of Phase 2A and the beginning of Phase 2B, i.e. any correspondence not included in the documentation of Phase 2A. This material will be used, in conjunction with the correspondence documented in Phase 2A to identify any refinements that may be appropriate for the stakeholder contact list and the activities and techniques of the consultation program.

Studies related to the Interprovincial Crossing Study include the Greenbelt Master Plan Update; Strategic Goods Movement Study; and Interprovincial Transit Integration Study. The provinces and municipalities in the study area also have a number of projects currently in the EA process or described in municipal planning documents that are of interest to this project.

- The Greenbelt Master Plan Update has included public consultation sessions where the topic of the interprovincial crossings has been raised. The timeline for this study is for completion in 2012, which will allow for the coordination of activities and discussions between the two studies.
- The Strategic Goods Movement Study is expected to begin in late 2010. Given the timing of this study and the strategic level of the analysis planned, Phase 2B of the Interprovincial Crossing EA Study will include a sensitivity analysis of truck traffic with various diversion scenarios, restrictions and the status quo for King Edward Avenue to distinguish how the resulting impacts would differ between the corridors (see Appendix B).
- The Interprovincial Transit Integration Study is working towards the identification of an optimal scenario in late 2010. This will inform the work of the Interprovincial Crossings Study, allowing for an assessment of the differences between the corridors with respect to future plans for interprovincial transit.

Figure 4.1 Phase 2B EA Framework



1. In each corridor, one Community Value Plan will be developed on each side of the Ottawa River – six CVPs in total
2. Iterative steps may be undertaken until corridor ranking is robust
3. One alignment per corridor

4.2 Evaluation Factors and Sub-Factors

A long list of evaluation factors and sub-factors was defined and refined through public consultations in Phase 1. Information describing each sub-factor, how it was measured, and justification for its inclusion in the comparative evaluation was documented in Appendix N of the Phase 1 report. In Phase 2A, new sub-factors are being added while existing sub-factors are being modified or removed to better reflect the characteristics of the remaining corridors under consideration and the evaluation methodology to be employed. The modified list of factors as a result of Phase 2A work is presented in Appendix A. This list of sub-factors will be used to characterize corridors to a level of detail necessary to determine the likely interactions between the project and the environment with the goal of distinguishing between the corridors. At the beginning of Phase 2B, these evaluation factors will be reviewed and updated based on the input of agencies and other stakeholders including the public.

The factors to be evaluated in Phase 2B work should:

- Be quantifiable, measurable or qualitatively characterised
- Allow for a meaningful distinction between the three corridor alternatives

The Canadian Environmental Assessment Act defines “environment” and “environmental effects” as:

“environment” means the components of the Earth, and includes:

- (a) land, water and air, including all layers of the atmosphere,
- (b) all organic and inorganic matter and living organisms, and
- (c) the interacting natural systems that include components referred to in paragraphs (a) and (b)

“environmental effect” means, in respect of a project,

- (a) any change that the project may cause in the environment, including any change it may cause to a listed wildlife species, its critical habitat or the residences of individuals of that species, as those terms are defined in subsection 2(1) of the Species at Risk Act,
- (b) any effect of any change referred to in paragraph (a) on
 - (i) health and socio-economic conditions,
 - (ii) physical and cultural heritage,
 - (iii) the current use of lands and resources for traditional purposes by aboriginal persons, or
 - (iv) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, or
- (c) any change to the project that may be caused by the environment, whether any such change or effect occurs within or outside Canada (CEA Act)

These broad definitions, and the similarly broad definitions of the environment in provincial environmental assessment legislation led to the development in Phase 1 of a long list of factors and sub-factors for the purpose of evaluating the corridors and alignments under consideration at that time. As noted above, the public and other stakeholders provided input to the list of factors and sub-factors at that time.

To ensure transparency and traceability in the process, the Phase 1 list of factors and sub-factors were used as the starting place for revisions in Phase 2A. These revisions were suggested based on comments received from the public and other stakeholders at the end of Phase 1. For example, a number of people thought that the social environment factors were not given enough consideration. In order to improve this, the suggested list of sub-factors for Phase 2A separates out the social and economic environment factors instead of combining them. In addition, the community and recreation sub-factors that were included in the cultural environment factor have been moved to the social environment factor.

As well as re-organizing the list of sub-factors in Phase 2A, each sub-factor was reviewed to determine if it would help to distinguish between the corridors currently under consideration. Sub-factors that were the same for the corridors under consideration were removed from the list. For example, ice passage, jamming and scour potential are considered the same for this stretch of the river. Sub-factors that addressed environmental effects on features that are no longer within the current study areas were also removed from the list, for example, impacts on the Britannia Water intake, Andrew Haydon Park and Petrie Island Park.

In Phase 1 members of the public felt that the list of sub-factors was too long and they believed that this was done to place more emphasis on the natural environment and less emphasis on the social environment. While this was not the case, the list of sub-factors has been reviewed and potential areas of duplication removed. Some sub-factors now encompass a broader definition. A shorter list of sub-factors can be easier to follow and understand, thereby facilitating traceability and transparency.

Sub-factors must be quantifiable or permit a qualitative assessment that helps distinguish between the corridors and alignments. They must reflect guidelines and requirements established by federal or provincial ministries and agencies having jurisdiction or interest such as the Department of Fisheries and Oceans (DFO), Environment Canada, the Ontario Ministry of the Environment (MOE) and Ministère du Développement durable, de l'Environnement et des Parcs (MDDEP). Where agency requirements overlap, the more stringent requirements will be considered during this EA Study.

Based upon the work in Phase 1 and subsequent comments received, the general list of factors and sub-factors suggested for Phase 2B work is:

Natural Environment

Species at Risk (SAR), air quality, fisheries and fish habitat, hydrotechnical, terrestrial, wetlands, environmentally significant areas, environmentally sensitive areas

Cultural Environment

Heritage and archaeological resources, aboriginal interests

Water Use and Resources

Water treatment facilities, wastewater treatment plants,

Social Environment

Human health (air quality, noise and vibration), community impacts, aesthetics and views; recreation including boating and float plane activities, scenic parkways, recreational facilities

Land Use and Property

Official Plans, federal Master Plans, development, property requirements, museum, airports, hospital, residential, commercial, industrial, institutional, agricultural, contamination (soils sediment)

Economic Environment

Economic development

Traffic and Transportation

Trucking, traffic operations, transit operations, traffic safety, connectivity to non-motorized infrastructure

Costs construction of the crossing connection and appropriate mitigation measures, property acquisition, operations, maintenance



Round 1

The complete list of factors and sub-factors as refined in Phase 2A is provided in Appendix A. As previously mentioned, this list will be reviewed and confirmed at the beginning of Phase 2B, to take into account any new public concerns or changes in legislation that may have occurred since the end of Phase 2A that affect sub-factors being considered or their method of evaluation. Where the cost of mitigating the impacts associated with a sub-factor can readily be assessed, this cost will be used to help distinguish between the alternatives as part of the evaluation. The changes to the factors and sub-factors from Phase 1 to Phase 2A is also documented in Appendix A following Phase 2A's complete list.

The first round of public consultations in Phase 2B seeks to promote the study by engaging a broad spectrum of stakeholders. Public input on the evaluation factors will be sought in order to update the list. Round 1 will also ask corridor communities to develop Community Value Plans (CVPs). Community value plans will subsequently be used as inputs into the development of functional designs and mitigation measures as described below. Details regarding this round of consultations are described in section 5.3.1.

4.3 Environmental and Technical Studies

Based upon existing information from Phase 1 and the requirements of the evaluation process, an inventory of existing conditions will be carried out. Additional data collection and field work in natural and human environments will be done as needed. This additional work will be in areas necessary to complete functional and preliminary designs as well as to assess factors and sub-factors used in the comparison of corridors. All work related to each area of study will be completed according to the scope and methodology as set out in the technical studies described in Appendix B.

A detailed understanding of the existing conditions that influence all factors and sub-factors is essential to subsequent steps in the EA study, notably the development of alignments for each corridor, the determination of potential effects and the creation of suitable mitigation measures.

4.4 Detailed Analysis of Corridors

4.4.1 Development of Alternative Alignments and Functional Designs

Phase 2B work will develop alternative alignments and will prepare functional designs of each corridor with the objective of selecting the best alignment within each corridor to carry forward. Designs will be developed using the general criteria that have been established in Phase 1 as well as the input obtained through consultations.

The development of alternative alignments will consider the extent of the Site Study Areas and will seek to avoid, prevent, or reduce any adverse environmental effects. When it is determined that an alignment is unsuitable, perhaps due to excessive costs or unacceptable impacts in comparison to other alignments within that corridor, the alignment examined will be documented, presented to the public during the second round of consultation and then not carried forward. The alternative alignments and associated mitigation measures will be refined and assessed in consultation with the Study Team until the best alignment for each corridor has been identified.

The alternative alignments and then functional designs will be carried out to the level of detail necessary to establish the potential impacts in order to distinguish between the alternatives. This design work will include design of:

- Horizontal alignment and vertical profile in accordance with geometric design standards for the chosen design speed;
- Typical sections for various classes of roads showing standard dimensions for lanes, shoulders, sidewalks and medians where appropriate;
- Cross-sections at critical locations to determine property impacts and other requirements;
- Structure lengths estimated by distance to watercourse;
- Typical intersection designs;
- Interchange ramp configurations;
- Utility impacts;
- Areas available for landscaping.

The functional designs will consist of plans, profiles, elevations and drawings to illustrate the design and to evaluate interactions with the environment. As part of the assessment of aesthetics and views, a 3D computer model will be developed for each corridor. This will be available during public consultations to promote better visual understanding of the potential project.

Landscaping treatments, construction staging and traffic management will be identified where appropriate. They will be considered in the development of net effects to help distinguish between the corridors.

4.4.2 Development of Mitigation Measures

As part of the development of the functional designs described above, an assessment of potential impacts will be completed as the work progresses. The assessment will identify:

- the potential effects that the corridor alignment will have on the existing environment during construction and operations;
- the direct or indirect, and positive or adverse environmental changes that are likely to occur.

As the potential impacts are identified, technically and economically feasible mitigation measures will be developed that may be applied to each likely adverse environmental effect.

The mitigation measures will be included in the functional designs to minimize adverse impacts. “Net environmental impacts”, or those impacts that cannot be completely eliminated following the application of mitigation measures, will also be identified.

4.4.3 Consultation on Functional Designs of Corridors

The alternative alignments within each corridor, together with their possible environment effects and the mitigation measures identified to date, will be discussed with the public and other stakeholders at this stage. Alignments that were not carried forward will be illustrated and the rationale behind their removal from consideration will be described. The process for the selection of the best alignment within each corridor to be carried forward to the comparative analysis will be presented for discussion. A goal of these public discussions is to identify how public input on community values and the list of sub-factors is reflected in the selection of the alignments and functional designs.

Public input will be requested on potential refinements to the functional designs and identified mitigation measures. Consultations at this point will also ask the public to contribute to the weighting of evaluation factors for the comparative analysis of corridors.



More information concerning the treatment of weighting is discussed in the following section while a detailed description of Round 2 consultation activities is provided in section 5.3.2.

4.5 Comparative Analysis of Corridors

The functional design of the preferred alternative alignment identified within each corridor, modified where appropriate based on consultation input, will be carried forward to the comparative analysis.

