Minute No. 400
Report - Executive Policy Committee - May 7, 2008

Item No. 4 **Disraeli Freeway Rehabilitation Project – Constructing using a Design / Build / Finance / Maintain Model**
(Point Douglas, Mynarski and Elmwood-East Kildonan Wards)
File SB-3

COUNCIL DECISION:

Council concurred in the recommendation of the Executive Policy Committee and adopted the following:

1. That the Winnipeg Public Service be authorized to proceed with the Disraeli Bridges Rehabilitation Project based on a Design/Build/Finance/Maintain delivery model and that the Chief Administrative Officer be authorized to approve and issue the Request for Qualifications and the Request for Proposals for the Project.

2. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

Report - Executive Policy Committee - May 7, 2008

DECISION MAKING HISTORY:

Moved by His Worship Mayor Katz,

That the recommendation of the Executive Policy Committee be adopted.

The motion for the adoption of the item was put.

Councillor Gerbasi called for the yeas and nays, which were as follows:

Yea: His Worship Mayor Katz, Councillors Browaty, Clement, Fielding, Leipsic, Nordman, Pagtakhan, Steeves, Swandel, Wyatt and Lazarenko. 11

Nay: Councillors Gerbasi, Smith, Thomas and Vandal. 4

and the motion for the adoption of the item was declared carried.

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On May 7, 2008, the Executive Policy Committee concurred in the recommendation of the Winnipeg Public Service and submitted the matter to Council.

RE: DISRAELI BRIDGES REHABILITATION PROJECT – CONSTRUCTING USING A DESIGN/BUILD/FINANCE/MAINTAIN MODEL

FOR SUBMISSION TO: **EXECUTIVE POLICY COMMITTEE**

ORIGINAL REPORT SIGNED BY: **CHIEF FINANCIAL OFFICER**
DIRECTOR OF PUBLIC WORKS

REPORT DATE: **May 2, 2008**

RECOMMENDATION:

1. That the Public Service be authorized to proceed with the Disraeli Bridges Rehabilitation Project based on a Design/Build/Finance/Maintain delivery model and that the Chief Administrative Officer be authorized to approve and issue the Request for Qualifications and the Request for Proposals for the Project.

2. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

Report Summary

Key Issues:

- The City of Winnipeg engaged Deloitte & Touche LLP (Deloitte) through RFP 222-2007 to review several projects identified in the City's 2008 Capital Budget, including the Disraeli Bridges Rehabilitation Project.

- A business case and preliminary value for money (VfM) analysis was carried out for the Disraeli Bridges Rehabilitation Project

- Deloitte advise that the Disraeli Bridges Rehabilitation Project is suitable for a Design/Build/Finance/Maintain (DBFM) project delivery model. They also advise that the Outline Business Case shows that value for money is favoured by this model. This value for money calculation is sensitive to numerous estimates of the costs of risks that the City retains under the traditional Design/Bid/Build (DBB) procurement, and the assumptions about the acceptance of those risks by the private sector.

- The preliminary VfM compares favourably with other Canadian bridge projects completed using this delivery model.

- On the basis of the information and detailed analysis of the project carried out by Deloitte, they recommend that the project should be delivered using a DBFM model.

- Both Corporate Finance and Public Works Departments concur with this recommendation based on the cost submitted by the Public Works Department in the 2008 Capital Budget.

Implications of the Recommendation(s):

General Implications

( ) None

(X) For the organization overall and/or for other departments

( ) For the community and/or organizations external to the City

() Involves a multi-year contract

Comment(s): Delivered using a DBFM model, it is expected that the successful proponent would expect payments over a 30 year period.

Policy Implications

(X) No

( ) Yes

Comment(s): Departs from the traditional method of project delivery historically used by the City of Winnipeg.

Regulatory Implications

(X) None

( ) Eliminates or reduces regulatory impact

( ) Proposes regulatory impact

Comment(s):

Environmental Implications

(X) No

( ) Yes

Comment(s): No environmental impact is anticipated at this time. Evaluation criteria for the selection of the successful proponent will include a review to ensure that their methodology will minimize any environmental impact.

Human Resources Implications

(X) No

( ) Yes

Comment(s):

Financial Implications

(X) Within approved current and/or capital budget

( ) Current and/or capital budget adjustment required

Comment(s): The outline business case shows that value for money is favoured by the DBFM model. The Public Service is recommending to deliver this project as presented in the 2008 Capital Budget.

Report

REASON FOR THE REPORT:

To recommend a suitable procurement strategy for the delivery of the Disraeli Bridges Rehabilitation Project. This is in accordance with Recommendation No. 4 in the approved 2008 Annual Capital Budget and the 2009 to 2013 Five-Year Capital Forecast.

