

Project Charter

Project: **Johnson Street Bridge Replacement**

Author: Project Steering Committee

Date: February 4, 2011

Adopted:

Background & Purpose

The Problem to be Solved

This project focuses on the replacement of the existing bridge with a more reliable, safer and more sustainable bridge with improved cyclist and pedestrian amenities.

Project or Program Background

A referendum was held on November 20, 2010 approving the borrowing of \$49.2 million for the Johnson Street Bridge replacement project. Staff have been working with the lead consultant, MMM Group, to continue detailed design work. A Project Charter is required to establish an understanding of the expected deliverables for the Project and to help guide both the City and consultant team in its management and completion.

Benefits of the Johnson Street Bridge Project include:

- Improved amenities for cyclists and pedestrians;
- Improved safety and accessibility;
- Development Institute];
- Minimal disruption to the downtown;
- Creation of approximately 900 jobs over the construction period.

Purpose of Charter

The Project Charter outlines the scope, schedule, budget, milestones, delivery strategy [for design / construction], and significant risks and mitigation strategies associated with the Project. The completion of the Project Charter will allow the team to finalize a detailed construction schedule.

Once approved by Council, the Charter will guide management of the project.

Defining Success:

Mission:

The mission of this project is to build a new bascule bridge that will provide an improved sustainable transportation link across the Inner Harbour that enhances safety, improves views to and from the Inner Harbour and the Old Town area of the City, is respectful of the Old Town design guidelines, and provides links to key existing and future trails and pathways. This is consistent with City and regional policies related to both development and transportation, and helps to support the economic vitality of the downtown with jobs created during the construction period and with minimal traffic impact to and from the downtown.

Strategic Alignment:

This project contributes to the City's strategic objectives by enhancing a vital transportation link within the City of Victoria, and the region, which also supports the economic vitality of the downtown. The following policies and bylaws indicate the importance of the bridge as part of a multimodal transportation corridor:

- a) Relative to Council's Strategic Priorities, the Johnson Street Bridge is the City's number one infrastructure priority;
- b) The City of Victoria Official Community Plan [OCP];
- c) City of Victoria *Bicycle Master Plan*;
- d) City of Victoria *Harbour Plan*;
- e) City of Victoria *Greenways Plan*;
- f) *Victoria West Transportation Plan*;
- g) City of Victoria *Pedestrian Master Plan*;
- h) City of Victoria *Harbour Pathway Plan*;
- i) Capital Regional District [CRD] *Regional Growth Strategy*;
- j) CRD *TravelChoices Long-Range Transportation Study*.

It is a key regional corridor as defined in the Capital Regional District's Long Range Transportation Strategy (known as TravelChoices) and is a major transit corridor for BC Transit.

Indicators of Success:

The success of the Project will be based on:

- Completion of the project within established parameters;
- Improved alternative transportation amenities;
- Value of the project for the investment;
- Improved safety and reliability;
- Improved crossing experience, particularly for pedestrians and cyclists;
- Short-term job creation;
- Reduced annual maintenance and operating costs;
- Rail corridor preserved;
- This becomes a model for future City projects.

Stakeholders who will help in determining the Project's success include Council; Victoria residents and businesses; bridge users; funding partners; industry; and the Project Team. To help in assessing the level of success, it is proposed that the City undertake an outreach program with stakeholders [i.e., residents, businesses, bridge users, funding partners and industry] during the project.

Defining the Scope:

In Scope:

The scope of work or deliverables for this Project include:

- Construction of a new bascule lift bridge to a lifeline seismic standard;
- 3 travel lanes;
- On-road bike lanes in both directions on the bridge deck;
- Multi-use trail for both pedestrians and cyclists;
- Separate pedestrian pathway on the south side of the bridge;
- New signalized intersection at Esquimalt Road / Harbour Road;
- Links to existing and future pathways and trails;
- Marine navigation channel to modern standards;
- Improved road approaches on both sides;
- Improved safety and accessibility;
- Preserved rail corridor for future use;
- Relocated rail station on the west side;
- Utility relocations;
- Decommissioning of existing bridges;
- Landscaping; and
- Public art.

Scope Exclusions:

The following are excluded from the project scope of work – rail bridge; development, servicing or enhancement of adjacent properties; construction of the future Harbour Pathway north or south of the bridge; and construction of the future E&N Rail Trail.

Defining Budgets, Timelines & Assumptions

Budget:

The cost of designing and constructing the new bridge is estimated at \$77 Million [without rail], and assuming no change to current economic conditions and specifically steel prices and availability of qualified labour. This is a Class “C” cost estimate as provided in June 2010 and includes a contingency of 15% as recommended by the MMM Group [which was also peer reviewed by Stantec]. This bridge contains a significant portion of steel, which represents approximately 40% of the current estimate. Cost control measures are to be employed to track and monitor the budget.