4.5.1 Comparison Method

The comparative analysis of corridors is achieved through the use of two complementary evaluation approaches. A Reasoned Argument method will be employed in conjunction with a multi-criteria decision aid (MCDA) method. Generally, these two approaches are expected to produce similar results. If the two approaches are found to produce different results, the reasons for the differences will be analysed and the additional information needed to resolve any ambiguities will be identified. In this way, the use of two different approaches reinforces the results of the comparative analysis.

The Reasoned Argument approach provides clear and understandable information to project stakeholders. Reasoned Argument approaches are advantageous in facilitating public education and understanding of project issues, EA study methods and results. The MCDA method is an arithmetic approach and allows for sensitivity analyses to be performed on corridor rankings to confirm the robustness of results obtained.

Reasoned Argument

The Reasoned Argument considers the net impacts generated by each corridor and the significance of those impacts. It is based upon an examination of the relative differences in net impacts between corridors. Corridors are ranked in terms of their suitability as a new interprovincial link using a clear rationale based upon:

- Government legislation, policies and guidelines;
- Municipal development policies;
- Issues and concerns obtained through consultations with responsible agencies, community groups and the general public held throughout the entire Environmental Assessment process; and,
- Project team expertise.

Through the Reasoned Argument approach, the significance, and therefore the weighting of various factors and sub-factors to be used in the MCDA method, can be rationally supported.

Multi Criteria Decision Aid: Outranking method

Multi criteria decision aid (MCDA) methods are arithmetic approaches to comparing alternatives where a wide range of evaluation factors and sub-factors are considered. Since no method can optimise all evaluation factors simultaneously, MCDA methods propose preferred alternatives based upon the best compromise of evaluation factors. The MCDA method employed in Phase 1 was based on a Multi-Attribute Trade-off System (MATs). An outranking method is proposed for Phase 2B. It is based on a pair-wise comparison between corridors to determine preference relationships with regard to each evaluation sub-factor. With the large number of corridors in Phase 1, the MATs approach was more appropriate than a pair-wise comparison; however, with the limited number of

corridors in Phase 2B, the pair-wise approach can be used successfully and may be easier to understand for all stakeholders.

Outranking methods can handle both qualitative and quantitative information. Preference relationships with respect to each evaluation sub-factor will be determined for each corridor. This is done by determining whether one corridor performs better than another on each evaluation sub-factor. The relative importance of these preference relationships is taken into account through the designation of weights.

The outranking method will determine whether a corridor is strongly or weakly preferred, indifferent, or incomparable with respect to other corridors. Incomparability arises when two corridors have strong merits on different criteria making each one good for different reasons. Outranking methods make these ranking relationships explicit and permit analysts and/or decision makers to focus more attention, such as through additional data gathering and consultations, on specific issues.

The Sensitivity Testing Process

As described above in section 4.4.3, stakeholders, including the public, will be invited to contribute to the weighting of factors. Stakeholders will be asked to distribute 100 points across the various factors, thereby generating a weighting scenario that reflects the stakeholder's perspectives on the relative importance of the factors in determining the most suitable crossing location with consideration for the corridor alignments that are presented to them at that time. The collection of public contribution on weighting may be done several ways. For example, each Community Consultation Group may generate a set of weights by consensus. Other community groups, interest groups and agencies may also generate a set of weights. In addition, individual members of the public may decide to submit their personal weighting ideas. The method of collecting and analyzing the various weighting scenarios will be confirmed in Phase 2B.

Once collected, weighting scenarios will be considered by a panel of experts with in-depth knowledge of the project and the potential environmental effects. This panel will generate their own weighting scenarios that will be used in the MCDA method of comparison. The panel of experts will be drawn from a broad range of fields to represent all natural, social and technical aspects of the project.

The top alignment in each corridor will be tested according to a range of weights. These tests will produce a ranking of the corridors with respect to their suitability as a new Ottawa River Crossing. By testing corridors according to a range of weights to see if the rankings change within the range of weights tested, the robustness of the corridor rankings will be determined.

During the third Round of consultations, when the results of the evaluation are being discussed with the public, the Project team will report to the various groups on the results of their weightings and how those results compared with the results using weights proposed by others.

Ranking Corridors

The results from the two approaches to the comparative evaluation will result in a ranked list of the corridors with respect to their suitability as a new Ottawa River crossing. While the objective of the comparative analysis and sensitivity testing is to recommend a single corridor for a new crossing, it is possible that the analyses carried out to this point may not yet adequately differentiate between the corridors, i.e. corridor rankings may not be robust. In this case, another round of comparative analysis is designed into this Phase 2B study

process to allow the choice of crossing location to be iteratively refined. It may be shown that one corridor consistently performs poorly with respect to the others. If this is the case, a recommendation will be made to remove the corridor from further consideration. This iterative refinement is described in [section 4.6](#).

When corridor rankings are robust, the EA Study will proceed to Round 3 of public consultations.

4.5.2 Consultations on Corridor Recommendation



Where corridor rankings are robust, and the choice for a new crossing location is clear, the full results of the comparative evaluation, including the rationale behind the range of weights that was tested, will be submitted for review and comment by responsible authorities, the public and other stakeholders. Where groups provided their own set of weights, they will learn the results of those weightings and how that result compared with those of others.

At this point, the public will also be consulted regarding the features of the top ranked corridor that is being recommended. Following this round of consultations, a formal decision will be made, as described in the next section, on the top ranked corridor.

A detailed description of consultation activities is provided in [section 5.3.3](#).

4.5.3 Decision on Corridors

At this point, Decision 1, the EA Proponent, the NCC, and its partners, the MTO and MTQ will make a formal decision to carry forward the top corridor choice in the completion of the Phase 2 EA Study. The study to this point will also be reviewed by the City of Ottawa Transportation Committee and Council, and by the City of Gatineau Comité Plénier and Council, in order to obtain endorsements to proceed. The onward process following Decision 1 is described beginning in [section 4.7](#).

4.6 Iterative Refinement

In the case where further iterative refinement of corridors is necessary, additional technical and environmental analyses, consultations, and/or additional comparative analyses will be carried out. It is possible that either three or two corridors may be retained for further analysis, depending on how closely corridors perform with respect to one another. This process is described in the section below.

4.6.1 Undertake Further Design, Environmental and Technical Studies, and Consultations as Required

At this point, the list of factors and sub-factors will be re-examined to identify any sub-factors that no longer help to distinguish between the corridors or additional sub-factors that may be required, given the characteristics of the remaining corridors. For example, sub-factors that pertained to a corridor that was dropped from further consideration, but that are the same for the remaining corridors, will be removed from the list. Alternatively, where the sub-factor does not adequately represent the difference between remaining corridors, its definition and measure may be refined to better represent those differences.

Further technical and environmental analyses will also be carried out, where needed to obtain a better understanding and measurement of evaluation sub-factors, to complement the refinement of the list and assist with the subsequent comparative analysis. These studies will build upon the studies carried out previously as described in [section 4.3](#).

Consultations may also be held to solicit further input into the corridor designs and mitigation measures, and to review the specific factors and sub-factors requiring further study. The weighting of these factors and sub-factors may also be reviewed. The form of these consultations may be similar to those described for Round 2.

These additional studies, design work and consultations will aid in the refinement of corridor designs and mitigation measures. Designs will be carried out to a further level of detail as necessary for subsequent comparative analysis.

4.6.2 Iteration of the Comparative Analysis of Corridors

The comparative analysis of corridors will employ the same complementary approaches as described in section 4.5, taking into account the refinements to the evaluation factors and sub-factors, designs and mitigation measures as described above. Corridors will be evaluated using the Reasoned Argument and Outranking method approaches. Sensitivity testing will also be conducted to test for the robustness of the result using a range of weights developed using input from the broad range of stakeholders. As described in section 4.5, the results of the comparative analysis will be a set of ranked corridors.

When corridor rankings are robust, the process will proceed onto Round 3 of consultations. However, when rankings are not robust, another round of comparative analysis may be run.

4.7 Onward Process

When the decision has been made to carry forward one corridor, the remaining steps of the EA study require the preliminary design of the preferred corridor, preparation of the final EA Study and EA Screening reports, consultations on the results of EA study and decision on the Environmental Assessment by the Project Proponent and Responsible Authorities (RA). This process is described starting in the following section.

4.7.1 Undertake Preliminary Design

The preliminary design for the recommended corridor will include the refinement of design work previously completed. At this stage, the design must be to a sufficient level of detail such that the EA Study and Screening Reports allow the NCC and Responsible Authorities to make a decision on the project.

The preliminary design will include:

- Horizontal alignment and vertical profile in accordance with geometric design standards;
- Typical sections for various classes of roads showing standard dimensions for lanes, shoulders, sidewalks and medians where appropriate including traffic barriers if needed. Any specialized lanes included in the design, such as High Occupancy Vehicle (HOV) will be shown;
- Grading cross-sections throughout with a focus on areas of significant cut or fill and near right-of-way boundaries to show the extent of the possible construction;
- Right-of-way (property) limits;
- Structural Preliminary General Arrangement drawings showing span arrangement(s), profile, clearances and cross-section;
- Intersection designs that consider design vehicles and transit where appropriate;
- Interchange ramp configurations;
- Utility relocations, municipal services, surface drainage and stormwater management;

- Staging concept for construction and identification of traffic management measures such as the need for detours or overbuilding to facilitate traffic during construction;
- Landscaping concepts and locations including parks;
- Location and dimensions of noise walls and retaining walls; and,
- Locations needing roadway illumination and traffic control signals.

The preliminary design of the recommended corridor alignment will be refined during this phase of the study. Drawings will consist of plans, profiles, cross-sections, elevations, details and perspectives. In addition to standard engineering drawings, other formats including 3D computer-generated views will be considered to facilitate stakeholder understanding of the project.

Additional mitigation measures or changes to the mitigation measures previously proposed may be developed at this stage to avoid significant effects and protect the environment. These will be included in the preliminary design.

At this stage, in addition to consideration of how the project could impact on the environment, documentation of the preliminary design will include a description of how the environment could adversely affect the project, for example, seismic events or severe weather, including extreme flood events and ice jams. Documentation will also describe the project's sensitivity to the potential effects of climate and climate change during its life span. For the purposes of this work, emphasis will be placed on environmental conditions that are "reasonably plausible", and will not be limited to events that occur on a regular basis. The preliminary designs will include any mitigation measures required for these effects. The study documentation will describe the significance of any remaining likely adverse environmental effects.

4.7.2 Assessment of the Significance of the Environmental Effects

Based on the final preliminary design for the project, "net residual effects" will be determined as required by the CEA Act. The criteria for evaluating and describing the significance of any net residual effects will include: magnitude; duration and frequency; ecological context; geographic extent; and permanence / degree of reversibility. Existing federal and provincial regulatory and industry standards and guidelines will be used as references for evaluating significance. Professional expertise and judgement will also be applied in evaluating the significance of an environmental effect. All applicable federal and provincial laws will be respected.

At the completion of this work, the significance of all net residual effects of the project will be identified and assessed. Net residual effects will be carried forward to the assessment of cumulative effects.

4.7.3 Assessment of Likely Cumulative Effects

The assessment of cumulative effects is a requirement of the CEA Act. Cumulative effects are residual effects on the environment (i.e. that occur after mitigation measures have been put in place) combined with the environmental effects of past, present and future projects or activities. Cumulative effects can result from the combination of different individual environmental effects of the project acting on the same environmental component. The effects of this project must be considered together with those of other projects and activities that have been, or will be carried out, and for which the effects are expected to *overlap* with those of the project (i.e. overlap in same geographic area and time).