HISTORY:

The Disraeli Freeway was completed in 1960 to connect Henderson Highway with Main Street, providing a vital link between the downtown and the northeastern portion of the City. It includes the Disraeli Bridge and Overpass which were opened in 1959 and 1960 respectively. The Disraeli Bridge is approximately 319m long and spans the Red River as well as Midwinter Avenue, Rover Avenue and Gladstone Street. The Disraeli Overpass is approximately 388m long and spans the CPR Mainline as well as Sutherland Avenue and Higgins Avenue. In total, there are 30 spans with an overall structure length of 707m.

The structures carry about 40,000 vehicles per day on four lanes. Originally built with an open grid steel deck, the deck has since been in-filled with concrete in 1972 and a concrete safety-shape median barrier constructed in 1978.

In 1984, the bridge was asphalt resurfaced and several repairs were undertaken including modifying girder jacking beams, repositioning rocker bearings, anchoring abutment expansion joints, concrete sidewalk repairs, new slope paving, and roadside safety improvement in the vicinity of the Bridge and Overpass.

The major problems leading to the need for rehabilitation of the structure are superstructure related. Not only has the deck deteriorated due to corrosion and weld failures but the underlying structural steel support members are also corroded and perforated and the concrete substructure units are deteriorating due to exposure to chloride de-icing chemicals. Deterioration of the structures has progressed more rapidly than expected.

An Engineering Study was commissioned in January, 2006 to examine the existing condition to define the scope of repair work and identify rehabilitation alternatives, in order to ensure the safe reliability of the facility.

The engineering study includes a condition assessment of the existing facility, determination of conceptual rehabilitation alternatives and a preliminary design of the recommended rehabilitation project. In December, 2006 the engineering consultant submitted the Conceptual Design and Condition Assessment Reports. The recommended rehabilitation work involves refurbishment of the bridge foundations and steel girders, replacement of the existing bridge deck and rehabilitation of approach roadway from Main Street to Hespeler Avenue. Based on the results of the engineering consultant's condition assessment of the facility, the consultant recommends that construction be scheduled within five years. The rehabilitation work requires total closure of the facility for approximately 16 months.

As the outcome of input and feedback received from a group of key stakeholders during public consultation stage 1, there are three rehabilitation concepts under consideration involving replacement of the existing bridge deck with a four-lane divided roadway. Three deck width options are proposed for accommodating pedestrians and cyclists.

The three rehabilitation concepts will be shown to the general public to solicit input and feedback. This broad public input, stage 2 of the public consultation process will occur in the spring 2008. The engineering consultant will take into consideration input and feedback obtained from the stage 2 broad public consultations in completing their preliminary design report for the recommended rehabilitation concept for consideration by Council this summer.

DISCUSSION:

Traditional Construction Delivery Model

The City has traditionally delivered projects using a Design/Bid/Build (DBB) model in which the design and construction are done separately. In this model the City retains all the project risks which sometimes result in significant cost and time overruns on City projects.

Methodology to Review Construction Delivery Models

The procurement strategy for the delivery of the Disraeli Bridges Rehabilitation Project has been assessed and an Outline Business Case has been prepared by Deloitte. The process which they followed to establish that there is a sound business case for the use of DBFM for the delivery of the Disraeli Bridges Rehabilitation Project is considered to be industry best practice. The process is summarized as follows;

- Deloitte completed a thorough and detailed review of the Disraeli Bridges Rehabilitation Project using the documentation available from the Public Works

Department and the conceptual design work carried out by the City's engineering consultant.

- A qualitative risk workshop was conducted with the aim of obtaining the City's view on the risks the project faces, and the ability of four delivery models to mitigate those risks. This workshop was attended by members of the Public Service's P3 committee and staff from the Public Works Department. It was identified through the risk analysis that a DBFM model presented the best risk profile for the project.

- During the risk assessment, refurbishment was examined in detail. It was considered that the reuse of existing bridge components could present a latent defect risk that may dissuade bidders. It was decided to include this specific question in a market sounding to obtain feedback prior to making a final decision on the proposed procurement method.

- A market sounding was carried out to obtain an indication of the markets receptiveness to the project and to obtain some input relative to the rehabilitation aspect and the project procurement process. Seven companies comprising local, national and international firms from both the construction and finance sector of the market were surveyed. All have experience in bridge construction and rehabilitation projects. From this exercise it was identified that, even considering that this is a rehabilitation project the project scope, size and proposed procurement process would attract interest of organizations in the market globally.

- Case studies were carried out to identify similar projects that identify a stream of successful DBFM construction projects. These included four new bridge constructions and one hospital.

- The project delivery schedule was reviewed and a comparison between traditional DBB and DBFM delivery methods were made. Utilizing either the DBB or DBFM delivery model, the targets are achievable.

- Based on Deloitte's analysis of all the information collected the project delivery options were evaluated and compared against the City's objectives and the preferred option was identified to be the DBFM model.

- To reinforce the outline business case for the preferred option an indicative value for money analysis (VfM) was derived from the available information. This indicated that VfM would be achieved using a DBFM model.