Funding for the Project is as follows:

- \$49.2 million – City borrowing
- \$6.8 million – Reprioritization of City capital projects and other internal sources
- \$21 million – federal Contribution Agreement

TOTAL \$77 million

Timeline:

The schedule for this project considers the time required for detailed design; steel manufacturing and fabrication; bridge assembly, erection and testing; and construction of the piers, abutments and approaches. The project must be complete by no later than March 31, 2016, which is the end of the federal Building Canada Fund. This must also consider the necessary coordination with federal fisheries work windows which occur during the period July 1 to February 15 annually. This is the period when in-water work in the harbour can be conducted.

External Dependencies:

The following are external dependencies related to the completion of this Project, most of which are not directly controlled by the Project Team.

1. Fisheries restrictions for active work in the water
2. Regulatory requirements
3. Utility relocations
4. Construction economy and availability of resources and affordable materials
5. Competing projects in Western Canada and elsewhere for critical resources
6. Global steel market

Assumptions:

The Project's scope, schedule and budget for completion assumes the following:

1. Economic situation does not change dramatically
2. Steel prices do not significantly increase
3. Qualified Contractors are available and interested in the project
4. Few changes in site ground conditions
5. Utilities will be relocated on time and within budget
6. Coordination with fisheries windows to minimize delay construction
7. Steel materials and fabrication resources are available
8. Rail bridge decommissioning will be completed on time and within budget
9. Existing bridge decommissioning can be achieved in a reasonable, sustainable and affordable way to meet the project schedule
10. Decisions are made on time according to schedule

Project Team

The Project Team consists of the Johnson Street Bridge Project Director, Mike Lai, who has been assigned to this project. In addition, the Project Team will be supported by professional expertise within City departments and key staff in areas of engineering, finance, procurement, legal, risk management, internal auditing, communications, and other areas as required. The project management organizational structure is outlined in Appendix A.

The team will also be supported by Dr. Francis Hartman, has had over 30 years of international experience in management projects and in both capital and related projects in industry. Dr. Hartman joined the University of Calgary in 1991 as Director of Project Management Specialization and recently retired from the university. In addition to his project management work at University of Calgary, he has been Adjunct Professor at the University of Toronto and University of BC. Dr. Hartman is currently the President of Quality Enhanced Decisions Inc. and has held various executive positions in industry. Dr. Hartman will provide valuable expertise in project management processes for the team.

Dr. Hartman has won awards for his instructional abilities, is a renowned international speaker, and has collaborated extensively with other universities around the World including Vienna, Manchester (UK), University of California, Berkeley, UMEA (Sweden), Helsinki, Tel Aviv, Sidney, and Melbourne. Academically, Dr. Hartman's contributions through journal articles, books, chapters, invited papers, presentations, conference proceedings, and reports number well over 220 over the past decade. Dr. Hartman is an Editorial Board Member with various Journals in North America and a past and present member of several journals' boards. Dr. Hartman is currently working on his fifth book.

The project team will have professional engineering support during the project from the lead consultant, MMM Group, a large multidisciplinary consulting firm. This includes support from sub-consultants [geotechnical, structural, mechanical / electrical, quantity survey, bridge architecture, landscape architecture] to the MMM Group during each phase of the project – project initiation, design, construction, and completion. The MMM Group has experience and expertise relating to moveable bridges. In addition, the consulting team can provide the City with recommendations related to design-assist procurement as well as general contractor procurement.

Project Magnitude, Management & Accountability

Project Magnitude Issues, Observations & Comments

1. This is one of the largest infrastructure projects undertaken by the City of Victoria.
2. There are numerous stakeholder groups with diverse interests.
3. The project will engage numerous and diverse disciplines with different perspectives including engineers, lawyers, procurement specialists, accountants, risk managers, project management specialists, architects, communications specialists and more.
4. The City will engage future (not yet identified) contractors.
5. The Urban Development Institute has indicated that with the new bridge, an estimated \$0.5 billion in development activities would not be impacted

6. Not completing the project would impact many citizens and would be very visible to the public.
7. The global economy is potentially recovering and may lead to a large number of pending projects starting in the same timeframe as this project.
8. An inter-departmental project team will be required to set this project up for success and make sure that it is delivered as effectively as possible.
9. Some additional support will be required by the dedicated team from professional expertise within the City of Victoria staff, including legal, risk, audit, procurement, engineering, communications and other advice.

