P3 value for money assessment and project report

Northeast Stoney Trail

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Value for Money Assessment and Project Report on Public Private Partnership (P3) for *Northeast Stoney Trail* December 2023

1. Summary

Using a P3 for Northeast Stoney Trail – did it work?

By using a Public-Private Partnership (P3) to design, build, finance, and operate the Northeast Stoney Trail, the Alberta Government will save $375 million over 30 years (in 2006 dollars) compared to a traditional method (63% difference). The Project was also estimated to be completed within 5 years using a traditional delivery but was finished in less than three years using a P3. The following assessment showed that using a P3, delivered value for money and that it was the right way to procure the Northeast Stoney Trail.

The government signed the P3 contract, with a 30-year post-construction operation phase on February 15, 2007 with Stoney Trail Group (the contractor) for the design, construction, partial financing, operation, and maintenance of the Northeast Stoney Trail. The contract required the road to be ready for public use by October 30, 2009. The cost savings and earlier completion can be attributed to:

- Economies of scale,
- Construction efficiencies,
- Construction innovations,
- Risks shifted from government to the contractor, and
- Fixed-cost contract.

The Government of Alberta (GOA) uses P3s to deliver needed infrastructure to Albertans. The P3 procurement approach is used to provide benefits that can include an extended warranty, fixed pricing, and earlier delivery of infrastructure compared to procuring the asset using a traditional approach. The government also requires P3 projects to deliver value for money. This report has information to show that the Northeast Stoney Trail indeed delivered value for money through P3 procurement.

Alberta has one of the fastest growing economies in Canada and is one of the primary driving forces behind Canada's economic growth. Alberta is an excellent place to live, work and do business. The City of Calgary and the City of Edmonton are two of the largest cities in Canada, each with metropolitan area populations exceeding one million. The Project was be a major transportation corridor for the movement of goods through Alberta and a major transportation link within the City of Edmonton. The Project was a top priority for GOA. The DBFO agreement was one of the largest single transactions entered into by GOA.

This report explains what a P3 is, why it may be used, it provides a value for money assessment of the P3 and provides a project report.

2. Background

What is a P3?

A P3 is a different, non-traditional way for government to create capital assets such as roads, schools, and other types of government facilities. In the case of the Northeast Stoney Trail, the government entered into one agreement with a contractor responsible for designing, building, partially financing, operating, and maintaining the road over a 30-year period.

A P3 can save time and money and reduce risk to the government by having one contractor design, build, finance, operate, and maintain a road. For Alberta P3 projects, the Public Sector owns the facility and provides public services to Albertans, the same as it does with a traditional design-bid-build approach.

What is a traditional approach?

In a traditional approach, the Public Sector hires an engineering firm to design a road, bridge, or other related facilities, and then hires a construction contractor through a public tender process to build them. Once the infrastructure is built, the Public Sector operates and maintains it typically by awarding numerous individual contracts for routine repairs and rehabilitation. The government pays for the construction of the infrastructure by making progress payments (for its own infrastructure) or by making capital grants to entities such as school boards, health authorities, and post-secondary institutions. Government funding is also used to operate and maintain the facility.

What does a Value for Money (VFM) Assessment do?

A VFM assessment measures whether a P3 is the best option for a particular project. In the case of the Northeast Stoney Trail, the estimated costs of the traditional and P3 options were compared. The VFM for a project is the difference between the two costs. The goal of a P3 is to provide value; to do so, the P3 must cost less – measured by net present value – than the traditional method over the life of a contract.

