JANUARY 5, 2009

Evaluation of Public Private Partnerships

Costing and Evaluation Methodology

Prepared for
Canadian Union of Public Employees

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1.0 INTRODUCTION

Blair Mackay Mynett Valuations Inc. was retained by the Canadian Union of Public Employees ("CUPE") to review and comment on certain documentation provided with respect to Public Private Partnership ("P3") projects in British Columbia.

More specifically, we were asked to address four questions as follows:

1. Based on available evidence, is the actual cost of P3s in excess of traditional procurement using such methodology as Design/Build Agreement?

2. Is the methodology used by Partnerships British Columbia ("Partnerships BC") to compare value between P3s and traditional public procurement biased to a degree that makes it unlikely for public procurement to succeed?

3. Are the citizens of British Columbia at risk of losing opportunities and money because private partners in P3 projects are permitted to sell shares and take profits after the higher risk construction phase of a project is completed?

4. Is the government of British Columbia allowing the release of information sufficient for the public to be confident their interests are protected in P3 projects?

At the present time, Value for Money reports have been prepared by Partnerships BC for a number of P3 projects in British Columbia. The exceptions are the reports for the Canada Line which were prepared by Canada Line Rapid Transit Inc.

The Value for Money reports compare P3 project costs to a Public Sector Comparator which represents a theoretical concept of the traditional procurement costs.

These P3 projects are at various stages of completion and therefore subject to some degree of uncertainty and change as they progress.

Accordingly, we have focused our review on four projects: Abbotsford Regional Hospital and Cancer Centre ("Abbotsford Hospital), Sea–to–Sky Highway Improvement ("Sea-to-Sky"), Academic Ambulatory Care Centre ("Diamond Centre") and Canada Line Final Project ("Canada Line").

2.0 KEY FINDINGS

Based on our review of four P3 projects (Abbotsford Hospital, Sea-to-Sky, Diamond Centre and Canada Line), we had the following key findings:

- The difference in the cost (in nominal dollars) between a publicly delivered project and a P3 project can be substantial. For example, the Diamond Centre will cost $203 million over the life of the contract as compared to a cost of $89 million had the project been publicly delivered – a difference of nearly 130 percent.

- While it is appropriate to discount nominal dollar costs, we conclude, based on available evidence and the application of more appropriate discount rates, the cost of P3s exceeds traditional procurement methodology for the projects referred to above.

- We conclude that the methodology used by Partnerships BC to compare the P3 projects to the public sector comparator is biased in favour of the P3 projects.

- We cannot determine whether the citizens of British Columbia are at risk of losing opportunities and money because of private equity refinancing arrangements that may occur following completion of the construction stage of the project; however, the private partners are most certainly in business to make a profit while the government is not. The profit made by the private partners, by definition of the term "private", would not be shared by the public.

- We found that critical information and documentation in support of the Value for Money reports was for the most part denied in response to Freedom of Information requests. In our view this suggests a general lack of transparency and public accountability.

3.0 EXECUTIVE SUMMARY

Our responses to the questions we were asked to address are set out below.

3.1 Based on available evidence, is the actual cost of P3s in excess of traditional procurement using such methodology as Design/Build Agreement?

We found that in all the projects we reviewed, the nominal costs of the P3 substantially exceeded the nominal costs of the Public Sector Comparator.

Nominal costs are the actual number of dollars spent over the life of the contract. The difference in the cost between a publicly delivered project and a P3 can be substantial. For example, the Diamond Centre will cost $203 million over the life of the contract as compared to a cost of $89 million had the project been publicly delivered – a difference of nearly 130 percent.

It is, however, appropriate to apply a discount rate to the respective cash flows in order to take into account the time value of money. The discount rates applied vary from project to project but they create net present value comparisons that favour the P3 option in three of the four projects we reviewed. In our view, however, the discount rates applied should reflect the government's cost of borrowing which is considerably lower and would result in a net present value comparison favouring the Public Sector Comparator option.

For reasons that are discussed in the section on methodology, a higher discount rate favours a P3 over public delivery. Discount rates in the four projects reviewed varied between 6 percent and 7.5 percent.

We understand that in the United Kingdom, the recommended discount rate for projects up to 30 years duration is 3.5 percent. (This rate, referred to as the "Social Time Preference Rate", is derived from the value society attaches to present, as opposed to future, consumption.)

We prepared graphs (included in Section 4.1) to illustrate the differences in net present value of the four projects reviewed. In each case, we concluded that if a more appropriate discount rate were used, public delivery of the project presented greater value for money than the P3.