- The conclusion of the outline business case prepared by Deloitte is that it is recommended that the City pursue a DBFM for the delivery of the Disraeli Bridges Rehabilitation.

Design/Build/Finance/Maintain Construction Model

In the DBFM delivery model the proponent provides a complete turnkey solution. Normally the proponent is a consortium consisting of a financier, designer, contractor and maintenance provider. The consortium is responsible for financing, designing, constructing and maintaining the project over a specific period.

Using this model the City transfers the design, construction and maintenance risks as well as market and time related risks to the consortium which provides greater cost certainty to the City.

The City pays a premium, for the risk transferred, to protect against the significant costs associated with the risks, much like an insurance policy.

Preliminary Value for Money Analysis

To reinforce the Outline Business Case for the preferred option a preliminary value for money analysis (VfM) was carried out using the information collected and Deloitte's experience on similar value projects. To do so, a risk adjusted public sector comparator (PSC) is calculated. What this entails is taking the anticipated discounted cash flows associated with the traditional construction model, including estimates of the cost of risks associated with this method. For this particular case, the PSC was derived from the estimated cost developed by the City's engineering consultant during the conceptual design. It was then adjusted for the risk retained under this model, based on the current project estimated probable cost plus an addition for risk relating to Policy, Design, Construction and Lifecycle. Each of these risks was subdivided and an estimated value and probability of occurrence for each of the subdivided risks was input into a Monte Carlo Simulation program.

The risk adjusted PSC is then compared against the discounted cashflows associated with the DBFM model to determine the preliminary VfM. For this particular project, the preliminary VfM favours the DBFM model. The preliminary VfM for this project is estimated to result in cost savings of up to 16%.

The conclusion of the Outline Business Case prepared by Deloitte is that it is recommended that the City pursue a DBFM for the delivery of the Disraeli Bridges Rehabilitation Project. This should be achieved through a two stage procurement

process starting with the issue of a Request for Qualifications to select the three or four best qualified proponents to be issued the subsequent Request for Proposal.

The Outline Business Case has primarily been established from analysis of documentation, discussion with City staff and workshop feedback, which established that DBFM model should be pursued. There are, however, two areas of the outline business case that required Deloitte to use their judgment based on their experience. These are the preliminary value for money assessment and the schedule comparison.

It should be noted that the DBFM capital cost has not been reduced to account for the private sector efficiency and the ingenuity to account for the constraints created by a rehabilitation project, although such cost reductions under this model are not uncommon.

The outline schedule was reviewed and even with the longer procurement phase anticipated for the DBFM delivery, the project should be delivered within the same timeframe as the conventional Design/Bid/Build.

The use of a DBFM model for the Disraeli Bridges Rehabilitation Project delivery is not expected to have any direct impact on City staff.

The maintenance part of the DBFM would include the physical maintenance of the asset i.e. the deck and structure. Maintenance would not include snow clearing and cleaning which the City is best placed to carry out.

The Outline Business Case identifies that the use of a DBFM model will provide value for money to the City. During the development of the project, and as part of the project plan, the business case and preliminary VfM must be updated at key points. This will provide transparency and ensure that VfM is being achieved, particularly when bids are received and the VfM can be recalculated using real costs in place of estimates, and when the associated costing of project risks are quantified by an expert panel. It is likely that the VfM will vary from the amount indicated in the Outline Business Case as the input information is refined. It is, however, unlikely that it will change to the extent that VfM is not being achieved.

In the current volatile construction market and bearing in mind the City's previous experience with significant budget overruns on multi-year capital projects, along with the Public Works Department's lack of resources, it is probable that the final project cost will be more than originally budgeted and at risk for timely delivery. This is a significant risk that justifies the premium for using a DBFM model.

It should be noted that this infrastructure investment will be made up of a combination of private sector equity and debt financing. In the preparation of the Outline Business

Case, a typical financing structure for a project such as this produced an effective financing cost to the City of 6.9%. A second financing structure, requiring greater private sector equity with a higher return to the investor, produced an effective financing cost to the City of 7.6%. This second structure was produced to consider the developing issue within current global capital markets. If the City were to construct this under a traditional approach and debt finance this project on its own requiring the City to borrow in two to three years time, the rate that the City could borrow at is estimated to be 6%.

This acknowledges the fact that the City can finance this project for a lower cost under traditional methods than the proposed DBFM. However, this assessment cannot be made in isolation and must consider the positive impacts on the Outline Business Case of a private sector financier. A significant part of the VfM is because the private sector financier has a vested interest in delivering the project on time and on budget. The Outline Business Case indicates that the value associated with this risk transfer exceeds the additional financing costs associated with this proposal.

