



Government
of Canada

Gouvernement
du Canada

Canada

NEW CHAMPLAIN BRIDGE CORRIDOR PROJECT

Technical Presentation
June 2015





Presentation Outline

1. Project Scope
2. Commercial Component
3. Technical Component
4. Financial Component



Technical Presentation

Project Scope



Project Scope





Technical Presentation

Commercial Component



Public-Private Partnership

- **P3 procurement has a number of advantages**
 - Draws on the expertise of the private sector
 - Transfers risks from the public sector to the private sector
 - Cost overruns, delays and performance problems during the term of the agreement are not paid for by the government, and thus not by taxpayers
 - Takes the life cycle of the infrastructure into consideration
 - Project costs take into account the costs of construction, maintenance, operation and rehabilitation
 - P3 projects ensure that private capital is at risk, thus imposing discipline and capital market incentives

The Private Partner is remunerated based on its attainment of performance criteria defined by Canada



General Risk Distribution

Risks and Liabilities	Assigned to SSL	Assigned to Canada	Assigned to Shared
Design and Construction	X		
Cost Overrun	X		
Timelines	X		
Acquisition of properties and real property interests		X	
Relocation of public infrastructure			X
Contaminated soil			X
Condition of assets at the end of the agreement	X		
Toll revenues		X	
Toll collection and management	X		



Commercial Details of the Project Agreement 1/4

- **Responsibilities of the private partner**
 - Project design, construction, financing, operation, maintenance and rehabilitation
- **Final Completion Date:**
 - **New bridge:** December 1, 2018
 - **Corridor:** October 31, 2019
- **Term of the Agreement**
 - Operating period of 30 years from the commissioning of the corridor, that is, until October 30, 2049
- **Operational responsibilities**
 - Highway 15 corridor: August 15, 2015 (approximately)
 - New bridge: As of December 1, 2018
 - Entire corridor: As of October 31, 2019



Commercial Details of the Project Agreement 2/4

- **Risk sharing mechanism with regard to contaminated soil**
 - Private Partner is completely responsible for removal costs up to a limit of 46,700 m³
 - Private Partner and Canada share equally in disposal costs between 46,701 m³ and 70,050 m³
 - Private Partner is responsible for disposal costs beyond 70,051 m³
- **Risk sharing mechanism with regard to utilities**
 - Private Partner is responsible for relocation of utilities
 - Private Partner is also responsible for the accurate location of buried utilities, up to a limit of 2 m, as indicated in the plans approved by Canada
- **As defined by the CSST, the Private Partner is the principal contractor for the worksite and is responsible for occupational health and safety on the worksite**



Commercial Details of the Project Agreement 3/4

- **Communications obligations of the Private Partner**
 - Establishing an Internet site and telephone line specific to the project
 - Informing citizens of all major work that could affect them (public information sessions and other mechanisms)
 - Communicating the mitigation measures implemented
- **Toll obligations of the Private Partner**
 - Design, construction and operation of tolling systems and infrastructure
 - Management of client accounts and collection of tolls (but not setting of toll rates)



Commercial Details of the Project Agreement 4/4

- **Relief Event** – Some events or circumstances could lead to an extension to the project timelines
 - General strike, natural catastrophe, act of terrorism, lack of cooperation from a public partner
- **Compensation Event** – Some events or circumstances could result in financial compensation
 - Discovery of unknown contaminated soil, hazardous materials or protected animal species, error in guaranteed engineering data or non-availability of real property
- **Authority Changes** – During the term of the project agreement, Canada may, at its own costs, request certain amendments to the project agreement
 - Amendments to technical specifications, etc.