We believe the argument for applying discount rates reflecting the government's cost of borrowing is supported by the CEO of Partnerships BC, Larry Blain, who is quoted as stating in a panel discussion for The Public Policy Institute of California in October 2007:

> "Clearly all the money is coming from the government. It's debt of the province, whether you borrow it as bonds, or contract over a 35-year period."

We conclude, based on available evidence and the application of more appropriate discount rates, the cost of P3s exceeds traditional procurement methodology for the projects reviewed.

3.2 Is the methodology used by Partnerships BC to compare value between P3s and traditional public procurement biased to a degree that makes it unlikely for public procurement to succeed?

As we set out in answer to the previous question, the discount rate applied to the respective costs of the P3 and Public Sector Comparator is a critical element in determining value for money. Since the cash costs to the public of the P3 option occur much later in the project life than in the Public Sector Comparator option, the application of a high discount rate will almost always serve to portray the P3 as offering more value for money. Proponents of P3s argue that the discount rate used should reflect the project risk transferred to the private sector; however, in all the value for money analyses we reviewed, the "value" of transferred risk is added to the Public Sector Comparator net present value. Therefore, the "value" of these risks is effectively double-counted and results in a bias that favours the P3 option.

The Ontario Auditor General's comments included in the 2008 Annual Report appear to parallel our view that the methodology used to procure, evaluate and report the benefit of the P3 project was biased in favour of the P3 project. Savings would have been demonstrated if the province's cost of borrowing was used at the time of the agreement instead of the higher weighted average cost of capital used by the private sector. The Auditor General also raised significant questions as to the legitimacy of the value of risk nominally transferred to private partners.

We believe that the appropriate discount rate should approximate the government's cost of borrowing, which is considerably lower than the discounts used and would result in a comparison favouring traditional procurement.

We conclude that the methodology used by Partnerships BC to compare the P3 projects to the Public Sector Comparator is biased in favour of the P3 projects.

3.3 Are the citizens of British Columbia at risk of losing opportunities and money because private partners of P3 projects are permitted to sell shares and take profits after the higher risk construction phase of a project is completed?

We cannot determine whether the citizens of British Columbia are at risk of losing opportunities and money because of private equity refinancing arrangements that may occur following completion of construction of a project. We believe that such profits made by private partners, by definition of the term "private", would not be shared by the public. However, we do expect that P3 contracts contain clauses such as that regarding "Qualifying Refinancing" in the Abbotsford Hospital contract, and also clauses that prohibit changes of control in the construction period, with provisions for subsequent equity owners to honour the terms of the contracts.

3.4 Is the government of British Columbia allowing the release of information sufficient for the public to be confident their interests are protected in P3 projects?

Based on the depth and scope of the information we have been provided, and our review of the denials of certain information and reasons given by government, our answer to this question is no. We found that critical information and documentation in support of the Value for Money reports was for the most part denied in response to Freedom of Information requests. In our view this suggests a general lack of transparency and public accountability.

4.0 QUESTIONS EXAMINED

4.1 Actual Costs: P3 versus Traditional

The net present value of the P3 project costs as compared to the net present value of the Public Sector Comparator costs was disclosed in the Value for Money reports as shown below:

Table 4.1: Net Present Value Comparison Reported in Value for Money Reports

Project	P3 NPV ($ millions)	PSC NPV ($ millions)	Difference, cost savings ($ millions)
Abbotsford Hospital	424.0	463.0	(39.0)
Sea-to-Sky	789.8	744.0	45.8
Diamond Centre	64.0	81.0	(17.0)
Canada Line	1,658.0	1,750.0	(92.0)

As indicated above, all projects reflected a cost savings when expressed in terms of net present value with the exception of the Sea-to-Sky which shows the P3 project cost exceeding the Public Sector Comparator.

The Value for Money report for Sea-to-Sky explained that while the net present value cost of the Sea-to-Sky P3 contract exceeded the Public Sector Comparator by $45.8 million, the BC Ministry of Transportation believed that there were benefits from additional highway improvements included in the P3 project which were not included in the Public Sector Comparator. In other words, the scope of the P3 project and the Public Sector Comparator were not comparative.