Management & Accountability Approach

Accountability Structure

The accountability structure for this Project is outlined in Appendix A.

Progress Reporting

Formal reporting will be quarterly in a summary report to the Steering Committee and Council in addition to more specific reports at key milestones and decisions [see Appendix B for timeline estimates]. The Steering Committee is comprised of the City Manager as Chair, General Manager of Operations, General Manager of Corporate Services, and Director of Corporate Communications.

Informal reporting will be through regular weekly meetings of active project team members or their representatives.

The internet will be used to keep both staff and the public informed of developments on this project.

Regular reports and updates to the public will be posted on the project website. In addition, communities will be informed of pending work that may affect them.

Internal project documentation will provide for regular monthly status reports.

Change Management

Significant scope changes will be approved by the Steering Committee [i.e., changes to the items listed under Scope, but within the contingencies and / or escalation provided in the project budget]. Changes that fundamentally alter the mandate of this Charter will be presented to Council for final approval [i.e., change to the deliverables listed under Scope].

The City Johnson Street Bridge Project Director will have authority to make decisions critical to maintaining construction momentum.

Quality Assurance

The prime consultant will be the MMM Group who will be responsible for the overall design integrity of all the Works to be undertaken under this contract. The prime contractor, when

appointed, will be responsible for compliance with the design intent as set out in the documents prepared by the MMM Group. The quality assurance program will deliver regular reports during fabrication and construction in a form agreed to by the City project team.

Cost Management

A project control budget will be developed. Costs will be monitored and compared to actual work completed prior to the City authorizing payment. Actual costs will be reported against a baseline using an appropriate project costing software package. Estimates at completion will be updated in conjunction with the schedule and cash flow forecasts. Risks will be reassessed and potential impact will be used to assess cost and schedule impacts. A contingency fund management plan will be put in place.

Public Engagement

Key policy decisions to date regarding scope and funding to address the Johnson Street Bridge have been informed through extensive public input. Public interest in this project is expected to be high throughout construction and will require considerable information sharing and consultation with the community to minimize impacts and communicate progress and challenges.

Guiding Principles

- Throughout construction, the City will provide the public with balanced and objective information and where necessary will obtain public feedback on analysis, alternatives and/or decisions.
- Where further input or involvement is required, public and administrative advisory committees will be utilized.
- Those affected directly by construction will be consulted on mitigation strategies.
- The project and the engagement process will continue to be informed by the input collected and understanding established within the earlier phases of bridge project.
- The public engagement process will support the overall project budget and timeline

Public Engagement Values

- The project will continue to be guided by the Council endorsed Core Values for the Practice of Public Participation.
- Public participation is based on the belief that those who are affected by a decision have a right to be involved in the decision-making process.
- Public participation includes the promise that the public's contribution will influence the decision.

- Public participation promotes sustainable decisions by recognizing and communicating the needs and interests of all participants, including decision makers.
- Public participation seeks out and facilitates the involvement of those potentially affected by or interested in a decision.
- Public participation seeks input from participants in designing how they participate.
- Public participation provides participants with the information they need to participate in a meaningful way.
- Public participation communicates to participants how their input affected the decision

Public Engagement Objectives:

The four phases of the project will focus on information and consultation levels of the public participation spectrum.

	Inform	Consult	Involve	Collaborate	Empower
Public participation goal	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.
Promise to the public	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.
Example techniques	<ul style="list-style-type: none"> ▪ Fact sheets ▪ Web sites ▪ Open houses 	<ul style="list-style-type: none"> ▪ Public comment ▪ Focus groups ▪ Surveys ▪ Public meetings 	<ul style="list-style-type: none"> ▪ Workshops ▪ Deliberative polling 	<ul style="list-style-type: none"> ▪ Citizen advisory committees ▪ Consensus-building ▪ Participatory decision-making 	<ul style="list-style-type: none"> ▪ Citizen juries ▪ Ballots ▪ Delegated decision

Risk Management

Risks will be reviewed and updated on a regular basis to reflect the current understanding of risks and uncertainties as actual events occur.

Design & Contracting Strategy

Since receiving public approval to borrow the funds necessary to replace the Johnson Street Bridge, the staff and consulting team have been further exploring various construction methods (design-bid-build, design-build and design assist) to identify the most suitable to this project based on the project scope, timelines, and risks.

Due to the quantity of steel required for the new bridge, the ability to finalize detailed quantity surveying and estimating early in the project will expedite the ordering of steel, a noted external cost and timeline risk.

The “design assist” method is the recommended construction management approach for advancing the Johnson Street Bridge project.