In order to consider the potential cumulative environmental effects of the project, past, present or reasonably foreseeable future projects in the study area will be identified with

consideration for the type(s) of residual effects that have been identified for this project. The emphasis will be on “reasonably foreseeable” projects (e.g., projects that have been approved or that are currently advancing through the regulatory approvals process). At a minimum, effort will be made to identify other projects planned by local and regional governments, as well as provincial and federal agencies. This will include other federally funded transportation projects in the region.

The projects included in the cumulative effects assessment will not be limited to other public transit/transportation infrastructure projects. All reasonably foreseeable projects will be considered, especially those that may impact water quality, vegetation, aquatic habitat, wildlife habitat, air quality, and noise as these environmental factors often experience the most impact from multiple projects.

In general, the information available to assess the environmental effects from other projects may be more conceptual and less detailed as those effects become more remote in distance and time to the project, or where detailed information is not available. The consideration of cumulative environmental effects may, therefore, be at a more general level of detail than that considered in the assessment of the direct project-environment interactions.

The likely cumulative effects will be assessed for their significance. Where possible, the development of technically and economically feasible avenues for mitigation will be described, especially those requiring implementation by other projects.

4.7.4 Development of Cost Estimates for Project

The cost estimate for the project that was started during the functional design for the assessment of corridors will be refined using the final preliminary design information. A level of precision of $\pm 20\%$ will be the objective.

Quantities for major items will be calculated using preliminary profile and cross-section information. In particular, structures (bridges, noise walls and retaining walls), pavement (asphalt, granular, concrete curbs and sidewalks), drainage (culverts, storm drains and stormwater management facilities), illumination and traffic signals and utilities (power, gas and telephone) and property will be examined. If the project requires the relocation of power lines, the relevant power authority will be contacted to assess the potential cost.

The cost estimate will include construction, operational and maintenance costs. Information on local operating and maintenance costs will be obtained from area municipalities and provinces. All components of the preliminary design including possible mitigation elements such as stormwater management facilities, landscaping noise walls and fisheries compensation measures will be included in the cost estimate. In addition, property acquisition costs will be estimated.

The cost estimate will include contingencies, in particular for minor items and also for major components such as structure foundations where more site-specific investigation during detail design will be required for detailed costing.

4.7.5 Preparation of EA Study Report

An EA Study Report will be prepared at the conclusion of design work and impact evaluations. The report will be used to aid the Project Proponent and RAs in the decision regarding the project. The Study Report will document:

- Existing conditions;

- Functional design;
- Preliminary design;
- Scoping of issues, constraints and parameters;
- Evaluation factors and sub-factors used in the EA and evaluation results;
- Mitigation and enhancement measures and monitoring programs for their implementation, including follow-up programs if required;
- Project impacts, including net and cumulative effects and their significance;
- Environmental management plans;
- Property requirements;
- Cost estimates;
- Consultation activities and results;
- The recommended corridor alignment for a new interprovincial crossing; and,
- Implementation strategy.

The EA Study Report will be finalized following consultation on this document as described below.

4.7.6 Preparation of EA Screening Report

An EA Screening Report will be prepared, and finalized following consultation, in fulfillment of requirements set out by the Responsible Authorities and the CEA Act for the environmental assessment. The contents of the Screening Report may be similar to EA Study Report with a focus on the components under the responsibility of each RA.

4.7.7 Consultations on EA Study and Screening Report

The EA Study and Screening Reports will be submitted for review and comment by Study Partners and project stakeholders including the public. Comments obtained from this round of consultations will be used to refine the project documentation in preparation for a decision by the Proponent and RAs. The consultations held at this stage are described in section 5.3.4 of this report. The final EA Study Report will document this final round of consultation.



4.8 Decision on EA Screening Report

The Project Proponent and Responsible Authorities will make their decision under the CEA Act with respect to the Project (Decision 2), with respect to the significance of any adverse environmental effects of the Project in accordance with their established processes.

If the decision is to proceed with the Project, the next step will be detailed design including the environmental and engineering studies necessary to design, construct and monitor the Project.

As described in Chapter 3, the NCC or the Minister may request a Panel review if public concerns warrant.

The decision-making process for Phase 2B is illustrated in Figure 4.2.

4.9 Phase 2B Schedule of Activities

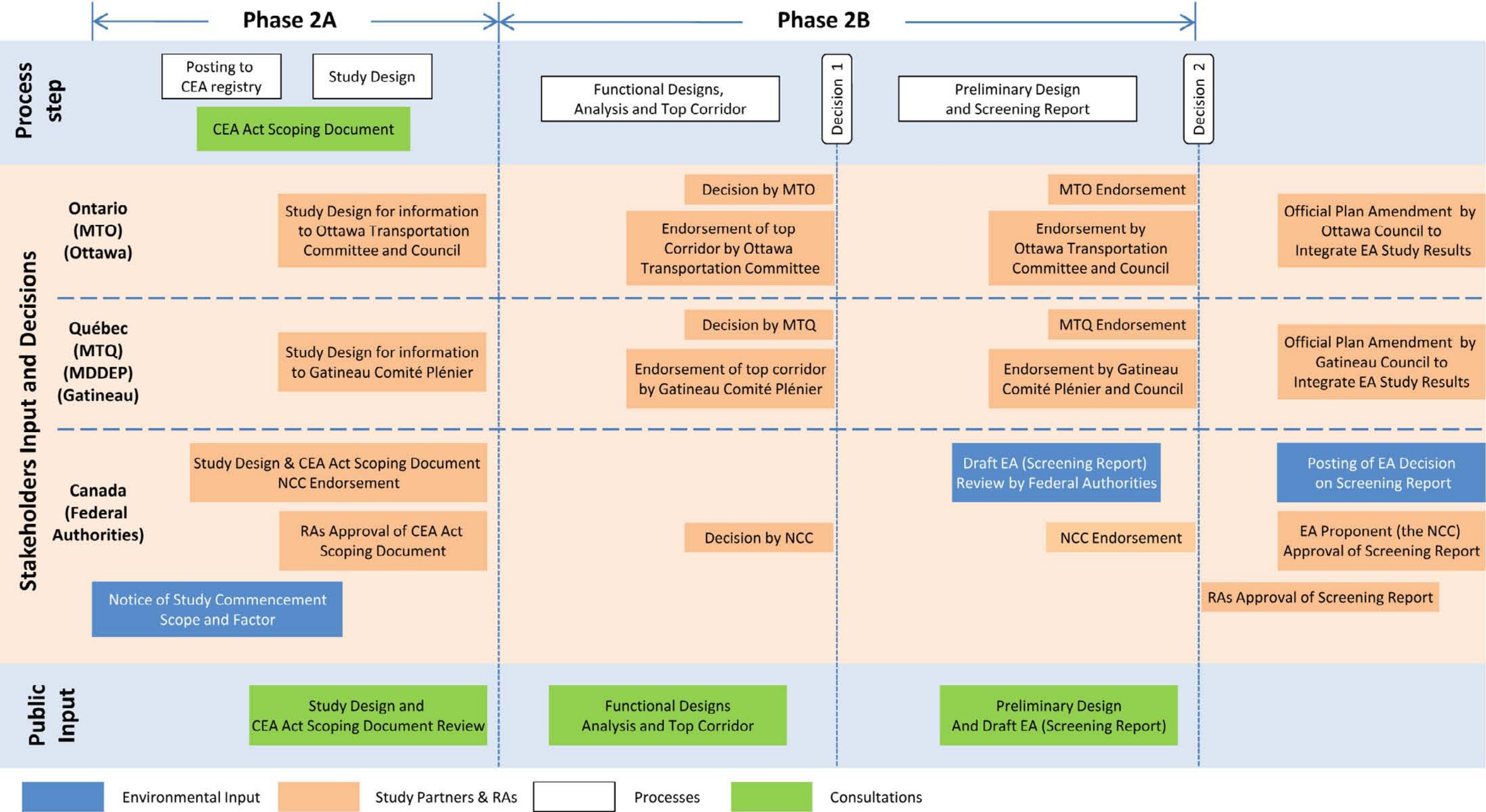
The schedule for the activities described in this work program is shown in Table 4.1. Phase 2B will commence in December of 2010 and is expected to end in 2013. The first two

rounds of consultation take place in 2011, and the last two rounds of consultation are expected to take place in 2012.

Table 4.1 Phase 2B Schedule

Time period	Major Activities
Winter 2011	Consultation Round 1, non-seasonal technical tasks, factor list review
Spring 2011	Seasonal and non-seasonal technical tasks, alternative alignments
Summer 2011	Seasonal technical tasks, alternative alignments and functional designs
Fall 2011	Functional designs, Consultation Round 2
Winter 2012	Comparative analysis
Spring 2012	Consultation Round 3, technical tasks for preliminary design, reporting
Summer 2012	Preliminary design, reporting
Fall 2012	Consultation Round 4, reporting
2013	Approvals process

Figure 4.2 Schematic plan of combined environmental assessment inputs, regulatory approvals and decisions by partners



- Notes:
1. MDDEP inputs and approvals to be determined
 2. Interim approvals related to staged approach to the EA have not been shown
 3. The EA approach includes two steps. Following Decision 1, MTO, MTQ, Ottawa and Gatineau will be requested to endorse the EA findings and the EA proponent (the NCC) will make a decision.

5 Consultation Program

5.1 Introduction

The Study Partners are committed to ensuring that anyone interested in this Environmental Assessment is able to participate throughout the process in ways that are authentic, transparent and inclusive.

As such, consultation with the First Nations, public, communities and stakeholders will be a cornerstone of Phase 2B. Several opportunities to provide input have been built in to the consultation program to allow for a meaningful dialogue with citizens and organizations throughout the National Capital Region. The input received will complement and inform the technical assessment at key intervention points in the EA Study.

The following commitments will guide the consultation program:

- Citizens will have a variety of opportunities to express their ideas and share their comments, knowledge and experience;
- Inclusive and transparent consultation processes will be used that engage both the public and the three Study Partners;
- Input and advice will be sought from a broad scope of participants, from members of the public, communities and stakeholders throughout the National Capital Region. Discussions will also be held with those communities that are directly and indirectly impacted by the future interprovincial crossing;
- Citizens will be provided in a timely fashion with ample information regarding the project, sufficient to allow them to participate fully in the consultations, in a meaningful way; and,
- Public and stakeholders will be made aware of how their input has affected the proposed solutions and decision-making.

First Nations consultation approach described in section 5.4 is subject to further discussion with the Algonquins of Ontario and the Kitigan Zibi Anishinabeg.

5.2 Public Consultation – An Overview

The consultation and engagement program outlined in this Chapter is designed to ensure that various methods will be used to reach out to citizens broadly within the Region, and specifically within the communities that are impacted most (both directly and indirectly) by a future decision on a crossing. As such, at each step in the program, consultation activities will be structured to solicit input from three perspectives:

1. The Regional Perspective
2. The 'Corridor Community' Perspective
3. The Affected Community Perspective.

The Regional Perspective consultation stream will allow for a discussion on broad topics related to the selection of a future crossing, and how a future interprovincial bridge will impact the National Capital Region. Consultation activities will be designed for a broad audience, from interested individuals to subject-specific stakeholders such as business groups, environmental organizations, and community associations from across Ottawa and Gatineau.