With the exception of the Sea-to-Sky project, total nominal costs of the P3 and the Public Sector Comparator were not disclosed in the Value for Money report. Nominal costs are the costs over the life of the contract in current dollars of the period in which the costs are incurred. We reviewed additional information provided by Partnerships BC and information we obtained from BC Government Budget and Fiscal Plan ("BC Fiscal Plan"). The total nominal costs of the P3 and the Public Sector Comparator compare as shown in the table below:

Table 4.2: Nominal Costs Comparison

Project	Total Nominal Cost P3 ($ millions)	Total Nominal Cost PSC ($ millions)	Difference, extra cost to public ($ millions)
Abbotsford Hospital (Operating Costs)	1,233.0 (BC Fiscal Plan)	855.1 (Partnerships BC)	377.9
Sea-to-Sky	1,727.8 (Value for Money)	1,293.5 (Value for Money)	434.3
	1,613.0 (BC Fiscal Plan)	1,293.5 (Value for Money)	319.5
Diamond Centre	203.0 (Partnerships BC)	89.0 (Partnerships BC)	114.0
Canada Line	2,050.0 (Value for Money)	Not provided	Undetermined

We note for the Sea-to-Sky project that the total nominal costs reported in the BC Fiscal Plan were less than the total nominal costs reported in the Value for Money report. We do not know the reason for the difference.

Based on the above, with the exception of the Canada Line project, for which we were unable to determine the total nominal costs of the Public Sector Comparator, all P3 projects had higher costs than the Public Sector Comparator in nominal dollars. In all cases, the differences (extra cost to the public) were material in relation to the Public Sector Comparator.

The discount rates used to determine net present value varied according to project. For each project the same discount rate was applied to both the P3 and the Public Sector Comparator costs.

The Value for Money reports gave varying explanations to support the choice of discount rates used. The following chart summarizes these different rates and explanations of the basis for discount rates used:

Table 4.3: Discount Rates Used in Value for Money Reports

Project	Discount Rate	Explanation of Basis
Abbotsford Hospital	6	International market practices and benchmarks for general public sector investments
Sea-to-Sky	7.5	Weighted Average Cost of Capital to reflect actual risk profile from the perspective of an investor
Diamond Centre	7.12	Reflection of inherent risk transferred to the private sector
Canada Line	6	Rate used by Greater Vancouver Transportation Authority to assess the economics of various transportation projects

Sensitivity analysis in the Value for Money reports indicated that by increasing or decreasing the discount rates used, the comparative net present value between the P3 and the Public Sector Comparator changed. The following table, with information drawn from published Value for Money reports summarizes the sensitivity analysis for each project reported by Public Sector Comparator:

Table 4.4: Sensitivity Analysis Reported in Value for Money Reports

Project	Cost Savings using discount rate chosen ($ millions)	Cost Savings from increasing discount rate ($ millions)	Cost savings from decreasing discount rate ($ millions)
Abbotsford Hospital	39	59	13
Rate	*6%*	*7 %*	*5 %*
Sea-to-Sky	(45.8)	(32.4)	(62.2)
Rate	*7.5%*	*8.5%*	*6.5 %*
Canada Line	92	143	27
Rate	*6%*	*7%*	*5 %*

The only project for which we were provided annual cash flows for the P3 and the Public Sector Comparator was the Diamond Centre project. We performed a sensitivity analysis and summarize as follows:

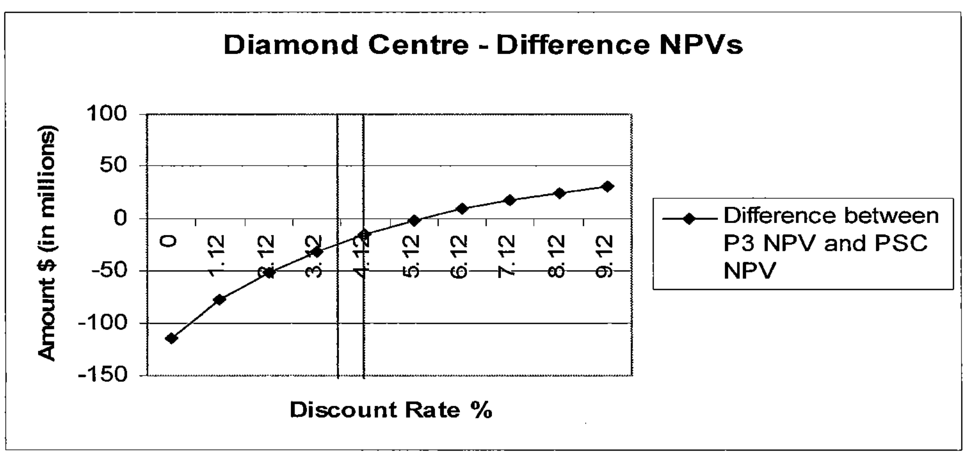
Table 4.5: Cost Difference for Diamond Centre

Discount Rate %	Cost Savings (additional costs) ($ millions)
4.12	(15.2)
5.12	(2.1)
7.12	16.9
9.12	29.6

The above two tables indicate that the higher the discount rate, the more attractive the P3 projects became as compared to the Public Sector Comparator when expressed in net present value. The lower the discount rate used, the less attractive the comparison. This is due to the fact that the P3's costs occur somewhat evenly during the operating period whereas the majority of the Public Sector Comparator costs occur early in the construction period. The difference in the timing of these costs impacts the net present value.