Design Assist is a collaborative team-oriented project delivery method that capitalizes on the benefits of early engagement of design assist subcontractors. The major benefits of the Design Assist Delivery Method are faster project delivery; elimination of costs caused by inefficient and un-constructible designs, improved design document coordination, better control of the effects of design creep on the budget, and best value options and systems analysis.

Design Assist allows designers and contractors to work as a collaborative team in the design phase, enabling them to detect and resolve design problems and constructability issues prior to construction. The net result is a reduction in design errors and omissions costs through corrective changes incorporated during the design phase. This helps greatly reduce design related Requests for Information [RFI's] during the construction phase when they are more costly and time delaying. The Design Assist process results in a well thought out and pre-coordinated design that will improve the efficiency and quality of the construction installation.

By selecting Design Assist subcontractors early and allowing them to collaborate with the project team during the design, many activities related to construction pre-planning can be completed earlier than in a traditional design-bid-build or design-build delivery method. Faster delivery, or a higher level of certainty in delivery, is intended to provide certainty to project timeline and cost.

When the General Contractor is retained, the steel design assist and fabrication contract is to be assigned to the General Contractor as a nominated subcontractor for final assembly of the bridge.

Key Council Milestones & Decision Points

Key Council Decisions:

The project will be completed in 4 phases – Project Initiation, Design, Construction and Completion. Key milestones and decisions for Council are shown on the attached diagram [Appendix B], which include project updates and key decision points for Council. The key decision points for Council include:

1. Project Charter [Project Initiation Phase] – Council approval of the Charter is required to allow the Project to continue moving forward. This gives the project team the mandate to deliver the Project. [February 2011]
2. Unit Price for Steel Supply [Design Phase] – When preliminary design has been completed, a Request for Proposal [RFP] will be issued to retain a shop fabricator and to secure unit prices for steel. Once a fabricator joins the design team, the production of shop drawings can commence. Staff will bring forward a report when steel unit prices have been received for the Project. If prices significantly exceed the available budget, Council may need to consider alternatives such as for example, modifying the navigation channel width, reviewing land opportunities or reprioritization of City capital projects. [late Fall 2011]
3. Proposals for General Contractors [Construction Phase] – staff intend to bring forward a report after proposals for a general contractor have been received and a recommendation is to made. If prices for a general contractor significantly exceed the available budget, Council will need to consider alternatives. [Winter / Spring 2011/2012]
4. Project Celebration [Completion Phase] – Winter 2014/2015

In addition to quarterly updates on the status of the project, Council will also be updated on the following [see Appendix B]:

- Completion of preliminary design;
- Confirmation of approach structure material;
- Completion of detailed design;
- Completion of mechanical / electrical systems and installation of bascule bridge; and
- New bridge ready to accept traffic

Identifying Major Risks & Mitigation Strategies

The presence of many risks are typical of a construction project and are generally manageable (e.g., lengthy gap between construction disciplines on project – better coordination or scheduling; conflicting instructions from client’s staff to contractor – designate single point of contact between client and contractor; supplier is short of material for project – engage another supplier, etc.). These can typically be managed with the use of appropriate cost control measures and project management techniques.

For this project, there are several major risks that could potentially have a significant impact on budget and/or schedule. Some can be directly controlled or influenced by the project team, whereas some are not and depend on market conditions. Steel represents a significant portion of the bridge material and cost (approximately 40% of construction cost) and is influenced by market demand. It will be important to employ the mitigation strategies outlined below to help reduce risk.

Major Risks

Mitigation Strategies

1. Steel prices are affected by global economic drivers	1. Secure steel unit prices as early as possible by retaining shop fabricator on the design-assist team
2. Market conditions for construction may change	2. Secure general contractor as early as possible to work with the design-ssist team
3. Competing projects draw resources and contractor interest away from this project	3. Same as above
4. Actual site conditions vary significantly from expected	4. Undertake additional geotechnical investigation work to determine the extent and condition of harbor bedrock
5. Significant delay in utility relocations	5. Work towards cooperative and coordinated work with external utilities

As discussed under “Design & Contracting Strategy”, the “design-assist” procurement strategy is a collaborative team approach that allows design efficiencies and synergies to be created within the team to help reduce cost and timelines related to the design process compared to the traditional [sequential] design-bid-build method. This provides the opportunity for a proactive and value-added design approach. This is being considered to help shorten the timeline for both detailed design and production of shop drawings for the steel material, as compared to the traditional delivery approach. This approach has been used in other projects such as the expansion of the Edmonton International Airport.

Undertaking this work earlier also allows the City to engage a qualified general contractor sooner.