‘Corridor Communities’ are those that are located within or adjacent to one of the three corridors and that stand to be directly impacted by issues such as disruption due to the bridge construction, implications on traffic, and the potential loss of greenspace or other local features. Consultation activities will allow for discussion around corridor-specific issues and the appropriateness and effectiveness of proposed mitigation measures.

‘Affected Communities’ are those that are not located in immediate proximity to a corridor, but that stand to be affected by a future crossing due to issues such as reduced truck traffic in their neighbourhoods or potential disruptions in their commuting time. This perspective includes, for example, Ottawa Lowertown and east-end communities and Gatineau’s eastern communities. The Phase 2B consultation program has been designed to ensure that various methods of engagement will be used to proactively reach out to all three consultation streams, during four ‘Rounds’ of consultation. The content of the consultations will closely reflect the progression of the technical evaluation and design efforts. As such, at the outset of Phase 2B, consultations will be carried out on broad topic areas of the Study Design, narrowing down over the course of the EA study to topics more closely related to specific corridor issues.

The first three Rounds of consultation will take place prior to Decision 1 (see Table 5.1) to solicit input from the three perspectives, on the three corridors, on both sides of the River. Public and stakeholder input during these three rounds will help guide the technical analysis leading up to the ranking process for the three corridors, and the decision to carry the top-ranked corridor forward to Step 2. As well, initial consultations at Round 1 will include the Community Value Plan (CVP) program, a unique consultation tool designed for the Corridor Communities. The Community Value Plans will serve as a lens for the Consultant Team, primarily in identifying and tailoring mitigation and enhancements that are best suited to the corridor communities’ values. The CVPs will also help guide decision-making around the finalization of the factors and sub-factors, and in determining the weighting formula (see Appendix C for more information on Community Value Plans and how they will be used at Phase 2B).

In the event that further analysis is required to properly delineate the ranking of corridors (following the comparative analysis and sensitivity testing that will be undertaken after Round 2), the consultation program foresees the option of an additional round of consultation (depicted in the Figure 4.1 Phase 2B EA Framework diagram as a loop). This additional round (hereafter referred to as Round 2A) will be designed based on an analysis of the level and scope of the technical studies required to ensure the corridor ranking is robust.

After a decision has been made to carry forward the top-ranked corridor, the preliminary design will be prepared considering the functional design, input from the public and other stakeholders (with an emphasis on the impacted Corridor Communities) and the details of the technical and environmental studies undertaken. The study will then be documented and the fourth and final round of consultation will be held to solicit public comment on the preliminary design and EA Study and Screening Reports.

Table 5.1 Four Rounds of Consultation

Assessment of Three Corridors (Prior to Decision1)	
Round 1: Priorities and Values <ul style="list-style-type: none"> • <u>Regional perspective:</u> <ul style="list-style-type: none"> ○ Input on the project overall ○ Feedback on evaluation factors and sub-factors • <u>Corridor Community Perspective:</u> <ul style="list-style-type: none"> ○ Input on the project overall ○ Feedback on evaluation factors and sub-factors ○ Input into community values (towards the development of the Community Value Plans – CVPs) ○ Validation of the CVPs • <u>Affected Community Perspective:</u> <ul style="list-style-type: none"> ○ Input on the project overall ○ Feedback on evaluation factors and sub-factors ○ Dialogue on issues specific to affected communities 	
Round 2: Alignments/Corridor-Specific Input <ul style="list-style-type: none"> • <u>Regional Perspective:</u> <ul style="list-style-type: none"> ○ Feedback on alignments and mitigation measures ○ Input on weighting of factors • <u>Corridor Community Perspective:</u> <ul style="list-style-type: none"> ○ Review of how Community Value Plans led to proposed alignments and mitigation measures for a specific corridor ○ Feedback on alignments and mitigation measures ○ Input on weighting of factors • <u>Affected Community Perspective:</u> <ul style="list-style-type: none"> ○ Feedback on alignments and mitigation measures ○ Input on weighting of factors ○ Dialogue on issues specific to affected communities 	
Round 2A: Additional Consultation as Required <ul style="list-style-type: none"> • <u>Regional Perspective:</u> <ul style="list-style-type: none"> ○ Specific consultation as required to ensure ranking is robust • <u>Corridor Community Perspective:</u> <ul style="list-style-type: none"> ○ Specific consultation as required to ensure ranking is robust • <u>Affected Community Perspective:</u> <ul style="list-style-type: none"> ○ Specific consultation as required to ensure ranking is robust 	
Round 3: Ranked Corridor Input <ul style="list-style-type: none"> • <u>Regional Perspective:</u> <ul style="list-style-type: none"> ○ Feedback on top ranked corridor and associated mitigation measures • <u>Corridor Community Perspective:</u> <ul style="list-style-type: none"> ○ Feedback on top ranked corridor, with a focus on community specific mitigation measures and related issues/concerns • <u>Affected Community Perspective:</u> <ul style="list-style-type: none"> ○ Feedback on top ranked corridor, with a focus on affected community related issues, such as mitigation measures 	

Carry Forward One Corridor (Post Decision 1)

Round 4 : Review of EA Study Report

- Regional Perspective:
 - Review and comments on EA Study Report
- Corridor Community Perspective:
 - Feedback on recommended corridor and input into preliminary designs
 - Development of Mitigation Measures Program (as guided by Community Value Plans)
 - Review and comments on EA Study Report
- Affected Community Perspective:
 - Review and comments on EA Study Report, with a focus on affected community related issues, such as mitigation measures

5.3 Detailed Public Consultation Program

A detailed description of each round of consultation, including the objectives for each, the consultative methods, and the breakdown between regional, affected and corridor community perspectives, is presented in the following sections.

Note that this Program recognizes that residents and stakeholders in Ottawa and Gatineau may perceive public consultation differently. Although a balance has been presented in the number and content of the activities held in both provinces, the nature and structure of those activities may vary based on the consultation approach best suited and most appropriate to the intended audience. For example, while it can be anticipated that public sessions held at Ottawa City Hall would be well attended, it may be more effective for such events on the Quebec side to be held at sports arenas or community centres.

5.3.1 Round 1 - Priorities and Values

Objective

The first step in the consultation program will take place at the outset of Phase 2B. The objectives are:

- 1) to PROMOTE the launch of Phase 2B of the EA Study and to INFORM the public on the Study Design
- 2) to ENGAGE a broad spectrum of audiences (from all three perspectives) and to ENCOURAGE their participation in the consultation process
- 3) to COLLECT input on the evaluation factors and sub-factors, with a view to refining and completing a final list
- 4) to REACH OUT to corridor communities and ENGAGE them in the development of the Community Value Plans.

Communications Activities

Broad promotion of the Phase 2B launch and information dissemination on the Study Design and Round 1 consultation activities. Activities to include:

- Updating of project website
- Media relations (releases; advisories; announcements; technical briefings as required)
- Notices: to Public Consultation Group (PCG); through website database of registered interested parties; and via Communications Advisory Committee (where appropriate, should include a request for recipients to help promote events by distributing notices through their networks)
- Notices published in local daily and community print media (It is recommended that at a minimum, notices should be published in the following daily and community papers: Le Droit (Ottawa & Gatineau daily - French); Ottawa Citizen (Ottawa & Gatineau daily - English); l'Express (Ottawa-wide community paper - French); EMC (Ottawa-wide community paper, downtown and east-end catchment - English); La Revue (Gatineau community paper - French); Le Bulletin la Lièvre (Gatineau community paper - French); Bulletin d'Aylmer (Gatineau community paper – Bilingual, two separate ads, one for each official language); West Quebec Post (Gatineau and area community paper - English).
- Information packages for elected officials
- Brief newsletter or handout material for events and the media
- Community outreach initiatives (for e.g., see Vox Pop below).

Table 5.2 Round 1 Consultation Activities: Regional Perspective

Activity	Description
Proactive Outreach Activities such as 'Vox Pop' or 'Streeter Surveys'	<p><u>Content:</u> Non-scientific survey designed to solicit input into evaluation factors and sub-factors.</p> <p><u>Suggested Format:</u> Brief interviews or surveys conducted at well attended locations (e.g., grocery stores, sports arenas and community centres, etc.) to collect 'snapshot' feedback via a short, closed-ended questionnaire. Ancillary objective to be proactive in raising awareness of the Study and the consultation opportunities.</p>
Web Consultation	<p><u>Content:</u> Ongoing opportunities to provide comment on the Study generally. Specific input sought at Round 1 on the evaluation factors and sub-factors.</p> <p><u>Suggested Format:</u> General comments via the 'info' function; More specific questions related to the evaluation factors and sub-factors to be posted online. Contributions to the Study as a result of this later exercise would be made following a structure and within a timeframe that would assist in the progression of the Study.</p>
Public Consultation Group¹ (PCG Meeting #1)	<p><u>Content:</u> Presentation and dialogue on the Study Design and evaluation factors and sub-factors. Input collected on the factors.</p> <p><u>Suggested Format:</u> PCG meetings will follow the format used during Phase 1 and 2A. Same membership with additions/changes as required. All inquiries and undertakings to be recorded, completed and reported back to full PCG</p>

¹ The Terms of Reference for the Public Consultation Group and for the Community Consultation Group are provided in Appendix D

Activity	Description
	membership. All relevant materials to be posted on an FTP site.
Technical Advisory Committee (TAC Meeting #1)	<p><u>Content:</u> Presentation and dialogue on the Study Design and evaluation factors and sub-factors.</p> <p><u>Suggested Format:</u> TAC meetings will follow the format used during Phase 1 and 2A. All inquiries and undertakings to be recorded, completed and reported back to full TAC membership. All relevant materials to be posted on an FTP site.</p>
Public Info-Fairs	<p><u>Content:</u> Public events on both sides of the river, to gather input on the draft evaluation factors and sub-factors.</p> <p><u>Suggested Format:</u> Public session (display boards, technical experts) held in conjunction with small group working sessions ("World Café²" format is suggested or other similar approach to promote open and meaningful dialogue). Resource tables will include maps and all materials necessary to enable hands-on feedback on the various alternatives.</p>
'Do-it-Yourself' Consultation Toolkits	<p><u>Content:</u> The toolkit will be designed to provide opportunities for submitting comments on the evaluation factors and sub-factors.</p> <p><u>Suggested Format:</u> A downloadable do-it-yourself toolkit with step-by-step instructions and materials to enable community organizations and various stakeholder groups to work together, independent of the Consultant, and at their own pace. Contributions to the Study as a result of this exercise would be made following a structure and within a timeframe that would assist in the progression of the Study.</p>

² World Café is a methodology for hosting interactive consultation sessions. Conversations between small groups link and build on each other as people move between groups, cross-pollinate ideas, and discover new insights.
(www.theworldcafe.com)

Table 5.3 Round 1 Consultation Activities: Corridor Community Perspective

Activity	Description
Joint CCG Group Meetings (CCGs)	<p><u>Content:</u> Proactive consultation activities to guide the development of Community Value Plans (CVPs). The intent of the CVP process is to identify and understand cultural, social, historical and/or environmental values or concerns of residents from the communities adjacent to and in close proximity to the three proposed interprovincial crossings locations. (See Appendix C for more information on CVPs)</p> <p><u>Suggested Format:</u> Joint CCG workshops held for all community associations in each of the corridors, on each side of the River (additional meetings may be required to ensure full participation by community associations). Half-to-full day workshop to record community values specific to a corridor, and to discuss CVP process. A process will need to be implemented to allow communities the opportunity to review, make comments and validate the CVPs before moving to the technical analysis, possibly at a follow-up meeting following submission to the community of a draft CVP.</p>

Table 5.4 Round 1 Consultation Activities: Affected Community Perspective

Activity	Description
Targeted Public Info-Fairs OR Community/Stakeholder Meetings (depending on community input)	<p><u>Content:</u> Consultation events in Ottawa and Gatineau (e.g., for lowertown and east-end communities) to gather input on the draft evaluation factors and sub-factors.</p> <p><u>Suggested Format:</u> Public session (display boards, technical experts) held in conjunction with small group working sessions (World Café format is suggested or other similar approach to promote open and meaningful dialogue). Event to be organized with the appropriate community organization(s), for their membership (by invitation only).</p> <p>Or</p> <p>Small group workshops with key leaders from interested community organizations, such as community association presidents (by invitation only).</p>

5.3.2 Round 2 - Corridor-specific Input

Objective

The second round of consultation will take place following the release of the alternative alignments, functional designs and associated mitigation measures.