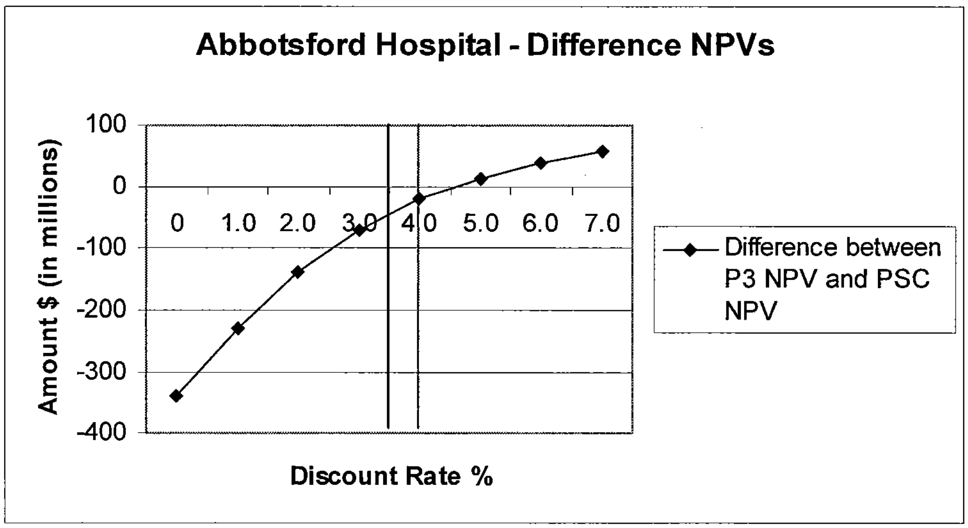
The following graphs demonstrate the nominal cost differences and an approximation of the differences with the application of various discount rates. On each graph, the vertical band illustrates the differences at discount rates between 3.5 percent and 4 percent.

Chart 1: Diamond Centre – Difference NPVs



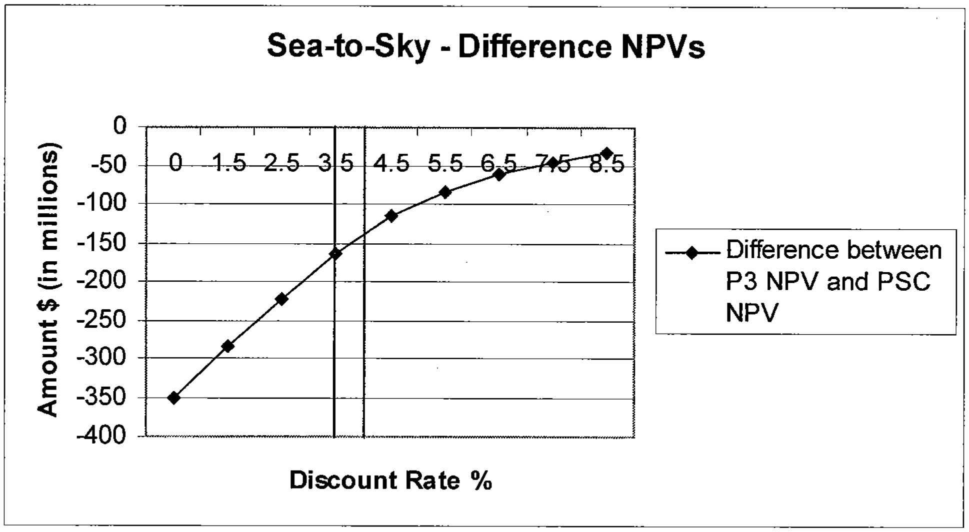
Our calculations for the Diamond Centre and the graph above indicate a difference in favour of the P3 of $17 million at 7.12 percent. The difference in nominal dollars is $114 million in favour of the Public Sector Comparator; that is, with no discounting. The critical discount rate, at which neither option is favoured, is approximately 5.0 percent; therefore, the application of a discount rate approximating the government's cost of borrowing (say 4 percent) produces a comparison which favours the Public Sector Comparator.