Other Risk Considerations

The Disraeli Bridges Rehabilitation Project is a refurbishment which adds some specific risks relating to the condition of the existing structure, particularly when these components have to be retained. In the case of the Disraeli Bridge some of the piers and girders are to be retained. A market sounding was conducted to gauge how prospective proponents viewed the risks associated with these components. The consensus was that provided the City made the details of their own investigation available during the procurement process and allowed proponents access to conduct their own testing, then proponents would accept the risks based on them covering off what work they deem necessary in their proposal including their bid.

Public Works and Corporate Finance Departments' Recommendation

Corporate Finance and Public Works Departments recommend that the City pursue the DBFM model for the project delivery and subsequent maintenance of the Disraeli Bridges Rehabilitation Project. This recommendation is predicated on the information contained in the outline business case and preliminary VfM which identifies that the City would likely achieve savings using the DBFM model.

Financial Impact Statement Date: May 2, 2008

The outline business case shows that value for money is favoured by the DBFM model. The Public Services is recommending to deliver this project as presented in the 2008 Capital Budget.

Original signed by
Carrie Erickson
Manager of Finance & Administration

IN PREPARING THIS REPORT THERE WAS:

Internal Consultation With and Concurrence By:

Corporate Finance Department

Public Works Department

External Consultation With:

Deloitte and Touche LLP.

THIS REPORT SUBMITTED BY:

Department	Corporate Finance	Public Works
Division.	Corporate Controller's	Engineering / Project Delivery
Prepared by:	Henry. S. Hunter P.Eng.	Bill Ebenspanger P.Eng.
	Manager, Capital Projects	Project Manger

File No.

ATTACHMENT

Deloitte and Touche LLP., Analysis of Private Sector Involvement for the Disraeli Bridge



Executive Summary - Analysis Private Sect

Deloitte.

MMM GROUP

Financial Advisory

City of Winnipeg

Analysis of Private Sector involvement for the Disraeli Bridge

Executive Summary

February 18, 2008

Background

The Need to Rehabilitate the Disraeli Bridge

The Disraeli Bridge was first constructed in 1960. In 2005, the City of Winnipeg ("City") commissioned a conceptual design study (the "Study") to examine corrosion of the structural steel, the piers of the overpass, and to a lesser extent the bridge deck. In addition to the structural evaluation and load rating, the Study included a transportation assessment, an in-service road safety audit, an architectural and universal design review, a hydraulic and geotechnical review, and a municipal review (utilities). The results of the Study revealed:

- Widespread and significant corrosion of the structural steel at the outside edges of the deck and beneath the open deck joints;
- Severe scaling and spalling of pier and deck concrete with advanced corrosion of the reinforcing steel adjacent to and beneath the open deck joints and along the outside edges of the deck;
- The deck expansion joints, traffic barriers and pedestrian handrails were in poor condition, and widespread rust jacking was evident under the previously installed girder strengthening steel cover plates;
- Significant problems with future traffic capacity, safety concerns for interchange access, barriers, vulnerability of pedestrians and cyclists, and street lighting;
- Universal design concerns regarding narrow sidewalks, tripping hazards, awkward access, lack of bicycle lanes, a lack of separation between roadway and sidewalk, and poorly located or dangerous crossings;
- The need to protect the natural riverbanks with a rock-fill riprap blanket; and
- Existing property constraints made redesign impossible.

The Study recommended an option (the "Rehabilitation") that incorporates minimum rehabilitation requirements and involves replacing the deck, reconfiguring the traffic lanes, providing a concrete median barrier, separating pedestrians from traffic with a concrete barrier, and providing a sidewalk on the east side only, for both structures, under total closure conditions. The preferred option is also the cheapest. This option does not involve replacing any of the existing girders.

Purpose of This Report

Studying the Possible Role of the Private Sector in the Rehabilitation

In 2007, Deloitte & Touche LLP ("Deloitte") and the MMM Group ("MMM") were engaged (the "Assignment") to advise the City on the suitability of utilizing private sector expertise (the "Private Sector") to finance, design and build the Rehabilitation through the use of a Public-Private-Partnership ("PPP"). The results of this Assignment are provided in the detailed report titled *"Analysis of Private Sector Involvement in the Rehabilitation of the Disraeli Bridge, Final, February, 18, 2008"* (the "Disraeli PPP Report"). This report (the "Executive Summary") provides a summary of the Disraeli PPP Report.

Methodology Used to Complete the Assignment

Figure 1 presents the three stepped methodology that was used in the Disraeli PPP Report.