The objectives are:

- 1) to DISCUSS the alternative alignments investigated, the rationale behind the selection of a preferred within each corridor (or the rationale for carrying forward more than one alignment within a corridor), functional designs for the alignment(s)

carried forward for each corridor, together with their possible environmental impacts and associated mitigation measures

- 2) to INFORM how public input on community values and the sub-factors is reflected in the functional designs
- 3) to SOLICIT input into the weighting of the evaluation factors for the purpose of the comparative analysis of the corridor alternatives and based on the alignments being carried forward
- 4) to REFINE the functional design of corridors and identified mitigation measures for the purpose of further aligning designs with the identified community values.

Communications Activities

Broad promotion of alternative alignments and functional designs. Finalized evaluation factors, functional designs of alignments and associated list of mitigation measures are released to the public. Activities include:

- Updating of project website
- Media relations (releases; advisories; announcements; technical briefings as required)
- Notices: to PCG; through website database of registered interested parties; and via Communications Advisory Committee (where appropriate, should include a request for recipients to help promote events by distributing notices through their networks)
- Notices published in local daily and community print media (It is recommended that at a minimum, notices should be published in the following daily and community papers: Le Droit (Ottawa & Gatineau daily - French); Ottawa Citizen (Ottawa & Gatineau daily - English); l'Express (Ottawa-wide community paper - French); EMC (Ottawa-wide community paper, downtown and east-end catchment - English); La Revue (Gatineau community paper - French); Le Bulletin la Lièvre (Gatineau community paper - French); Bulletin d'Aylmer (Gatineau community paper – Bilingual, two separate ads, one for each official language); West Quebec Post (Gatineau and area community paper - English).
- Information packages for elected officials
- Brief newsletter or handout material for events and the media
- Community outreach initiatives.

Table 5.5 Round 2 Consultation Activities: Regional Perspective

Activity	Description
Web Consultation	<p><u>Content</u>: Ongoing opportunities to provide comment on the Study generally. Specific input sought on the functional designs and evaluation factor and sub-factor weighting.</p> <p><u>Suggested Format</u>: General comments via the 'info' function; More specific questions related to the preliminary designs and evaluation factor weighting to be posted online. Input also collected on priorities and values at a regional level that can impact the analytical process. Contributions to the Study as a result of this later exercise would be made following a structure and within a timeframe that would assist in the progression of the Study.</p>
Public Consultation Group (PCG Meeting #2)	<p><u>Content</u>: Presentation and dialogue to present the alternative alignments and functional designs and to invite comment. Particular attention will be given to gathering feedback on the weighting of the evaluation factors and sub-factors.</p>

Activity	Description
	<p><u><i>Suggested Format:</i></u> It is suggested that a half-day working session be designed for members of the PCG, to provide input on the weighting. Structure for PCG#2 should be discussed with members during PCG#1 to gauge their interest in participating in a more involved consultative format than used at other meetings.</p>
<p>Technical Advisory Committee</p> <p>(TAC Meeting #2)</p>	<p><u><i>Content:</i></u> Presentation and dialogue to present the functional designs and to invite comment. Particular attention will be given to gathering feedback on the weighting of the evaluation factors and sub-factors.</p> <p><u><i>Suggested Format:</i></u> TAC meetings will follow the format used during Phase 1 and 2A. All inquiries and undertakings to be recorded, completed and reported back to full TAC membership.</p>
<p>Public Info-Fairs</p>	<p><u><i>Content:</i></u> Public events on both sides of the river, to review and gather input on the alignments (functional designs and associated mitigation measures). Participants will also assist with the weighting of the evaluation factors and sub-factors.</p> <p><u><i>Suggested Format:</i></u> Public session (display boards, technical experts) held in conjunction with small group working sessions (World Café format is suggested or other similar approach to promote open and meaningful dialogue). Resource tables will include maps and all materials necessary to enable hands-on feedback on the various alternatives.</p>
<p>'Do-it-Yourself' Consultation Toolkit</p>	<p><u><i>Content:</i></u> The toolkit will be structured to provide opportunities for input on the functional designs as well as the proposed weighting of the evaluation factors and sub-factors.</p> <p><u><i>Suggested Format:</i></u> Downloadable do-it-yourself toolkit to enable community organizations and various stakeholder groups to work together, independent of the Project Team, and at their own pace. Contributions to the Study as a result of this exercise would be made following a structure and within a timeframe that would assist in the progression of the Study.</p>

Table 5.6 Round 2 Consultation Activities: Corridor Community Perspective

Activity	Description
Community Consultation Groups (CCGs)	<p><u>Content:</u> Consultation activities to review the functional designs and the reaction to proposed mitigation measures (specifically, validation and refinement of proposed measures; discussion of how the CVPs influenced the process and what assumptions were made). The objective will be to further align the design with the communities' values. Also, discussion on the weighting of evaluation factors and how CVPs are used in the weighting formula (i.e., the impact of CVPs in determining the range for each evaluation factor).</p> <p><u>Suggested Format:</u> Appropriate workshops will be tailored based on projected attendance for each CCG meeting. CCG meetings will be held depending on interest, availability and disposition in combining events for multiple community associations. Working tables will include maps and all materials necessary to enable hands-on feedback on the various alternatives.</p>

Table 5.7 Round 2 Consultation Activities: Affected Community Perspective

Activity	Description
Targeted Public Info-Fairs OR Community/Stakeholder Meetings (depending on community input)	<p><u>Content:</u> Consultation events in Ottawa and Gatineau (e.g., for lowertown and east-end communities) to present the functional designs and invite comment. Particular attention will be given to gathering feedback on the weighting of the evaluation factors and sub-factors from the affected community perspective.</p> <p><u>Suggested Format:</u> Public session (display boards, technical experts) held in conjunction with small group working sessions (World Café format is suggested or other similar approach to promote open and meaningful dialogue). Event to be organized with the appropriate community organization(s), for their membership (by invitation only).</p> <p>Or</p> <p>Small group workshops with key leaders from interested community organizations, such as community association presidents (by invitation only).</p>

Round 2A – Additional Design, Environmental and Technical Studies, as required

Objective

An additional round of technical analysis may be required if the results of the ranking analysis are not sufficiently conclusive. Consultation activities in support of Round 2A will be dependent on the scope and nature of the studies required.

5.3.3 Round 3 - Ranked Corridor Input

Objective

The third round of consultation will take place following the completion of the comparative analysis and sensitivity testing of the three corridors. The objectives of the consultation program at this step in the process are:

- 1) to ANNOUNCE the results of the comparative analysis and sensitivity testing of the corridor alternatives (based on the community-informed evaluation factors and weighting formula)
- 2) to INFORM the decision to carry forward a corridor
- 3) to DEMONSTRATE how consultation, including the various workshops and Community Value Plan inputs, impacted a final robust ranking of the corridors
- 4) to SOLICIT information on the top-ranked corridor with a view to developing preliminary designs and completing the EA study.

Communications Activities

Broad promotion of comparative evaluation results. Corridor rankings are released to the public. It can be expected that the announcement of the top-ranked corridor alignment will generate significant public and media activity. Activities include:

- Updating of project website
- Extensive media relations (releases; advisories; announcements; technical briefings as required)
- Notices: to PCG; through website database of registered interested parties; and via Communications Advisory Committee (where appropriate, should include a request for recipients to help promote events by distributing notices through their networks)
- Notices published in local daily and community print media (It is recommended that at a minimum, notices should be published in the following daily and community papers: Le Droit (Ottawa & Gatineau daily - French); Ottawa Citizen (Ottawa & Gatineau daily - English); l'Express (Ottawa-wide community paper - French); EMC (Ottawa-wide community paper, downtown and east-end catchment - English); La Revue (Gatineau community paper - French); Le Bulletin la Lièvre (Gatineau community paper - French); Bulletin d'Aylmer (Gatineau community paper – Bilingual, two separate ads, one for each official language); West Quebec Post (Gatineau and area community paper - English).
- Information packages for elected officials
- Brief newsletter or handout material for events and the media
- Community outreach initiatives.

Table 5.8 Round 3 Consultation Activities: Regional Perspective

Activity	Description
Web Consultation	<p><u>Content:</u> Ongoing opportunities to provide comment on the Study generally. Input solicited in order to help guide continued refinement of the preliminary design of the top-ranked corridor.</p> <p><u>Suggested Format:</u> General comments via the 'info' function; More specific questions related to the top-ranked corridor alignment and the refinement of mitigation measures. Input also collected on priorities and values at a regional level that</p>

Activity	Description
	can impact the analytical process. Contributions to the Study as a result of this later exercise would be made following a structure and within a timeframe that would assist in the progression of the Study.
Public Consultation Group (PCG Meeting #3)	<p><u>Content:</u> Presentation and dialogue to present the ranking of the three corridors and to invite comment. Particular attention given to reviewing the sensitivity testing and demonstrating how consultation impacted the technical analysis process.</p> <p><u>Suggested Format:</u> PCG meetings will follow the format used during Phase 1 and 2A. All inquiries and undertakings to be recorded, completed and reported back to full PCG membership. All relevant materials to be posted on an FTP site.</p>
Technical Advisory Committee (TAC Meeting #3)	<p><u>Content:</u> Presentation and dialogue to present the ranking of the three corridors and invite comment. Particular attention will be given to reviewing the sensitivity testing and demonstrating how consultation impacted the technical analysis process.</p> <p><u>Suggested Format:</u> TAC meetings will follow the format used during Phase 1 and 2A. All inquiries and undertakings to be recorded, completed and reported back to full TAC membership. All relevant materials to be posted on an FTP site.</p>
Public Info-Fairs	<p><u>Content:</u> Public events on both sides of the river, to promote results of the ranking analysis and the decision to carry-forward a corridor. Refinement of the proposed alignment and associated mitigation measures.</p> <p><u>Suggested Format:</u> 'Consultation Kiosk' format with subject-specific stations. Technical experts available at each station to facilitate dialogue. Format affords participants the choice of perusing boards or engaging in a consultative dialogue with experts. Tools for feedback include comment sheets, dialogue boards, sticky notes, table cloths, etc. Resource tables will include maps and all materials necessary to enable hands-on feedback on the results of the analysis. Note that it is expected that there will be considerable public, media and elected representative attention and participation in this decision-making stage of the Study. An alternate event structure should be developed should a majority of attendees request an opportunity to make public representations, etc.</p>
Public Presentations	<p><u>Content:</u> Official public presentations to the Study Partners.</p> <p><u>Suggested Format:</u> Presentations to the ville de Gatineau Comité plénier, City of Ottawa Transportation Committee and the NCC Board of Directors. Public notices, posting on Study Partner websites and committee agendas as required.</p>