Chart 2: Abbotsford Hospital – Difference NPVs



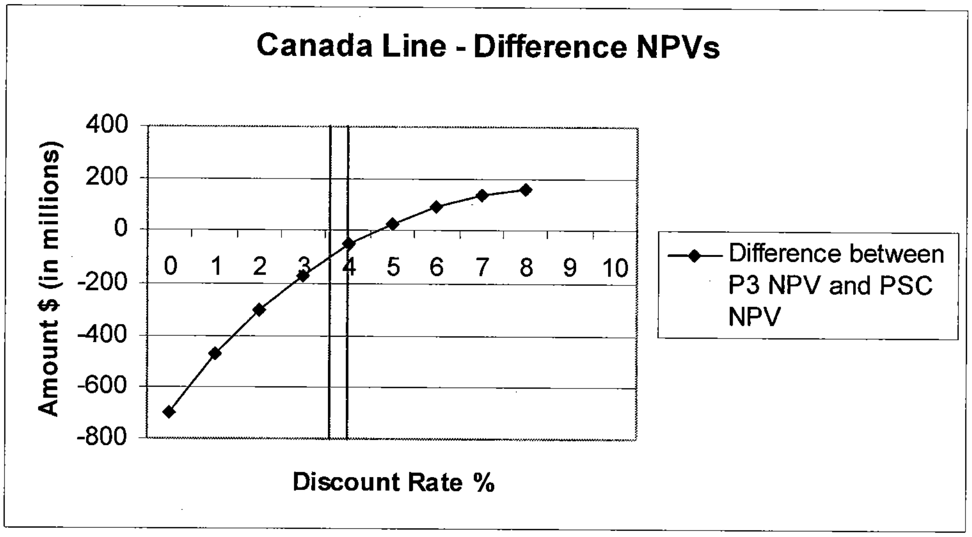
Our analysis of the Abbotsford Hospital and the graph above indicate the nominal dollar cost of the P3 exceeded the Public Sector Comparator by $328 million (adjusted for transferrable risk and assuming capital costs are the same for both options). The application of a 6 percent discount rate to the respective cash flows produced a savings of $39 million in favour of the P3. However, the graph demonstrates that at a discount rate of approximately 4.5 percent neither option is favoured, and at any rate lower than 4.5 percent, the Public Sector Comparator is favoured over the P3.

Chart 3: Sea-to-Sky – Difference NPVs



Our analysis of the Sea-to-Sky project and the graph above indicate that at a discount rate of 7.5 percent as used by Partnerships BC, the net present value comparison favours the Public Sector Comparator by $46 million. Notwithstanding, Partnerships BC claims that the scope of the P3 option exceeds that of the Public Sector Comparator and that therefore the P3 option still represents the best value for money. It is not clear to us how the difference in scope was quantified, if it was at all. The graph demonstrates that at any discount rate below 7.5 percent, the Public Sector Comparator option is favoured, to the point where at no discount the nominal costs of the P3 exceed the Public Sector Comparator by $350 million (adjusted for transferrable risk). We also note that even at discount rates greater than 7.5 percent, the Public Sector Comparator option is still favoured.

Chart 4: Canada Line – Difference NPVs



As disclosed by Partnerships BC, the graph above demonstrates that for the Canada Line project at the discount rates of 5 percent, 6 percent and 7 percent, the respective cash flows produced a savings in favour of the P3. However, assuming that the nominal dollar cost of the P3 exceeded the Public Sector Comparator by $700 million, at a discount rate of approximately 4.5 percent neither option is favoured, and at any rate lower than 4.5 percent, the Public Sector Comparator is favoured over the P3. (The assumption of $700 million is based on an approximation of the curve represented in the previous graphs)

Partnerships BC reported in the Value for Money reports that additional factors provided additional value for money beyond the savings expressed in net present value terms. These factors included shifting risk from the public sector and making risk management substantially the responsibility of the private partner. These risks included risks relating to financing, design, construction, facilities management services and maintenance. These factors were not clearly quantified in the reports with the exception of the Sea-to-Sky and the Canada Line project.

In the Value for Money report for the Sea-to-Sky project, a risk factor of $42.9 million was quantified and added to the Public Sector Comparator. This risk factor was valued by the project team and its advisors and included a mix of several positive and negative factors including scheduling risks, contractor cost over-runs, increase in operations and maintenance costs and asset performance. We do not know how the $42.9

million amount was determined and or how its individual components were valued.

We found discrepancies and omissions in information provided by Partnerships BC which are discussed in detail in the remainder of this report.

In summary, the total nominal costs of the P3 projects were substantially higher than the Public Sector Comparator nominal costs, but the application of a somewhat arbitrary discount rate created net present value comparisons showing that for three out of the four projects reviewed, the P3 projects costs were less than the Public Sector Comparator costs. There was insufficient information to reach a conclusion on the Canada Line project.