Figure 1: Methodology



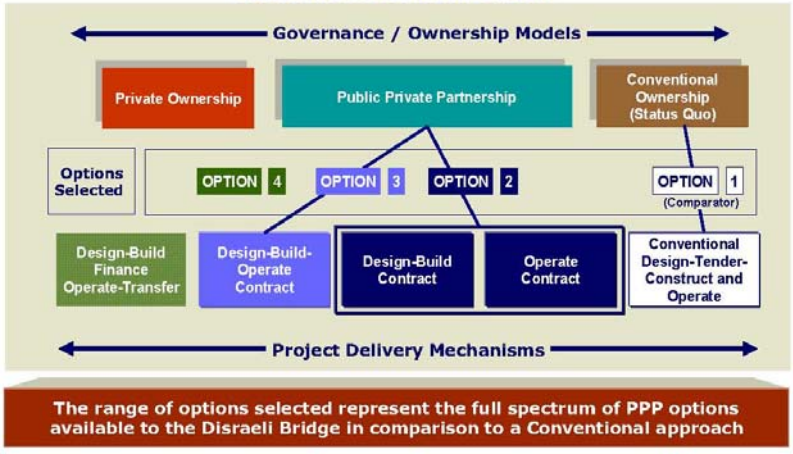
The results of each of the above noted steps are summarized in the sections that follow.

Identifying the PPP Options

Options Considered

As shown in Figure 2, there is a wide range of PPP options that can be considered for the Rehabilitation.

Figure 2: Selection of PPP Options



This range of PPP structures was dissected further to determine those suitable for application to the Rehabilitation project. Based on our Team's collective experience on PPPs and our understanding of municipal governments and the bridge asset class, we selected the four PPP options (the "Options") noted above for further analysis.

Brief Description of the Options

The roles and key responsibilities of the City and the Private Sector in each of the Options are presented in Figure 3.

Figure 3: Overview of the Options

Option	Party	Components							
		Ownership		Financing		Operational Funding	Oversight	Design & Construction	Operation & Maintenance
		Land	Bridge	Construction	Term				
1	City	●	●	N/A	●	●	●	●	●
	Private Sector								
2	City	●	●		●	●	●		
	Private Sector			●				●	●
3	City	●	●		●	●	●		
	Private Sector			●				●	●
4	City	●	●			●	●		
	Private Sector			●	●			●	●

The major differences between the Options is that the Private Sector provides construction financing for Option 2 onwards, and Private Sector equity is provided in Option 4 to support the private term financing. Option 3 is essentially the same as Option 2, but the components are bundled into a single contract.

Analysis of the PPP Options

The PPP Options were analyzed by comparing each against a range of criteria (the "Criteria") developed with input from the City's senior staff. Each of the Options was analyzed using these Criteria, the results of which are summarized in the sub-sections that follow.

Figure 4: Summary of Criteria Used to Analyze the Options

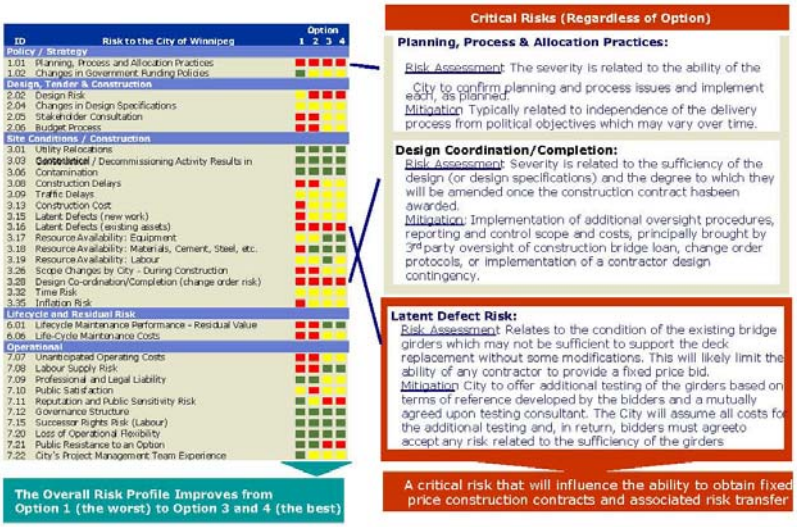
Retained Risks	**Degree To Which Risks Are Transferred** Relates to the number and magnitude of risks that are transferred from the City to the Private Sector.	**Degree To Which Key Retained Risks Can Be Mitigated** Relates to the impact of key risks and the extent to which each can be mitigated.
Best Practices	**Degree To Which Option Meets Industry Best Practice For Construction Risk Mitigation** The extent to which the PPP structure is consistent with the best practices identified form the majority of the Case Studies.	**Degree To Which Option Meets Industry Best Practice For Life-Cycle Risk Mitigation** The extent to which the management of operations is consistent with the majority of the best practices identified in the Case Studies.
Cost to the City	**Degree to which financing Costs to the City are Minimized** Relates to the total net-present-value of the costs to the City under each option.	**Degree To Which the Option Provides Value for Money to the City** Considers the current capital programs, the fiscal capacity, the condition of existing assets and the potential life-cycle benefits brought by the option in consideration of the costs.
City's Objectives	**Degree To Which The City Maintains Operational Flexibility** Considers the extend to which the City maintains control of key functions, providing the flexibility to integrate the facility within its other transportation assets.	**Degree To Which the Option is Consistent with the City's Previous Experience With Models Of This Type For Projects Of This Size** Relates to the experience and expertise of the City for the contemplated roles and responsibilities.