Technical Presentation

Technical Component

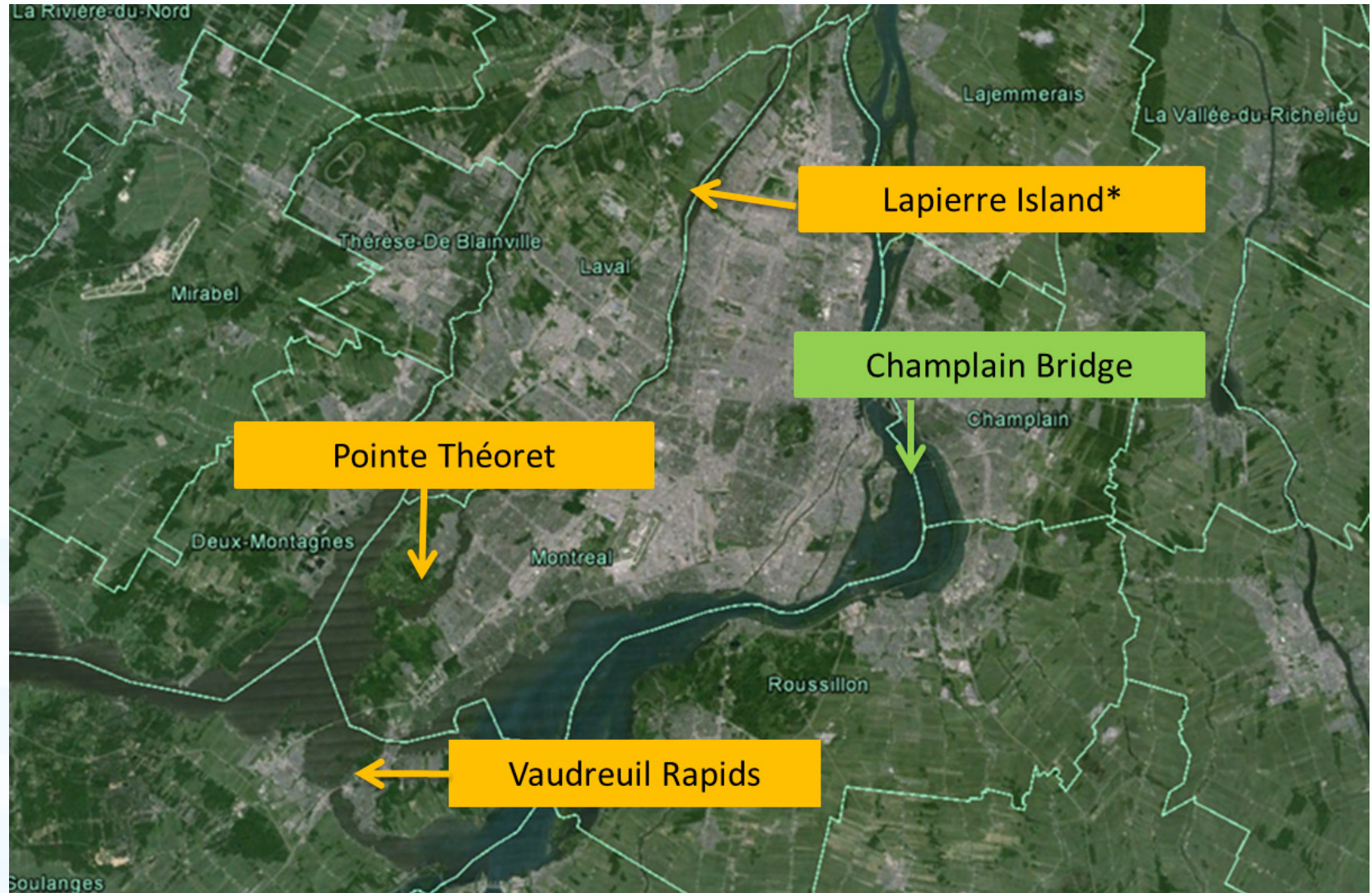


Environmental Management

- **More than 200 mitigation measures identified in the environmental assessment have been included in the project agreement**
- **Construction of the project involves compensation for the 60,600 tonnes of greenhouse gas generated during construction**
 - Tree planting
 - Purchase of carbon credits
- **Areas on both sides of Highway 15 and Highway 10 will be subject to environmental monitoring (noise and air quality) during construction**
 - Noise barriers will be installed to protect areas identified as noise sensitive
- **INFC will make arrangements to compensate for the loss of fish habitat and wetlands resulting from construction of the project**



Projects to Offset Loss of Habitat



* Choice of preliminary project, real property rights for construction of these projects is being negotiated with owners



A Few Technical Details of the Project Agreement 1/2

- **Road and architectural lighting**

- Low energy consumption - use of light emitting diode (LED) lighting
- Accent the visual quality of the bridge at night
- Minimize light pollution and ensure road safety
- Take into account the surrounding lighting, including ambient light

- **Visual quality**

- Full compliance with the specified design
- Optimization of street furniture (signs, traffic lights, etc.) to keep urban panoramas visible to users of the corridor