4.2 Biased Methodology

We noted that based on the above findings, favourable cost savings (with the exception of Sea-to-Sky) were disclosed to the public based on net present value costs of the projects in the Value for Money reports although the total nominal cost of P3 projects was greater than the public procurement options which were generally not disclosed.

In addition to the disclosure of favourable net present value cost savings for the projects, the Value for Money reports expounded on factors which provided additional value for money beyond the savings expressed in net present value terms. None of these factors were quantified in the reports with the exception of the Sea-to-Sky project.

For the Sea-to-Sky project, although the Value for Money report did not disclose a favourable cost savings in net present value terms, a risk factor of $42.9 million was added to the net present value of the Public Sector Comparator to account for additional risk of public procurement. This added risk factor is in addition to the risk factor inherently included in the discount rate of 7.5 percent used to calculate the net present value of the project. We find this methodology faulty as it double counts risk in this project.

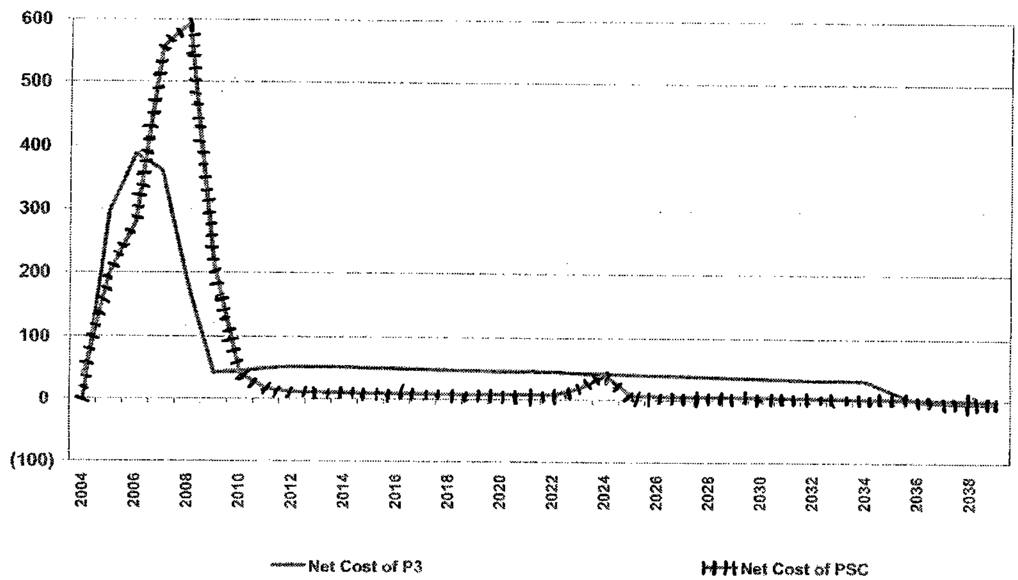
The net present values of the projects were determined by applying the same discount rate to both the P3 and Public Sector Comparator nominal annual payment streams.

In general, the P3 cash flow stream is very difference from the Public Sector Comparator cash flow streams because of the timing of payments.

More funds are paid out in the future in the P3 project as compared to the Public Sector Comparator.

The following chart was obtained under an access to information request to the Canada Line project. It illustrates the difference in timing of cash flows between a P3 and a publicly delivered project. It is important to remember that the Canada Line was only partially privately financed. In a fully privately financed project the difference would be even greater.

Chart 5: Timing of Cash Flows on the Canada Line Project – Net Costs



The sensitivity analysis showed that the net present value of the various projects changed dramatically when the discount rates were changed and as the discount rate increased, the P3 projects became more favourable.

As commented by Dr. Marvin Shaffer, in his article titled "The Real Cost of the Sea–to–Sky P3", due to the fact that the same discount rate is applied to the nominal cost of the P3 and the nominal cost of the Public Sector Comparator. Partnerships BC assumes that the cost of government financing (borrowing) is the same as the cost of capital for the P3.

Dr. Shaffer also remarked that this assumption is faulty because the cost of the project risk assumed by the taxpayers is not the same as that the P3 requires.

Dr. Shaffer recommended that the P3 and the Public Sector Comparator be discounted at the government's cost of borrowing to reflect the money that taxpayers would have to set aside today in order to meet the lease or debt service obligations in the future. Dr. Shaffer applied a 5 percent discount rate to the Sea-to-Sky cash flows (to better reflect the government's cost of borrowing) instead of a 7.5 percent discount rate used by Partnerships BC. He concluded that the P3 project would cost the taxpayers over $220 million more than the public procurement project by using the lower rate.

We agree with Dr. Shaffer's comments regarding application of a discount rate approximating the government's cost of borrowing.