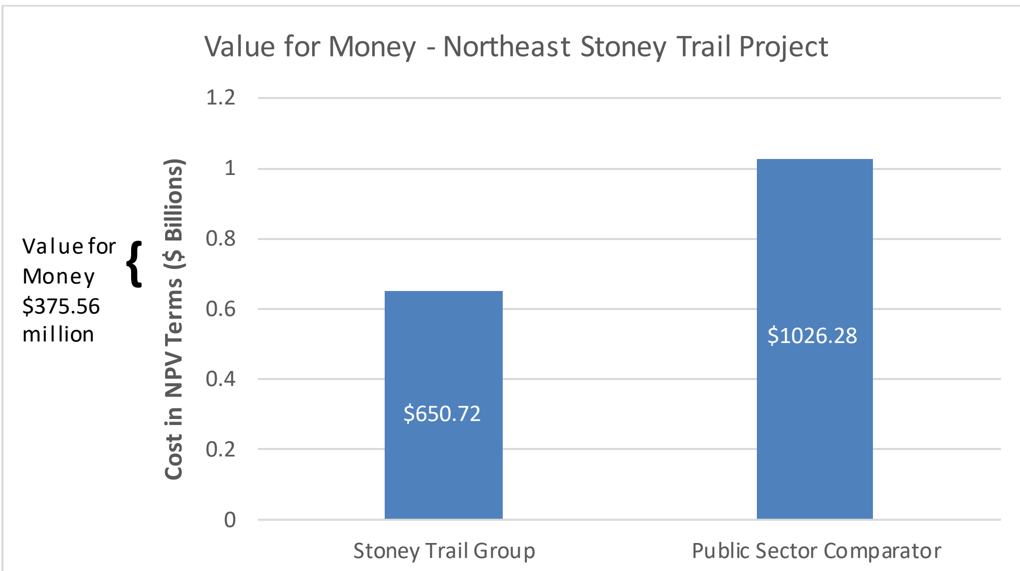
What is net present value?

Net present value (NPV) is the current value of a future sum of money. It is a standard method to compare the value of money over time (a dollar today is worth more than a dollar tomorrow because of interest and inflation) to assess long-term projects. It is produced by applying an interest rate and an inflation rate (collectively called the “discount rate”) to a future sum. The amount of timing and cash flows differ in the two options for producing the road (traditional and P3) and the calculation of net present value accounts for those differences. The net present value of the cost to produce and maintain a facility using the traditional approach is called the Public Sector Comparator, or PSC.

3. VFM Assessment of the P3 used for the Northeast Stoney Trail

Money and time saved by using P3: Quantitative measures of value
This VFM assessment used net present value as of March 31, 2006 when bids were received. It included the costs to design, build, partially finance, operate and maintain the roadway for 30 years. It also included the impact of risk transfer (as discussed later in this section) but excluded costs common to both methods.

As represented by the chart below, when comparing the offer given by Stoney Trail Group and the Public Sector Comparator it was concluded that the value for money was $375 million, or 63% of the PSC.



Private financing by the contractor costs more than public financing by government, but in the case of the Northeast Stoney Trail that cost was more than offset by the following factors:

> **Earlier Completion** – Completing the Project two years earlier than could be achieved using the traditional delivery led to savings on cost escalation. Market forces continually drive up costs related to labour, equipment, fuel, construction, materials, etc. Earlier completion reduced the exposure to this phenomenon. Earlier completion (as compared to the traditional approach) also provided savings to the road users in travel time and fuel costs.
>
> **Economies of Scale** – The Project consisted of approximately 21 kilometres of divided highway, consisting of 4-6 lanes plus additional basic and auxiliary lanes. It also included two system interchanges and four interchanges. Due to the size of the highway, the contractor was able to secure large volume long term contracts for material such as asphalt, concrete, and steel, which are significantly discounted relative to the smaller quantities, secured in traditional contracts.

Construction Efficiencies – As with many large projects, the contractor was able to apply standardized design approaches and construction methodologies to numerous elements within the project scope. The Project was completed using fewer person-hours by capitalizing on the streamlining of processes.

Construction Innovation – A P3 contract required the contractor to perform both the design and construction processes. The contractor used their knowledge and experience to develop innovative solutions in either design or construction to accelerate the completion of the Project and reduce costs.

Life-Cycle Optimization – Having one contract that includes design, construction, and a 30-year maintenance period encouraged the contractor to consider different construction and maintenance solutions that would optimize the life-cycle of the infrastructure and reduce costs over the life of the Project.