- **Urban integration**

- Harmonious insertion into the local urban landscape and into the project corridor as a whole
- New geometry for the Atwater interchange, to allow for full access to the Sud-Ouest and Verdun boroughs
- New layout for LaSalle Boulevard and Wellington Street
- Extension of Gaétan-Laberge Boulevard to the north to create an urban boulevard



A Few Technical Details of the Project Agreement 2/2

- **Intelligent transportation systems and traffic management**
 - Real-time management of traffic in the corridor
 - Close coordination with MTQ, JCCBI, City of Montreal and AMT traffic managers
 - Information for travellers: real-time dissemination through regular and social media and on dynamic message signs
- **Sustainability**
 - Minimal useful life of 125 years
 - Use of stainless steel rebar in concrete at locations most exposed to de-icing salt
 - Use of high-performance concrete that will be more resistant to salt penetration, resistant to freeze-thaw cycles and resistant to abrasion
 - Implementation of high-performance drainage system (channeling of drainage water)
 - Use of a three-coat, high-performance paint system for steel components



Architectural Quality

The Government of Canada has gone beyond the model framework for Canadian P3 procurements by working closely with the design community for the bridge

Launch of the process to ensure architectural quality

Architect with local sensitivity
(Claude Provencher)

**ESTABLISHMENT OF
ADVISORY COMMITTEE
ON ARCHITECTURAL
QUALITY**

World renowned architect
(Poul Ove Jensen)