We reviewed the Annual Report of the Office of the Auditor General of Ontario regarding the Brampton Civic Hospital P3 Project undertaken by the William Osler Health Centre ("WOHC"). We noted a number of interesting quotations, as follows:

- "WOHC did not have the option of choosing which procurement approach to follow. Rather, it was the government of the day that decided to follow the public-private partnership (P3) approach. We noted that, before this decision was made, the costs and benefits of alternative procurement approaches, including traditional procurement, were not adequately assessed."
- "This, along with a number of other issues we had with respect to this first P3 project at WOHC, led us to conclude that the all-in cost could well have been lower had the hospital and the related non-clinical services been procured under the traditional approach, rather than the P3 approach implemented in this case."
- "The province's 5.45% cost of borrowing at the time the agreement was executed was cheaper than the weighted average cost of capital charged by the private-sector consortium. Had the province financed the design and construction costs at its lower rate, the savings would be approximately $200 million over the term of the project's P3 arrangement ($107 million in 2004 dollars). However, WOHC had not considered the impact of these savings in its comparison of the traditional procurement approach with the P3 project."
- "We were concerned that the transferred risks for this project amounted to almost 13% of the November 2004 government design-and-build estimate of $525 million. In comparison, actual cost overruns (a major component of risk transfer) in the design and construction of the Peterborough Regional Health Centre — a hospital

built under the traditional procurement approach during the same period — were about 5% of the total contract value."

- "We questioned why the estimates for the government design-and-build approach assumed that the risk of overruns would be so significantly greater and would need to be handled differently than under the P3 approach. WOHC should have more carefully evaluated the extent to which a properly structured contract under a traditional procurement agreement could have mitigated the risk of any such cost overruns."

The Auditor General's comments appear to parallel our view that the methodology used to procure, evaluate and report the benefit of the P3 project was biased in favour of the P3 project. Savings would have approximated $200 million if the province's cost of borrowing of 5.45 percent was used at the time of the agreement instead of the higher weighted average cost of capital used by the private sector.

According to the Bank of Canada, the current average yield of the Government of Canada Bond (ten plus years) is 4.14 percent. Interest on Canada Savings Bonds has been less than 4 percent for the last few years. These rates are less than any of the discount rates used in the Value for Money reports for projects we reviewed.

According to the BC Ministry of Finance's Second Quarterly Report 2008/09, the long-term second quarter updated cost of borrowing rate of interest was reported as 4.38 percent, while the short-term rate was reported as only 2.35 percent.

Our sensitivity analysis on annual cash flow figures provided by Partnerships BC for the projects reviewed showed that at lower discount rates, closer to the province's cost of borrowing, the P3 projects were not favourable in comparison to the Public Sector Comparators, although they were favourable at higher discount rates.

We conclude that the methodology used by Partnerships BC to compare the P3 projects to the Public Sector Comparator is biased in favour of the P3 projects.

4.3 Lost Opportunity and Money

We understand the issue of selling equity in P3 projects has been raised as a concern in the United Kingdom.

Included in the Abbotsford Hospital project agreement - Schedule 31, there is a provision that states: "Health Co. (the public) shall be entitled to receive a 50 percent share of any Refinancing Gain arising from a Qualifying Refinancing". There may be similar provisions in other project agreements.

This provision would indicate that for the Abbotsford Hospital project there is a sharing of debt refinancing gains; however, there is no mention of equity refinancing gains.

In general, a private entity's debt and equity financing is based on several factors including the entity's past results which may include several projects, future financing requirements, changes in ownership, industry and general economic factors. It would be difficult, if not impossible, to connect the profits made from a particular project within an entity to the future equity financing arrangements of that entity.

As a result, we cannot determine whether the citizens of British Columbia are at risk of losing opportunities and money because of private equity refinancing arrangements that may occur following completion of the construction stage of the project; however, the private partners are most certainly in business to make a profit while the government is not. The profit made by the private partners, by definition of the term "private", would not be shared by the public.

4.4 Release of Information

CUPE requested information with respect to many P3 projects underway in British Columbia, but experienced limited success in obtaining critical information and documentation necessary for complete analysis and determination of value for money. Specifically, with the exception of the Diamond Centre project, the comparative nominal cash flows for the Public Sector Comparator and the P3 were not provided.

In addition to the projects we reviewed, CUPE requested information regarding the Bennett Bridge and the Britannia Water Treatment projects which were denied. For both projects, the information was withheld because it was considered potentially harmful to the interests of the public and/or classified as cabinet secrets.

We find this lack of disclosure suggests a general lack of transparency and public accountability, particularly with respect to information such as Public Sector Comparator and P3 cash flows which would support the conclusions set out in the Value for Money reports.