Retained Risks Criteria

A detailed risk matrix was developed to assess the related Risk Criteria. This matrix was applied with senior staff from the City and our Team to complete a qualitative risk assessment. The purpose of this qualitative risk assessment was to: i) examine the appetite of the City to transfer risk (and

responsibility) and compare the benefits of this transferal of risk comparatively against each of the Options; and ii) to identify key risk issues that could impede the successful implementation of the Option under consideration. The results of this qualitative risk assessment are presented in Figure 5.

Figure 5: Results of Qualitative Risk Assessment



Best Practices Criteria

Case studies were prepared to assess the Best Practices Criteria.

Figure 6: Analysis of Best Practices

Role of Private Sector	Role of Public Sector	Key Findings
• The role varies according to the level of risk that can be accepted. • Roles can vary from Design-Build, all the way to a Design-Build-Finance-Operate-Maintain. • The role will also vary depending on the public sector's ability to transfer risk. • Inherent risks, such as the environmental approvals, or economic factors (e.g. revenue risk) can be too large to transfer to the private sector.	• The level of public sector involvement increases when inherent risks cannot be transferred. • Payments to contractors could be guaranteed if high inherent risk, and performance based when most risks can be transferred to the private sector.	• Risk mitigation is typically addressed through performance based payments. • In most cases, risk transfer is achieved by bundling long term financing requirements through the operating life cycle. • Construction payments are often performance based, and can be based on delivery of end product when minimal risk is involved with operations and design has been specified. • Minimum payments may have to be guaranteed when there are significant inherent risks. • Most are "Greenfield" or new projects.

The City's Objectives Criteria

A workshop was held with senior staff to assess Criteria Related to the City's Objectives.

Figure 7: Assessment of Options Against the City's Objectives

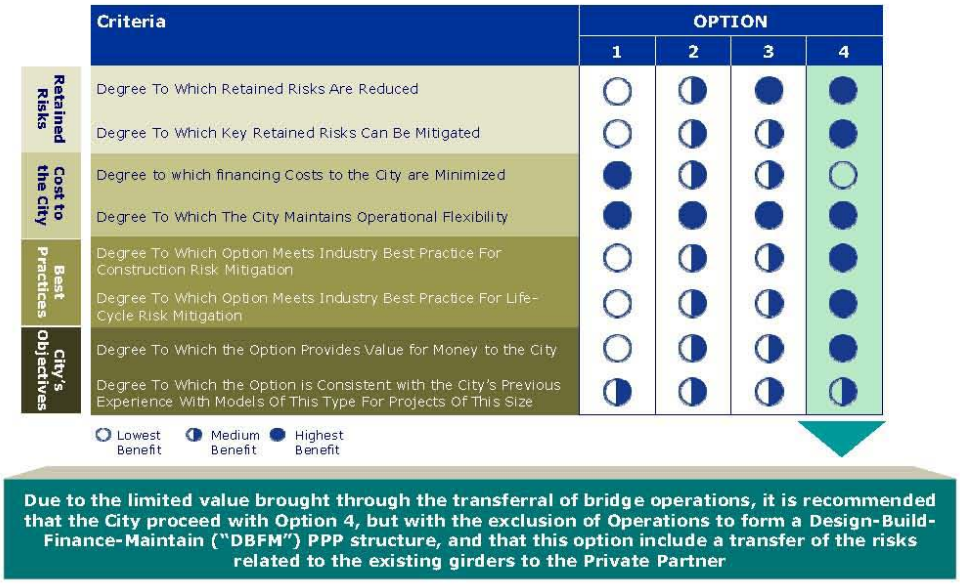
Overall Objectives	• **Primary Benefits Sought from PPP Structures:** – Cost certainty on construction and life-cycle maintenance; – Private Sector innovation to improve overall performance of the facility; – Provide the City with the opportunity to advance Capital Plan through alternative Private Sector Financing approaches; and – Transfer of significant lifecycle risks from the City to the Private Sector.
Suitability of Roles	• **Role of the Private Sector:** – Financing, design, construction, operation and maintenance of infrastructure • **Role of the City:** – Setting standards to conform with key public policy on safety, economic growth and environmental protection.
Possible Constraints	• **Flexibility:** Ensure that PPP does not cause City to lose control of the facility and jeopardize integration / management with / of other infrastructure assets. • **Statutory Authority:** Ensure that any PPP structure does not contravene existing statutes or regulations. • **Successor Issues:** Ensure that any PPP approach duly considers rights of existing City Employees. • **Public Opinion:** Proactive communications is required to ensure public support.