Table 5.9 Round 3 Consultation Activities: Corridor Community Perspective

Activity	Description
Community Consultation Group (CCGs)	<p><u>Content:</u> Presentation and dialogue to present the ranking of the three corridors and invite comment. Particular attention given to reviewing the preferred alignment and mitigation measures. More in-depth consultation will be required for those communities located within the top-ranked corridor. Sessions to be more informative for those communities from the other two corridors.</p> <p><u>Suggested Format:</u> The workshops will include an in-depth presentation, and be tailored to reflect location of community associations (i.e., within or outside of the preferred corridor) and on projected attendance. Working tables will include maps and all materials necessary to enable hands-on feedback on the preferred alignment and associated mitigation measures.</p>

Table 5.10 Round 3 Consultation Activities: Affected Community Perspective

Activity	Description
Targeted Public Info-Fairs OR Community/Stakeholder Meetings (depending on community input)	<p><u>Content:</u> Consultation events in Ottawa and Gatineau (e.g., for lowertown and east-end communities) to present the results of the technical analysis. To discuss how the top-ranked corridor impacts affected communities and the issues they have raised over the course of Rounds 1 and 2.</p> <p><u>Suggested Format:</u> 'Consultation Kiosk' format with subject-specific stations. Technical experts available at each station to facilitate dialogue. Format affords participants the choice of perusing boards or engaging in a consultative dialogue with experts. Tools for feedback include comment sheets, dialogue boards, sticky notes, table cloths, etc. Resource tables will include maps and all materials necessary to enable hands-on feedback on the results of the analysis. Event to be organized with the appropriate community organization(s), for their membership (by invitation only). Note that an alternate event structure should be developed should a majority of attendees request an opportunity to make public representations, etc.</p> <p>Or</p> <p>Small group workshops with key leaders from interested community organizations, such as community association presidents (by invitation only).</p>

5.3.4 Round 4 - Review of EA Study Report and Preliminary Design

Objective

The fourth and final round of consultation will take place following the decision to carry forward a top-ranked corridor. At the outset of Step 2, consultation activities would be held with the Corridor Communities from the top-ranked corridor to solicit input into the development of the preliminary design. Once the preliminary design and study

documentation are completed, additional consultation activities would be held for all three streams to inform the public and stakeholders of the Study outcomes and to allow for final refinement of the project deliverables. Specifically, the objectives for Round 4 are:

- 1) to OFFER opportunities for the public and communities located within or adjacent to the top-ranked corridor to be involved in the development of the preliminary design and mitigation measures efforts
- 2) to PRESENT the completed preliminary design and the draft EA Study and Screening Reports
- 3) to DEMONSTRATE how previous consultations contributed to the preliminary design and mitigation measures
- 4) to SOLICIT comments on the completed preliminary design and EA Reports for the purpose of refining and fine-tuning the project documentation
- 5) to PROVIDE the public, with special emphasis on the Corridor and Affected Communities, with an understanding of next steps.

Communications Activities

Broad promotion of carry forward decision. Activities include:

- Updating of project website
- Extensive media relations (releases; advisories; announcements; technical briefings as required)
- Notices: to PCG; through website database of registered interested parties; and via Communications Advisory Committee (where appropriate, should include a request for recipients to help promote events by distributing notices through their networks)
- Notices published in local daily and community print media (It is recommended that at a minimum, notices should be published in the following daily and community papers: Le Droit (Ottawa & Gatineau daily - French); Ottawa Citizen (Ottawa & Gatineau daily - English); l'Express (Ottawa-wide community paper - French); EMC (Ottawa-wide community paper, downtown and east-end catchment - English); La Revue (Gatineau community paper - French); Le Bulletin la Lièvre (Gatineau community paper - French); Bulletin d'Aylmer (Gatineau community paper – Bilingual, two separate ads, one for each official language); West Quebec Post (Gatineau and area community paper - English).
- Information packages for elected officials
- Brief newsletter or handout material for events and the media
- Community outreach initiatives.

Consultation Activities: At the outset of Step 2

Table 5.11 Consultation Activities during Preliminary Design: Corridor Community Perspective

Activity	Description
Community-Based Charrette	<i>Content:</i> Charrette held for community organizations and residents located within the top-ranked corridor to provide input into the preliminary design and to provide in-depth feedback around key design issues. The focus will be on refining the final designs and associated mitigation measures.

Activity	Description
	<i><u>Suggested Format:</u></i> Charette to include multiple sessions and small working group discussions to discuss and identify design modifications and enhancements. Presentations of results via plenary reporting. Sessions will need to be well facilitated to ensure they are productive and constructive.
'Do-it-Yourself' Community Consultation Toolkit	<p><i><u>Content:</u></i> The toolkit will be structured to provide opportunities for input into the preliminary design and mitigation measures.</p> <p><i><u>Suggested Format:</u></i> A do-it-yourself toolkit to enable community organizations and various stakeholder groups located within or representing the top-ranked corridor to work together, independent of the Consultant, and at their own pace. Contributions to the Study as a result of this exercise would be made following a structure and within a timeframe that would assist in the progression of the Study.</p>

Consultation Activities: Following completion of the Preliminary Design

Table 5.12 Round 4 Consultation Activities: Regional Perspective

Activity	Description
Web Consultation	<p><i><u>Content:</u></i> Ongoing opportunities to provide comment on the Study generally. Specific input sought on the completed preliminary design and EA Study and Screening Reports.</p> <p><i><u>Suggested Format:</u></i> General comments via the 'info' function; More specific questions related to the completed preliminary design and EA Reports. Input also collected on priorities and values at a regional level that can impact the analytical process. Contributions to the Study as a result of this later exercise would be made following a structure and within a timeframe that would assist in the progression of the Study.</p>
Public Consultation Group (PCG Meeting #4)	<p><i><u>Content:</u></i> Presentation and dialogue to present the completed preliminary design and the EA Reports. Opportunities for input will focus on validating and fine-tuning the final documentation.</p> <p><i><u>Suggested Format:</u></i> PCG meetings will follow the format used during Phase 1 and 2A. All inquiries and undertakings to be recorded, completed and reported back to all PCG members. All relevant materials to be posted on an FTP site.</p>
Technical Advisory Committee (TAC Meeting #4)	<p><i><u>Content:</u></i> Presentation and dialogue to present the completed preliminary design and the EA Reports. Opportunities for input will focus on validating and fine-tuning the final documentation.</p> <p><i><u>Suggested Format:</u></i> TAC meetings will follow the format used during Phase 1 and 2A. All inquiries and undertakings to be recorded, completed and reported back to all TAC members. All relevant materials to be posted on an FTP site.</p>
Public Info-Fairs	<i><u>Content:</u></i> Public events on both sides of the river, to present the completed preliminary design and EA Reports, and to offer opportunity for final refinements to the preliminary design and associated mitigation measures.

Activity	Description
	<i><u>Suggested Format:</u></i> Public session (display boards, technical experts) held in conjunction with small group working sessions (World Café format is suggested or other similar approach to promote open and meaningful dialogue).
Public Presentations	<i><u>Content:</u></i> Official public meetings to the Study Partners. <i><u>Suggested Format:</u></i> Presentations to the ville de Gatineau Comité plénier, City of Ottawa Transportation Committee and the NCC Board of Directors. Public notices, posting on Study Partner websites and committee agendas as required.

Table 5.13 Round 4 Consultation Activities: Corridor Community Perspective

Activity	Description
Community Consultation Group (CCGs)	<i><u>Content:</u></i> Final round of Community Consultation Groups held to review the completed preliminary design and the EA Study Report. Discussion will be focused on fine-tuning mitigation measures and discussing next steps. <i><u>Suggested Format:</u></i> Workshops held for communities within the selected corridor. Appropriate meeting format based on projected attendance for each CCG meeting (i.e., small group discussions or plenary). Working tables will include maps and all materials necessary to enable hands-on feedback on the preliminary design.

Table 5.14 Round 4 Consultation Activities: Affected Community Perspective

Activity	Description
Targeted Public Info-Fairs OR Community/Stakeholder Meetings (depending on community input)	<i><u>Content:</u></i> Consultation events in Ottawa and Gatineau (e.g., for lowertown and east-end communities) to offer opportunity for final refinements to the preliminary design and associated mitigation measures <i><u>Suggested Format:</u></i> Public session (display boards, technical experts) held in conjunction with small group working sessions (World Café format is suggested or other similar approach to promote open and meaningful dialogue). Event to be organized with the appropriate community organization(s), for their membership (by invitation only). Or Small group workshops with key leaders from interested community organizations, such as community association presidents (by invitation only).

Summary Reports will be drafted and publically released following the first three Rounds of consultation, followed by a Final Summary Report to be released at the end of Round 4. Each Report will clearly outline the activities that were held, provide an overview of what was heard, and report on what changed as a result of consultation.

5.4 First Nations Consultation

5.4.1 Overview

Several meetings were held with the Algonquins of Ontario (AOO) and the Kitigan Zibi Anishinabeg (KZA) during Phase 1 and 2A to share ideas on the process and to discuss issues of mutual interest. Meetings provided an opportunity to discuss progress on the project and to work on the consultation process for First Nations.

The AOO and KZA expressed their desire to be involved in this project from the beginning (environmental assessment) in a substantive way and noted the need for funding. They discussed the many areas of interest that they have with regard to a crossing of the Ottawa River, which is of fundamental importance historically, culturally and spiritually. The study area is within traditional Algonquin territory. Areas of interest include archaeology, natural environment (including fisheries, wildlife) as well as preliminary design of the bridge. They expect that the study would include archaeological assessments (at least Stage 1 and 2, to determine if Stage 3 is required and to determine if mitigation is required before construction). They want the crossing to celebrate Algonquin history and culture.

The AOO and KZA provided the Phase 2A consultants with a number of ideas with regard to consultation and clarified their community responsibilities. Ratification of the consultation plan by their communities will be required. Lands in Ontario are part of AOO land claim negotiations and corridors may require disposition or use of crown land.

The AOO have stated that consultation and accommodation of Algonquin interests must be part of the planning, design and construction phases and funding must be provided to participate fully in all phases. The NCC remains committed to ongoing consultation with the AOO and KZA during Phase 2B.

5.4.2 Consultation and Communications approach

The approach to consultation with the AOO and KZA will be confirmed prior to the beginning of Phase 2B based on discussions with the communities, directly and amongst the Study Partners. Deliverables and schedule will be established in consultation with the NCC and their consultants.

The Algonquin involvement is expected to include input to the development of archaeological Terms of Reference. Active participation may include subsequent review of archaeological assessment reports, monitoring of sites or participation on the archaeological team. Achievement of this type of active involvement will help to ensure meaningful participation and will foster understanding amongst participants.

During the first series of public consultations, described above, the Algonquins will participate in similar activities to the public such as the selection of Phase 2B criteria. In the second series of consultations, the AOO and KZA will provide input into the weighting for the evaluation process, for consideration by the Consultant Team.