In the event that major risks do emerge and the relevant mitigation strategies identified earlier are not effective, the following cost saving opportunities could be considered:

1. Reducing the navigation channel width;
2. Reviewing land opportunities related to the Project;
3. Phasing or reducing landscaping;
4. Reprioritization of other City capital projects
5. Others

Should this become necessary, staff would report back to Council prior to finalizing any considerations.

Getting Overall Project Plan Approval:

Mike Lai, P. Eng.
JSB Project Director

Date

Katie Josephson,
Director of Corporate Communications

Date

Jocelyn Jenkins,
A / General Manager of Corporate Services

Date

Peter Sparanese, P. Eng.
General Manager of Operations

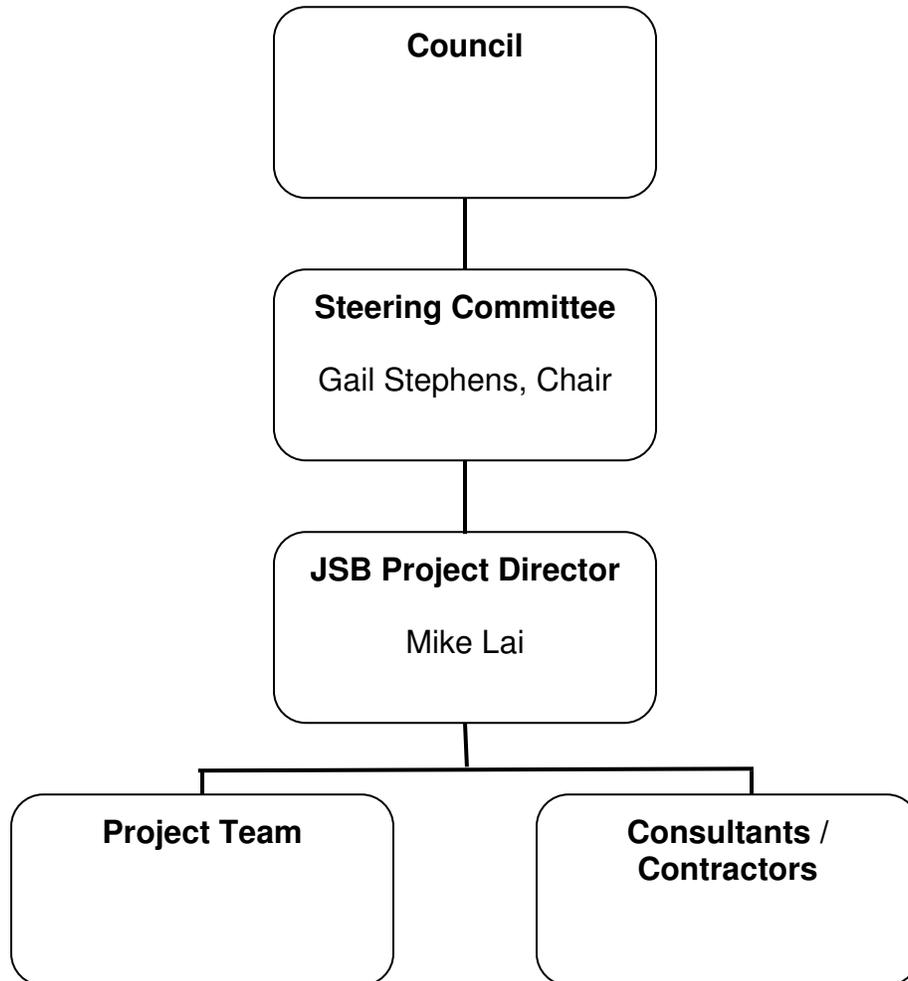
Date

Gail Stephens , City Manager
Sponsor

Date

Appendix A

Johnson Street Bridge Project Accountability Structure



NOTE: Referrals to public and administrative advisory committees will be made as necessary.

Appendix B

Appendix B Johnson Street Bridge Project Key Milestones & Council Decisions

Phases	Project Initiation	Design	Construction	Completion	Bridge Decommissioning	End of Program Funding
Timing	Feb 2011	Early Fall 2011	Winter/Spring 2011/2012	Summer 2013	2015	Mar 2016
Council Decision	Project Charter	Design Assist Contract Award (Unit Price for Steel)	General Contractor Award	Project Celebration		
Council Update (info only)		Preliminary Design Completed (Steel Quantity)	Steel & Precast Approach Structure	Complete Detailed Design	Bascule Bridge Installed & Mechanical / Electrical Complete	New Bridge Open to Traffic

Note: The estimated timeline is based on information as of January 2011.

Formal update reports to council will occur on a quarterly basis.