Comparison of PPP Options

Selection of the Preferred Option

The results of our analysis are presented in Figure 8:

Figure 8: Results of Analysis of PPP Options



The application of the Criteria yielded a result which heavily favored Option 4. However, further analysis of this option revealed the following factors:

- Scope of Bridge Operations: The majority of operating costs for the bridge relate to snow removal and de-icing. It is highly unlikely that the Private Sector can add value in providing these services, due to the small/limited scale of the operations (in comparison to the broader roadway network). As a result, it is recommended that the City should amend the scope to be limited to long-term facility maintenance only (polymer overlay, replacing de-icing System, and replacing deck joint multi-seals).
- Potential Latent Defect of Girders: Conducting detailed market soundings in advance of a two-step procurement process that involves a Request for Qualifications (to short-list qualified and interested bidders) and a Request for Proposals (to select the preferred bidder), could also clarify the ability to transfer such risk. If the market is unwilling to accept the risk, the City will have to deliver the project under a conventional option (or Option 1).

It is therefore recommended that the City:

- Proceed with Option 4, but with the exclusion of Operations, forming a DBFM option, and that this option include a transfer of the risks related to the existing girders to the Private Partner; and
- Conduct market soundings to test this result and its proposed structure.

Results of Market Soundings

Market soundings were conducted with key constructors, financiers and developers who would be interested in the project to determine:

- The feasibility of the recommended DBFM option; and
- To discuss key items such as the condition of the exiting girders.

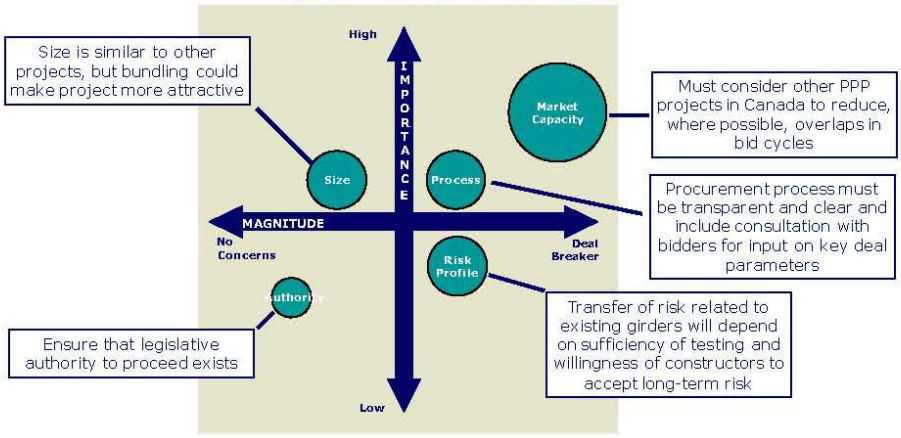
Items discussed included:

- Structure and term (30 years);

- The acceptance of availability based payment mechanism;
- The size and scope of the project;
- The willingness to accept full transfer of design, construction and maintenance risk and that no guarantees would be provided by the City including for existing components such as the condition of girders;
- Financial,and market (labour availability and skill, materials, etc) conditions;
- The proposed procurement process (a two step RFQ and RFP / Contract); and
- Timing considerations for project execution (Winter of 2008).

The results of the market soundings revealed that the issues identified with the preferred DBFM option are typical of most mid-market PPP projects in the Canadian market place and are manageable.

Figure 9: Results of Market Soundings



Preliminary Assessment of Value for Money

A preliminary Value for Money Assessment ("PVFM") was completed on the recommended DBFM option to quantify the risk transfer benefits to the City. Based on the available and generic information compiled by Deloitte and MMM in place of a detailed risk quantification workshop, the PVFM results showed that the delivery of the Disraeli Bridge project under a DBFM PPP structure should achieve value for money savings that compare favorably to other value for money results achieved from other DBFM bridge projects, such as:

- Kicking Horse Canyon, Ph II (British Columbia): 10%; and
- Okanagan Bridge – WR Bennet Bridge (British Columbia): 13%.

The results of this PVFM assessment should be used by the City together with the assessment of each Option against the Criteria to determine the suitability of delivering the Rehabilitation project under a PPP structure. Should the City decide to proceed with a PPP, a detailed Value for Money assessment should be completed based on the final output specifications. The results of this detailed Value for Money assessment may vary from this PVFM.