After a corridor has been selected, the Algonquins will participate in preliminary design discussions involving recognition of Algonquin history and culture, landscaping, storm drainage, lighting and fish habitat compensation measures and as otherwise identified through the consultation process.

The AOO has established a Working Group for this project (3 Algonquin Negotiation Representatives (ANRs) and one representative from the Technical Advisory Group)

which will be the interface between the NCC and their consultants and the AOO. A single point of contact at the AOO and the NCC will be designated, similar to the communication strategy used on other federal projects.

During Phase 2B, the NCC and their consultant will provide the ANR with information to take to their community. The package will contain enough information to comment on with an opportunity to provide meaningful input. The ANRs will report back to the AOO and NCC on the community meeting including the attendance and discussion, either verbally or in writing.

Project-specific mail outs are needed to summarize the issues, concerns and potential benefits of the project. The communications for Algonquins will focus on Algonquins communities and materials will not be the same as for the general public.

Quarterly meetings are proposed during Phase 2B between the NCC, their consultants and the AOO. A similar set of activities is envisioned with KZA.

Press releases dealing with the AOO will be subject to an established Canada/Ontario AOO communications protocol.

6 Public Comments and Modifications to the Study Design

The following section presents a summary of public comments received during Phase 2A on the Study Design and Consultation Process. These comments were received through email correspondence, an internet web survey, during and following two Public Events, and meetings with Community Consultation Groups, the Public Consultation Group and other stakeholders.

In response to public comments, the text of this report and its appendices have been modified, where appropriate. Responses to public comment and changes to texts are summarized in Section 6.1. Additional comments were received that were beyond the scope of Phase 2A. These are summarized in section 6.2.

A full account of public consultation activities and responses is available in the Public Consultation Summary Report for Phase 2A, available under separate cover.

6.1 Comments and Responses

6.1.1 Background and Context

Summary of Comments	Response
<ul style="list-style-type: none"> The opt-out of the Ontario government from the EA process was questioned. Clarification of the legal and practical implications of this was sought. Ontario residents were concerned that their rights would not be adequately protected by the EA process. The EA Study should be harmonized. 	<ul style="list-style-type: none"> The Ontario government has stated that their provincial EA legislation does not apply to this Study. However, the federal legislation currently applies. Wording of process clarified with the intent to provide more confidence that the federal process will be conducted in a manner that is respectful of the spirit of the Ontario legislation as well as the federal and Quebec legislation. The best protections and most rigorous standards from all three processes will be used to direct the Phase 2B process. As well, extensive consultation will take place.
<ul style="list-style-type: none"> Ontario EA legislation must apply all along the process since CEA process only applies once a project exists. 	<ul style="list-style-type: none"> The project is defined as a connection between A-50 and Highway 417. This definition and the alternatives included are within the allowances of federal legislation. Proper notice of the EA has been posted with the CEAA Registry.

6.1.2 Study Design Process

Summary of Comments	Response
<ul style="list-style-type: none"> Transparency is required all along the process. 	<ul style="list-style-type: none"> Agreed. A comprehensive and meaningful public consultation has been built-in to the Phase 2B Study design (see Chapter 4). This was the objective of Phase 2A, to consult with the public and communities in the development of the Study Design.
<ul style="list-style-type: none"> The Study Design process is somewhat complex. 	<ul style="list-style-type: none"> The process is based on the principles established for environmental assessments as well as legislated requirements and public input. A comprehensive communications and consultation program has been built-in to Phase 2B to ensure that members of the public understand the process and can provide meaningful input.
<ul style="list-style-type: none"> A more detailed timeline was requested. 	<ul style="list-style-type: none"> More information on the schedule has been added to Section 4.9 of the Study Design.
<ul style="list-style-type: none"> The Study Design should define the method to handle interacting scores (e.g. development of mitigation measures for noise may impact visual aspects and costs). 	<ul style="list-style-type: none"> Round 2 of the public consultation program at Phase 2B provides an opportunity for community members to validate functional designs and mitigation measures. These types of interacting issues will be discussed at this point with the community.
<ul style="list-style-type: none"> The role of the expert committee that selects the range of weights to be tested must be clarified. This committee was seen to have most influence over outcomes in Phase 1, which was conducted behind closed doors. It is perceived that the committee is unaccountable to the public. 	<ul style="list-style-type: none"> Wording revised. People will have a chance in Round 2 of the public consultations to comment on results of all studies and to provide input into the weighting process. The opinions and results of the weighting analysis will be presented to the public in Round 3 of public consultations. The reasoned argument method (see Section 4.5 of the Study Design) has been introduced and will be used to support and explain the chosen range of weighting. The expert committee will represent a broad range of fields including environmental and social aspects.

Summary of Comments	Response
<ul style="list-style-type: none"> More details should be provided as to how other interprovincial studies (goods movement, transit) will be incorporated into the Phase 2B EA Study. Furthermore, the results of these other studies will have an impact on original needs and justification analysis done in Phase 1. 	<ul style="list-style-type: none"> Section 4.1 of the Study Design describes how the other studies will interact with Phase 2B. Where available, information from other studies (such as the Transit Integration Strategy and the Goods Movement Study) will be incorporated in the interprovincial crossings EA Study. This Study is a continuation of Phase 1 work. Phase 1 was based on ongoing travel demand forecasting work for the National Capital Region. The results were consistent with other work done in previous studies. Phase 2B will include technical tasks as needed to provide information necessary for the analysis of transportation. For example, the evaluation of truck traffic is part of Phase 2B.

6.1.3 Site Study Areas

Summary of Comments	Response
<ul style="list-style-type: none"> Site Study areas should allow corridors to pass through industrial or low-density areas. The Canotek option or other variations of the proposed corridors should be considered. 	<ul style="list-style-type: none"> Criteria for selecting the Site Study Areas were consistent with those established in Phase 1 with input from the public, agencies and other stakeholders. One of Phase 2A's mandates was to establish Site Study Areas. They were created based on the same criteria used in Phase 1. The Site Study Areas are designed to provide the greatest flexibility in the area of Corridors 5, 6 and 7 within the criteria established. Further technical analysis will be done at Phase 2B to fully evaluate the viability of alignments within the Site Study Areas before any can outright be dismissed.

6.1.4 Evaluation Factors

Summary of Comments	Response
<ul style="list-style-type: none"> Does the study take into account latest population and transportation demand (including trucking and trucking origin and destination data) projections? 	<ul style="list-style-type: none"> Yes. The work on all traffic factors will consider the most up-to-date work by the cities on the TRANS model for 2031.

Summary of Comments	Response
<ul style="list-style-type: none"> How do traffic projections take into account changes in travel behaviour due to peak-oil? 	<ul style="list-style-type: none"> The assumption of an aggressive transit share of trips helps to account for changes in oil prices.
<ul style="list-style-type: none"> There is confusion as to whether transiting trucks will be removed from King Edward, Rideau, Waller and Nicholas (KERWN) corridor. The KERWN corridor should be evaluated as the status quo/baseline scenario to aid the comparison of the three corridors. The severity of impacts due to trucking in downtown is greater than future impacts to communities within corridor 5. 	<ul style="list-style-type: none"> At the beginning of Phase 2B, a number of environmental and technical studies will be conducted – including studies on truck traffic. Several scenarios with respect to trucking will be analysed, including the status quo and scenarios that either restrict trucking on King Edward, or remove the truck route designation from King Edward altogether.
<ul style="list-style-type: none"> There is a perceived bias in favour of Corridor 5 throughout the report and factors, especially when they are used as examples. 	<ul style="list-style-type: none"> This was not the intent. The Study Design Report has been reviewed to add examples from all 3 corridors.
<ul style="list-style-type: none"> The Study should explicitly consider impacts on schools and school children (safety of walking route, air pollution, quality of external spaces). 	<ul style="list-style-type: none"> Impacts on schools and school children are explicitly considered as part of a number of sub-factors: <ul style="list-style-type: none"> Sensitive land uses with regard to air quality/human health for example consider locations of day cares, schools, hospitals and seniors facilities. Traffic safety includes the safety of vulnerable road users (pedestrians and cyclists). The connections to non-motorized infrastructure sub-factor will include an examination of pathways. Community Study will also consider the impacts on schools and bussing.
<ul style="list-style-type: none"> How will impacts to community establishments be measured? 	<ul style="list-style-type: none"> Impacts on entrances, parking lots and property will be assessed as part of the Land Use and Property Study. The Community Study will also assess impacts to community facilities.
<ul style="list-style-type: none"> Consider impacts on Blackburn Hamlet community to the South of the 174 (e.g. through traffic through the community). Evaluate impacts of through-traffic routes travelling on arterials and collectors in local neighbourhoods due to new corridor. 	<ul style="list-style-type: none"> Technical tasks for traffic operations were revised to include impacts on roads other than crossing routes and assess traffic diversion to other routes and its significance. As well, communities not within or directly adjacent to the corridors but that stand to be significantly impacted by a future crossing are included in the Affected Communities stream of the consultation program. Local study areas for different impacts will be determined in Phase 2B.

Summary of Comments	Response
<ul style="list-style-type: none"> Consider risk of dangerous goods movement. 	<ul style="list-style-type: none"> Hazardous goods are currently permitted on all public roads in Ottawa and Gatineau. The transportation of hazardous goods is regulated by the federal and provincial governments. There is no significant difference between the alternatives. Mitigation measures will be considered in Phase 2B.
<ul style="list-style-type: none"> Consider risks to water well quality. 	<ul style="list-style-type: none"> Groundwater sub-factor was added to Appendix A list of sub-factors and Appendix B Technical Task.
<ul style="list-style-type: none"> Are evaluation factors biased for any particular area? Are residents in Gatineau adequately considered by sub-factors? Factors should not bias one corridor over another. There are cultural, community and natural features in all corridors that could be affected. 	<ul style="list-style-type: none"> Evaluation factors are not biased. The factors cover a broad definition of the environment in accordance with the provincial and federal legislation on environmental assessment. This thorough approach to consider all aspects of the environment should not result in bias.
<ul style="list-style-type: none"> Consider potential to increase urban sprawl. Consider light pollution. 	<ul style="list-style-type: none"> Compatibility with municipal planning documents is a sub-factor. Scope of assessment in Visual Assessment Study was enlarged to include evaluations of day and night. Current illumination standards are designed to minimize light pollution by focussing light downwards and shielding luminaires to prevent spillage.
<ul style="list-style-type: none"> To what standards are the impacts being measured and compared? 	<ul style="list-style-type: none"> Considerations include: <ul style="list-style-type: none"> Government legislation, policies and guidelines; Municipal development policies; Input obtained through consultation with responsible agencies, community groups and the general public; and, Project team expertise.
<ul style="list-style-type: none"> Consider actual and unofficial bike and walking paths within corridors. 	<ul style="list-style-type: none"> The factor on non-motorized infrastructure will consider connectivity to routes (on and off-road) that the Cities have documented in relevant studies. Field investigation was added to technical task to confirm routes.
<ul style="list-style-type: none"> Consideration for travel time savings and fuel consumption should be omitted since the three corridors were judged suitable for Phase 2 and since they will become part of the central core during the lifetime of the bridge. 	<ul style="list-style-type: none"> We have included these considerations as they can help measure efficiency of the road network and impact on air quality.