Qualitative measures of value

1. **Long Term Warranty –** The P3 effectively gave the government a 30-year warranty by transferring responsibility for operation and maintenance of the road to the contractor for the term of the contract. The 30-year operation and maintenance period gave the government assurance that the road would be maintained in good condition with no deferred maintenance at the end of 30 years.
2. **Life Cycle View –** By linking the design, construction, operation, and maintenance obligations into a single contract ensured that there is a high degree of discipline in achieving a quality product. For example, any compromise in quality would result in a more substantive maintenance obligation for the P3 contractor. Therefore, the combination of design, construction, and operation and maintenance of the infrastructure is highly optimized to suit the infrastructure's entire life cycle.

Major risks allocated in P3 contract

An important factor in the delivery of P3 projects is an acceptable allocation of risks to the party or parties best able to manage them. In some cases, the contractor is the appropriate party to manage a risk; in others, the government can better manage the risk; in yet a third case, the risk may be best shared between the two parties.

Schedule Certainty – The contractor agreed to have the road available for traffic by October 30, 2009 or receive reduced payments. The contractor had to manage the construction schedule to meet this date.

Weather – The contractor was responsible for any costs of project delays caused by bad weather.

Scope Changes – The government paid for any scope changes that it required during construction. The government paid for this work in accordance with the change order process set out in the P3 contract. During the operation and maintenance period, the government could consider changes to road. For example, continued residential growth in the area may have required the government to add another interchange or more freeway lanes. The government would pay for this work as long as the contractor provided competitive pricing based on a tendering process as specified in the P3 contract.

Interest Rates and Financing – During the maximum two month period between notifying a preferred proponent (which becomes the contractor when they sign the P3 contract) and signing the contract, the government shared the risk of any changes in base borrowing rates with the preferred proponent. The contractor arranged for partial financing for the whole term of the contract and was solely responsible for the impact of the financing arrangements. No matter how much the rates increased during the contract, the contractor had to pay any increased refinancing costs. Conversely, the contractor could benefit from any rate drops.

4. Project Report

Project goals

GOA structured the DBFO the meet the following specific objectives, which are listed in no particular order:

- To expeditiously complete the procurement process;
- To complete construction of the Project so that it was ready for traffic availability by October 30, 2009;
- To achieve "value for money", that is optimal value over the Term;
- To ensure that the Project is designed, built, and operated in an environmentally sound manner and in a manner that ensures the safety of the travelling public; and
- To ensure that the highway infrastructure is "handed back" to GOA in the required specified condition at the end of the Term.

Project outcomes

The following outcomes will be achieved by delivering the Northeast Stoney Trail as a P3:

- **Cost Certainty for the life of the road** – shifting the risk of increasing construction costs and other financial risks to the contractor ensured cost certainty for the design, construction, operation, and maintenance of the new road.
- **An innovative, repeatable, transparent, and accountable process to produce and maintain roads** – the same process can be used for other projects in Alberta.
- **Less time and lower cost to build** – to plan, design, and build this amount of infrastructure using the traditional approach would have taken at least 5 years before being available to the travelling public. In contrast, the P3's coordinated and comprehensive approach produced the Northeast Stoney Trail in less than three years from the construction begin date, and at a lower cost.
- **A 30-year warranty-** the contractor was responsible for ongoing operation, maintenance, and rehabilitation for the 30-year operation and maintenance phase.

Approaches considered

The government considered two alternative approaches to deliver the Northeast Stoney Trail:

1. **Traditional Design-Bid-Build Approach –** With the usual pay-as-you-go financing by the government and delivery by Alberta Transportation. Private-sector engineering consultants hired by Alberta Transportation design the roads and bridges. Construction contracts are awarded through a traditional open-bidding process tendered by Alberta Transportation to private sector contractors, typically in work packages of unique tasks (such as grading, paving, bridge construction, lighting, etc.) and/or of geographically distinct sections. A project of this size under a traditional procurement would involve up to 20 separate construction contracts. Upon construction completion, operation, maintenance and infrastructure rehabilitation responsibility is tendered through a traditional open-bidding process to private sector contractors specializing in this type of work.
2. **Design-Build-Finance-Operate-Maintain Approach (the basis of P3) –** With the winning private-sector proponent (the contractor) forming a consortium or group to handle the Project from start to end of the contract. The contractor was responsible for the ongoing operation and maintenance of the road for a set time (in this Project, 30 years), and having a rehabilitation plan ensured the performance requirements are met. The government makes monthly payments to the contractor for the 30-year maintenance phase of the contract. Payments started after the road was ready to use and cover capital, operation, maintenance, and rehabilitation costs. The government could reduce payments based on criteria such as whether the roadway remains available for use and whether the performance of the infrastructure meets certain standards.

Selection process

GOA retained a Fairness Auditor to oversee and report upon RFQ and RFP process. Proponents seeked fairness opinion from the Fairness Auditor on matters relating to the RFQ and RFP process by sending to the Department Representative a package labelled with the Proponents name and with "Request for Fairness Opinion", which package will include a letter of request for a fairness opinion addressed to the Fairness Auditor.

A Request for Qualifications was publicly issued on February 24, 2006. Three teams responded and were evaluated on experience, personnel qualifications, past performance and financial capability. The three teams that asked to submit proposals were Access Roads Calgary (ARC), Alberta Trails Group (ATG), and Stoney Trail Group (STG).

The Request for Proposal (RFP) process ran from May 1, 2006 until December 1, 2006. The "made-in-Alberta" approach to P3s ensured the process was competitive throughout. During the RFP process, the teams made financial and technical submissions to ensure that they met the Project's minimum specifications. The government issued a draft form of the contract during the RFP process. The teams provided comments on it. Before receiving financial bids, the government issued the final form of the contract that the successful proponent signed. There were no negotiations on this contract after financial bids were received.

Once the three teams provided RFP submissions, they all submitted financial bids based on the final form of the contract. Stoney Trail Group submitted the lowest price, on a net present value basis, and won the contract.

Key terms of P3 contract

What the government must pay: The total cost of the 33-year contract (3 years of construction, 30 years of maintenance/operation) was about $650.72 million.

What the contractor does: The contract between the government and the contractor had a 3-year construction period and a 30-year operating period. It required the contractor to:

- Operate and maintain (including rehabilitation) the new infrastructure along with the existing portion of the ring road (Northwest Stoney Trail).
- Design and construct the new road to meet the relevant requirements including the DBFO Agreement, the technical requirements, and the functional plan.

Payments reduced for non-performance:

The government could reduce all monthly payments (capital, operation, and maintenance and rehabilitation) if the contractor did not meet the performance standards in the contract. For example, if pavement did not meet performance criteria and the contractor does not repair it within the allowed time, the government could reduce monthly payments to the contractor.

During and after construction

The successful proponent was required to have plans, systems, and processes that met the Technical Requirements and measured, monitored, and audited their own performance. GOA had to undertake inspections over the term of the DBFO Agreement which ensured that the successful proponent was meetings their obligations.

Accounting treatment

The accounting treatment for P3 projects follows generally accepted accounting principles set out by the Public Sector Accounting Board of the Canadian Institute of Chartered Accountants. The obligation is “on-book”, so the province records the obligation as the asset was built and records the cost of building the asset as a capital asset.

Project schedule

The P3 contract was signed on February 15, 2007 and site mobilization started on some sites by February 16, 2007. The contractor delivered the highway by October 30, 2009. An independent certifier certified when the road was available for use. The Project was opened to traffic by October 30, 2009.

The operation and maintenance period started after the road was available and continues for 30 years when the license granted to the contractor to access the site for operation and maintenance and renewal activities will expire. The contractor must hand back the responsibility for maintenance and operation and rehabilitation of the road in the condition specified in the contract. The government and the contractor will assess the highway to ensure it is in the condition specified in the contract when the contract expires. After the contract expires, the Government of Alberta will be responsible for operating, maintaining, and renewing the Northeast Stoney Trail.