Flexibility in the use of materials



DEFINITION DESIGN
=
**COMPLIANCE WITH THE VISION
FOR THE BRIDGE PRESENTED
BY MINISTER LEBEL IN JUNE
2014**



Architecture of the New Bridge

Balance between rigidity and flexibility

- *Specified design*
- *Free choice in construction method and materials*



Architecture of the New Bridge 1/2

*Position and spacing
of spans*

Minimum of 65 m





Architecture of the New Bridge 2/2

Height of tower



$\pm 5m$

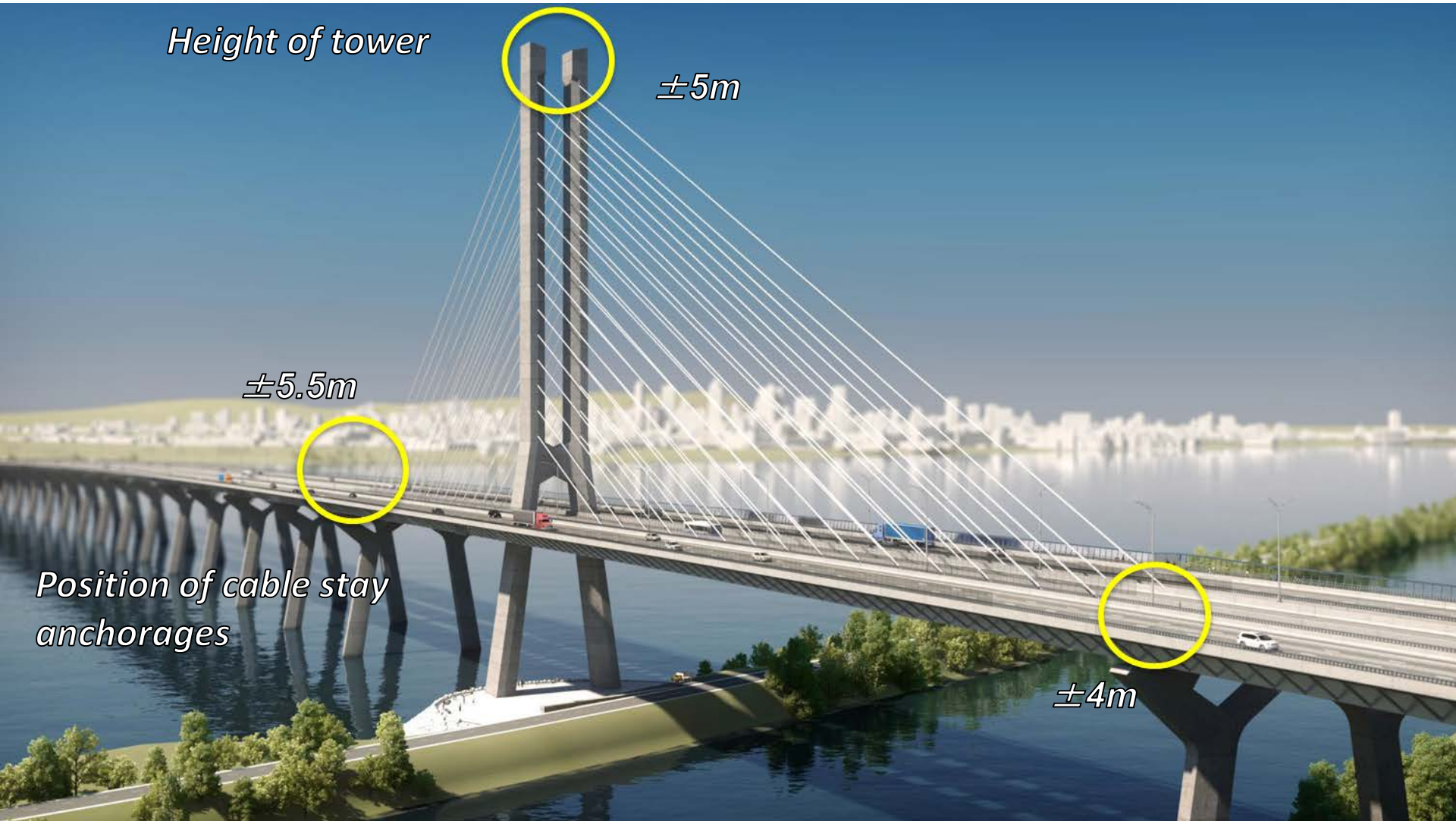
$\pm 5.5m$



Position of cable stay anchorages



$\pm 4m$





Public Transit

- The Government of Canada is working with the Government of Quebec to ensure that the central corridor meets Quebec's technical requirements in terms of public transit
- The project agreement is flexible to facilitate future decisions with regard to public transit
 - The central corridor reserved for public transit is a hybrid design which is able to accommodate buses and, potentially, a light rail system (LRT)
- The shoulders of the two roadway decks are designed to allow for bus traffic during construction of a future LRT



Central corridor





Traffic Management

- **A number of large-scale projects will be carried out simultaneously in the metropolitan region**
 - Turcot Interchange
 - New Champlain Bridge
 - Bonaventure Expressway
- **INFC and the Private Partner will work closely with all their Mobility Montreal partners to effectively coordinate the work, so as to minimize the impact on the public**
- **Establishment of the Mobility Montreal Turcot – NBSL Committee is intended to ensure strategic coordination among the various projects**



Highway 15

- Highway 15 will go from 4 to 6 lanes
- Specifications for linking the project to the Turcot Interchange are provided in the project agreement
- Appropriate planning of traffic management is provided for in the project agreement
- Urban integration coordinated with Montreal and the Verdun and Sud-Ouest boroughs



The Project will improve traffic flow and road safety, while responding to the urban integration principles expressed by the City of Montreal



Highway 10

- Improvement of ramps on the South Shore, between Route 132 and Highway 10
- Reconstruction of the A10/A15/A20 interchange to optimize entrance to and exit from the new bridge
- Planning and design coordinated with the ministère des Transports du Québec



Addition of a multifunctional path directly linking Montreal and Brossard



Property Management

- **167 properties required for the Project**
- **Majority of properties required for implementation of the project were acquired through mutual negotiation and, given the tight timeline for the Project, a certain number of properties belonging to the City of Montreal were acquired through expropriation**
 - 54 properties belonging to private parties, the JCCBI, Transport Canada and the City of Brossard were permanently acquired
 - 81 properties or rights belonging to the JCCBI, Transport Canada, Brossard, Montreal, Quebec and CN were temporarily acquired
 - 32 properties were acquired through expropriation (31 belonging to the City of Montreal and one belonging to a private party)
- **A number of rights will be returned once the Project is completed**
 - 63 properties (out of 167) will be returned once the Project is commissioned



Collaboration

- Prior to the design-construction phase, the Government of Canada negotiated agreements with:



- These agreements support the way in which the parties work together in implementing the Project

Preliminary work, such as relocation of infrastructure

Participation in the plan approval process

Terms and conditions for occupancy of the land required for the work

Making available the resources needed to support internal efforts dedicated to the Project, etc.