Recommendations

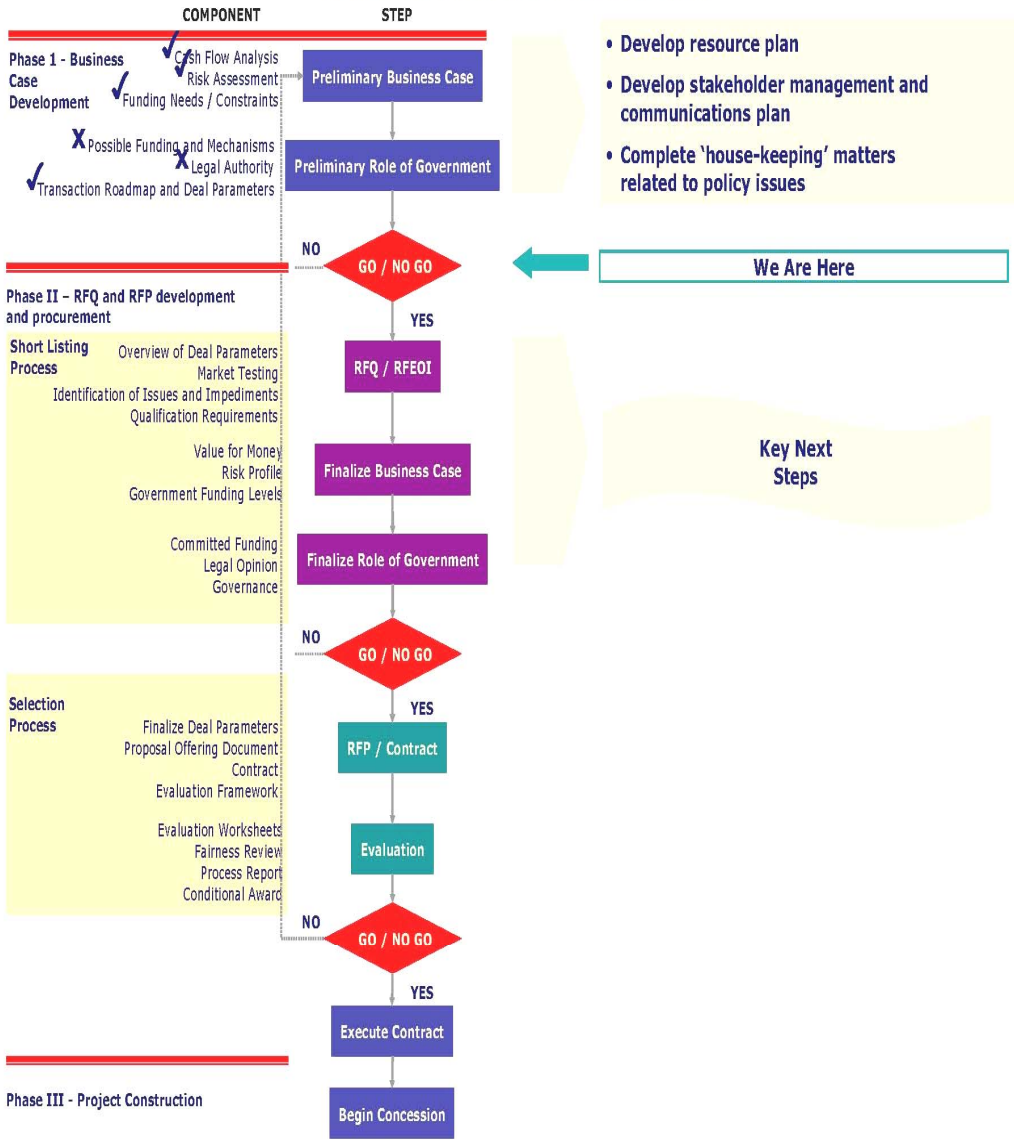
The City should proceed with a PPP of the Rehabilitation using a DBFM option. As an immediate next step the City should:

1. Complete outstanding Phase 1 components as outlined in Figure10, and proceed with a two step procurement process as follows,
   - prepare and issue a Request for Qualifications ("RFQ"), followed by,
   - a Request for Proposals ("RFP") which includes the Project Agreement, that will allow for commercially confidential meetings during the RFP process to capture the proper level of risk allocation to the private sector to ensure value for money is achieved.

The City should also:

2. Complete all 'house keeping' policy issues.
3. Develop a resource plan to manage the Disraeli Bridge DBFM PPP project throughout the entire lifecycle of the project including the identification of needs for internal project management and external advisor services.
4. Implement a fact-based approach to neutralize opposition/enlist support by developing an effective stakeholder management and communications plan that targets multiple audiences (Provincial and Federal governments, media, and local citizens). This plan should promote an open and transparent forum to facilitate the transfer of information. This can be achieved through the development of a Web Page dedicated to the Disraeli Bridge project.
5. Consider bundling with other roadway projects to increase the scale and introduce potential economies of scale.
6. Consider implementation of a partial-closure staging plan for the bridge to minimize the number of shutdowns, avoid long shutdowns, and create reliability of closures by avoiding unscheduled and rescheduled shutdowns. This should include a comprehensive traffic management plan that contains a combination of strategies for improving traffic movements and flow in the area influenced by the site work during construction (parking restrictions, elimination of left turns, double lefts, no through traffic), with some restrictions on certain traffic movements and coordination of traffic signals that can remain in place post-construction.

Figure 10: Next Steps for Procurement of DBFM Option





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