Summary of Comments	Response
<ul style="list-style-type: none"> A better measure than yes/no is required for measuring impacts to non-motorized infrastructure sub-factor. 	<ul style="list-style-type: none"> Measure changed.
<ul style="list-style-type: none"> Assessment of cultural landscape features seems to be the same as the assessment of visual intrusion of new crossings. 	<ul style="list-style-type: none"> Cultural landscapes consider the historical aspects of the views (riverscapes, railscapes) and how the project would change them. Visual intrusion considers the current land use and how the project would impact on views for residents.
<ul style="list-style-type: none"> Visual intrusion sub-factor should not be limited to road expansion or new bridge, because more heavy trucks and congestion constitutes a new visual intrusion. Are disruptions to existing communities due to a new truck route considered? 	<ul style="list-style-type: none"> Change in traffic volume and character is considered under traffic operations and community sub-factors. Community Study revised to consider these impacts.
<ul style="list-style-type: none"> Vibration impacts should consider all facilities, not just residences. 	<ul style="list-style-type: none"> Description changed to include all buildings. New text added on the development of possible mitigation measures to vibration impacts and their costs.
<ul style="list-style-type: none"> Consider impacts to property values, especially due to the uneven impacts (gains and decreases) in both provinces. 	<ul style="list-style-type: none"> Impacts that residents may relate to property values are considered in many of sub-factors in the evaluation. The use of the reasoned argument approach to evaluation also facilitates this discussion. Where impacts are directly linked to mitigation measures identified for sub-factors such as noise, air quality, visual intrusion, community, etc., the cost of implementing mitigation measures will be considered. However, only the cost of property that is required for the right-of-way and the cost of properties where access will be affected by the project will be explicitly considered. The Community Value Plans will provide insight into potential mitigation measures that may then enhance the community.
<ul style="list-style-type: none"> The bridge mainly benefits Quebec. Compensation for impacts to Ontario residents should be considered. 	<ul style="list-style-type: none"> One of the objectives of this Study is to provide an alternative truck route to King Edward Avenue in Ottawa. Another objective is to improve interprovincial transportation capacity. Mitigation of identified impacts will be included in the process.

Summary of Comments	Response
<ul style="list-style-type: none"> Consider impacts to land development (residential, commercial, industrial, trucking destinations, intermodal facilities) beyond those published in official plans. 	<ul style="list-style-type: none"> Known future development will be included to the extent practical.
<ul style="list-style-type: none"> Boating activities should also reflect human powered craft in addition to sail and power boating activities. River hydraulics will have impacts on human-powered water craft and ability to recreate around alluvial islands or McLaurin Bay. 	<ul style="list-style-type: none"> Text revised accordingly.
<ul style="list-style-type: none"> Where are recreational boating activities off the Ottawa River, especially in Green's Creek, Blanche River and McLaurin Bay considered? 	<ul style="list-style-type: none"> The sub-factor and technical task on Recreational Water Uses has been revised to be more inclusive of all water bodies and courses.
<ul style="list-style-type: none"> Description of how costs (construction and mitigation measures, operations and management) are being handled should be better described in Report and Appendices. 	<ul style="list-style-type: none"> Text of report and appendices updated.
<ul style="list-style-type: none"> Many factors were repeatedly mentioned by the public as important considerations: air pollution, noise, vibration, traffic volumes and congestion, public transit, bike and walking paths, health and safety, natural environments (wetlands, wildlife, habitat, etc.), green spaces, institutions (schools, Montfort Hospital, RCMP, Rockcliffe Airport, Aviation Museum, etc), the Greenbelt, property values, recreation, heritage and cultural environments, aesthetics, economic development, and costs. 	<ul style="list-style-type: none"> Factors were reviewed as part of Phase 2A activities to ensure that all areas of concern were included in the factors proposed for Phase 2B of the EA Study.
<ul style="list-style-type: none"> The number of impacted residences or people should be a major consideration. 	<ul style="list-style-type: none"> The impacts on land use and property and communities adjacent to the corridors will be assessed. A broad range of weighting will be considered in consultation with the public.
<ul style="list-style-type: none"> The new link should enhance public transport, through its ability to link with present and future transit infrastructure and encourage greater transit use. 	<ul style="list-style-type: none"> Transit issues to be studied are described in Transit Technical Task, which is part of Phase 2B work.
<ul style="list-style-type: none"> Community and residential impacts should have greater value than those of natural environment, and vice versa. Evaluation sub-factors should favour less through traffic (trucks and people). 	<ul style="list-style-type: none"> A range of weights will be considered in the sensitivity testing to reflect a range of perspectives.

Summary of Comments	Response
<ul style="list-style-type: none"> The definition of the sub-factor on wildlife habitat not covered by provincially or regional significant areas is too broad. The importance of these areas has not been sufficiently demonstrated and this sub-factor should be removed. 	<ul style="list-style-type: none"> Consideration for wildlife habitat is a legislated requirement. The nature and significance of any impacts will be assessed and an appropriate weighting, reflecting the demonstrated importance of this sub-factor, will be considered during Phase 2B. The public will contribute to the weighting at Round 2 of the Phase 2B Consultation Program.
<ul style="list-style-type: none"> Concern about soil stability and impacts of a small earthquake. 	<ul style="list-style-type: none"> Slope stability has been added. These concerns will be addressed through geotechnical and foundation studies in Phase 2B.
<ul style="list-style-type: none"> Greenhouse Gas emissions should be reduced. 	<ul style="list-style-type: none"> The potential greenhouse gas emissions burden will be assessed for each alignment. Alignments generating the lowest emissions will be preferred.

6.1.5 Evaluation Methodology

Summary of Comments	Response
<ul style="list-style-type: none"> Evaluation method must be unbiased and as objective as possible. NIMBY attitudes and political interference should be kept away. 	<ul style="list-style-type: none"> Two approaches are used to reinforce results. The methodology is not biased.

6.1.6 Consultations

Summary of Comments	Response
<ul style="list-style-type: none"> Many insisted that it is essential to consult public on weightings. 	<ul style="list-style-type: none"> Additional clarity provided in the Study Design. The public will contribute to the weighting at Round 2 of the Phase 2B Consultation Program.
<ul style="list-style-type: none"> Request that consultation be advertised better. More representation by Gatineau residents is required. 	<ul style="list-style-type: none"> Phase 2B will include a comprehensive communications program to promote participation in the consultation activities (see Chapter 5 of the Study Design for details). Media releases and advisories will be issued to help promote the consultation program. Public events will be advertised in daily and weekly community papers in Ottawa and Gatineau. Notices will also be sent to all those registered on the project website to receive study information. Steps were taken at Phase 2A to help increase participation rates of Gatineau residents and businesses for Phase 2B. For example, several organizations in Gatineau were identified and added to the PCG

Summary of Comments	Response
	<p>membership. As well, discussions were held with key stakeholders in Gatineau to encourage and support their efforts to mobilize their communities to participate.</p> <ul style="list-style-type: none"> The proposed consultation process includes the flexibility to organize consultation activities in Gatineau that are not necessarily the same as will be held in Ottawa so as to be better adapted to Gatineau residents (e.g. Shopping Centers kiosks, better use of the City's Web page, etc.).
<ul style="list-style-type: none"> Health experts should be specifically consulted. Consultations should avoid large groups and presentations. More opportunities to ask questions are better. The kiosk format was successful Consider surveys. 	<ul style="list-style-type: none"> Human health sub-factors are included. A variety of consultation techniques are proposed for Phase 2B as detailed in Chapter 5 of the Study Design Report. Focus will be on creating meaningful and interactive opportunities to provide input.
<ul style="list-style-type: none"> The language describing factors and weighting must be clear so as to avoid confusion and misunderstanding of the impacts and significance. Limiting input to only recognized community groups is going to eliminate input from people that are not in the "clique" of their local community association. It is important to include the voice of citizens that are not aggregated by these organizations. 	<ul style="list-style-type: none"> Agreed. A variety of consultation techniques are proposed for Phase 2B as detailed in Chapter 5 of the Study Design Report. Focus will be on creating meaningful and interactive opportunities to provide input. No one is restricted from participating. Those wishing to participate in the Community Consultation Groups should contact their community association.
<ul style="list-style-type: none"> All information should be available to the public, including consultation materials and feedback. Responses to comments should be provided. Consultations must be substantive and meaningful, i.e. suggestions must be taken into account. 	<ul style="list-style-type: none"> All public presentation materials and feedback will be made available to the public. Responses will be provided where they are warranted. All feedback is considered. Consultation activities will be designed to be meaningful and interactive. All community, public and stakeholder input will be considered by the Project Team and will help guide outcomes.

6.1.7 Community Value Plans

Summary of Comments	Response
<ul style="list-style-type: none"> The Community Value Plan (CVP) process was seen as a good tool to improve communications with communities along the corridor. The CVP process is exclusive to corridor communities and would allow them a greater opportunity to influence the evaluation process and defend their rights. The CVP process should be broadened to include other communities. 	<ul style="list-style-type: none"> Agreed. It has been incorporated into the Phase 2B Study Design The evaluation process and weighting of factors will not be biased towards corridor communities because everyone will have an opportunity to contribute to the weighting process. CVPs will not bias final weightings in favour of any one corridor over another. The CVP process is designed to ensure that the integration of a new corridor occurs in close consultation with communities that are located within or adjacent to a proposed corridor. The CVP will be used by the Project Team as a tool to identify and address potential local impacts and serve as a lens to help guide the design of mitigation measures most appropriate to those communities along the new corridor.
<ul style="list-style-type: none"> Clarification required on the utility and impact of the CVP process on the evaluation process and outcomes. 	<ul style="list-style-type: none"> The Study Design Report has been modified to clarify the role of the CVP. Appendix C has been added to clarify the role of the CVP.
<ul style="list-style-type: none"> How would one CVP would be compared with another? Would a given CVP have greater influence over the final outcomes than another? 	<ul style="list-style-type: none"> CVPs are not in competition with one another. As mentioned earlier, all weighting scenarios will be considered equally. The CVP is aimed to facilitate the integration of a corridor into a community by ensuring that the priorities and values of corridor community are documented. In doing so, they can be incorporated into corridor alignment designs and mitigation measures.

6.2 Summary of Comments Beyond the Scope of Phase 2A

Background and Context

Phase 1 accomplished its task to select a corridor. Criticism that 3 corridors are still being considered.

Various positive and negative comments of Phase 1 study.

Various comments, questions or proposals related to findings from Phase 1 that have already been addressed.

Study Design Process

The EA Study timelines are too long (end date 2013).

Other

Many comments expressed a choice for the best corridor.

Turning Aviation Parkway into a truck route sets a bad precedent for other Parkways in the City.

Consider a toll system to fund the project.

Show fiscal restraint for this project.

Reconsider tunnel, freight by rail, and other corridor options such as the ring road.

The development of Autoroute 50 would remove the necessity for a bridge.

The heavy trucking problem should not be moved from one central neighbourhood to another.

Heavy trucks should be prohibited in residential areas.

The choices being made for this new link must reflect the symbolic value and quality of Canada's capital city.

The bridge should be of world class design and create a landmark. Urban integration of the new roadway (as a boulevard), including excellent mitigation measures, and urban intensification along the corridor should be used to facilitate the project insertion.

Information on expropriation criteria in Ontario and Quebec should be provided.

Out of scope comments were referred to the Study Partners for information.

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