Technical Presentation

Financial Component



Procurement Process

- **Request for Qualifications (March 17 to May 7, 2014)**
 - 6 Respondents, representing major international firms (a total of 55 entities)
 - 3 qualified to participate in the Request for Proposals
- **Request for Proposals (July 18, 2014 to April 15, 2015)**
 - 9 series of commercial meetings with Proponents
 - 2 series of comments on drafts of the project agreement
 - February 11, 2015: Closing date for technical proposals
 - April 1, 2015: Closing date for financial proposals
- **Selection of Preferred Proponent (April 15 to June 19, 2015)**
 - April 15, 2015: Canada chooses SSL as the Preferred Proponent
 - June 19, 2015: Project agreement signed between Canada and SSL



Project Costs 1/2

- The **\$3.977 billion** Project agreement covers:
 - Project design and construction
 - Operation for a term of 30 years
 - Rehabilitation in accordance with the standards set out in the project agreement
- Costs of Project planning, development, preparation and management are estimated at **\$262 million**, which covers such aspects as property acquisition, preliminary engineering work and the project team
- Total Project costs are **\$4.239 billion**, well within initial estimates



Project Costs 2/2

Information on the cost of the NBSL Corridor Project

(Nominal value, without taxes)

Type of costs	Costs
Construction costs	\$2,246.7M
Operating, maintenance and rehabilitation costs	\$754.2M
Financing costs	\$954.2M
Cost of independent engineer	\$22.2M
Project management costs	\$66.7M
Planning and development costs	\$91.9M
Acquisition costs for properties and land	\$103.2M
Total	\$4,239.1M



Method of Payment

- **Construction costs**

- Three payments will be made when major milestones are reached:
 - \$500M when 50% of the work has been completed (Fall 2017)
 - \$700M when the bridge is commissioned (December 1, 2018)
 - \$500M when the corridor is opened to traffic (October 31, 2019)

- **Monthly Payments**

- Monthly payments will be made for the operation, maintenance and rehabilitation of the infrastructure
 - These payments will begin in August 2015 and will increase once the new bridge is commissioned in 2018 and the corridor is opened to traffic in October 2019
 - The payments are subject to indexing and are conditional on SSL's performance
- Monthly payments will also be made to cover capital and financing costs
 - These payments will be made over a 30-year period



Control mechanisms

- **Financial penalties may be issued for failure to comply with certain performance criteria, such as:**
 - **Delay in commissioning of the new bridge (December 1, 2018)**
 - \$100,000/day for the first week of delay
 - \$400,000/day after the first week of delay, up to a maximum of \$150M
 - **Delay in commissioning of the corridor (October 31, 2019)**
 - \$15,000/day, up to a maximum of \$5.5M
 - **Failure to comply with noise standards within a sensitive area**
 - \$4,000 after 30 minutes, then \$150/5 minutes for the next 120 minutes and \$300/5 minutes for subsequent minutes
 - **Degradation in quality of road surfaces**
 - \$2,000 after 60 days, then \$100/day for the next 30 days and \$400/day for subsequent days



Oversight Mechanisms

- **Various oversight mechanisms intended to ensure compliance with the established performance criteria**
 - **Independent engineer**
 - Consortium made up of Stantec and Ramboll chosen by the Private Partner and Canada
 - Oversight of all work to ensure compliance with the project agreement and provide the necessary certifications
 - Review, at various stages, of the Private Partner's design records, oversight plans and management and quality control system
 - **Reporting and auditing**
 - Financial reports and regular reports on the status of the project
 - The Private Partner must ensure that all documents are available at all times for audit by Canada
 - **Governance Structure and Organization**
 - Oversight committees established and partners participate in the process for approving plans and work
 - Established by the Private Partner in order to receive feedback
 - Production of monitoring reports for validation by Canada



Value for Money

- **Project procurement under a PPP allowed for a number of innovations**
 - The agreement allowed for an optimal balance between quality and cost, through an appropriate sharing of resources, risks and benefits
 - In addition to promoting innovation in terms of design, construction and life cycle, the project agreement provides for:
 - Measures to foster early completion of construction, including a schedule which provides for faster repayment of capital and financial investment made by the Private Partner
 - Incentives to attain established performance objectives, using deductions on service payments in the case of non-performance or non-availability, applicable during the operation and maintenance period
 - The value for money analysis demonstrates that the PPP model, for this project, results in net present value savings of approximately **33.7%** as compared to delivery of the project using the traditional method



Conclusion

- **We are convinced that the close collaboration with key stakeholders since announcement of the Project has laid the foundations for the successful completion of the work**
- **The Government of Canada will work with:**
 - SSL for the successful implementation of the NBSL Project
 - The Government of Quebec for the successful implementation of public transit on the new bridge
 - Various key partners, including the cities, to minimize the impact of the Project on the public and on traffic management



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