5.0 SCOPE OF REVIEW

5.1 Documents Reviewed

When preparing this report, we reviewed the following documents:

- "Project Report: Achieving Value for Money - Abbotsford Regional Hospital and Cancer Centre Project" dated February 2005, prepared by Partnerships BC;
- Letter and attachment to CUPE from Partnerships BC dated June 12, 2007 "re. Request for Information – Freedom of Information and Protection of Privacy Act (the Act)", regarding Abbotsford Hospital;
- "Project Report: Achieving Value for Money - Sea-to-Sky Highway Improvement Project" dated December 2005, prepared by Partnerships BC;
- "The Real Cost of the Sea-to-Sky P3 - A Critical Review of Partnerships BC's Value for Money Assessment" dated September 2006 by Marvin Shaffer published by Canada Centre for Policy Alternative BC Office;
- "Project Report: Achieving Value for Money - Academic Ambulatory Care Centre Project" dated November 2004, prepared by Partnerships BC;
- Letter and attachments to CUPE from Vancouver Coastal Health dated May 21, 2008 "re. Comparative Analysis Costs" regarding the Diamond Centre;
- "Canada Line Final Project Report – Competitive Selection Phase" dated April 12, 2008, prepared by Canada Line;
- Letter and attachments dated February 26, 2007 to CUPE from Canada Line Rapid Transit Inc. "re: Our File No. File # 290-07/121205 – Request for Information – Freedom of Information and Protection of Privacy Act (the Act)" regarding Canada Line;

- Letter and attachments dated June 11, 2008 to CUPE from Canada Line Rapid Transit Inc. "re. Cash Flows for both the BAFO Stage Value for Money Report and the Final Value for Money Report – Our File No. 292-20-cirt06016" regarding Canada Line;
- BC Government's 2008 Budget/Fiscal Plan;
- Abbotsford Hospital's Project Agreement – Schedule 31 – Refinancing (page 4);
- Letter dated December 23, 2007 to CUPE from Bev Hooper, Partnerships British Columbia re: Request for Information;
- Letter dated June 19, 2008 to CUPE from the Ministry of transportation r: Request for Information;
- Letter dated February 29, 2008 to CUPE from Bev Hooper, Partnership British Columbia re: Request for Information;
- Letter dated October 19, 2007 to CUPE from Interior Health re: Request for Information;
- Letter dated May 26, 2008 to CUPE from Interior Health re: Request for Information;
- The Green Book – Appraisal and Evaluation in Central Government by the HM Treasury of the UK;
- The Bond Buyer: Trends In The Region: It's Quality, Not Quantity: Eying The Big Picture Of California's Debt (October 5, 2007);
- 2008 Annual Report of the Office of the Auditor General of Ontario: Chapter 3, Brampton Civic Hospital Public-private Partnership Project; and
- BC's Ministry of Finance Second Quarterly Report 2008/09.

6.0 PROJECTS REVIEWED

6.1 Abbotsford Hospital

The February 2005 Value for Money report prepared by Partnerships BC indicated the following with regard to the comparison of the P3 and the Public Sector Comparator costs:

- The final cost of the P3 was expressed as a net present value and amounted to approximately $424 million over 33 years.

- The P3 net present value was reported as approximately $39 million less than the estimated $463 million net present value of the Public Sector Comparator.
- The net present value figures were developed using a discount rate of 6 percent, which was based on international market practices and benchmarks used for general public sector investments.
- Sensitivity analysis of the 6 percent discount rate showed that the net present value of the P3 would have been about $13 million less than that of the Public Sector Comparator if a 5 percent discount rate were used, and about $59 million less if a 7 percent rate were used.
- In Appendix B of the Value for Money report, the net present value of the Public Sector Comparator and the P3 were charted in a bar graph.
- The Value for Money report identified factors which provide additional value for money beyond the savings expressed in net present value terms. These factors included shifting risk from the public sector and making risk management substantially the responsibility of the private partner. The risks shifted included risks relating to financing, design, construction (schedule and cost), facilities management services (standards and costs) and maintenance/latent defects.

We noted that only the net present value of the costs for the P3 and Public Sector Comparator were disclosed in the report. The nominal annual costs of the P3 and the Public Sector Comparator were not disclosed.

We noted that the sensitivity analysis as discussed in the report resulted in significantly different net present value costs of the P3 and the Public Sector Comparator. The following chart summarizes the differences in the net present value as discussed in the Value for Money report.

Table 6.1: Net Present Value Disclosed in Value for Money Report for Abbotsford Hospital

Discount Rate	P3 NPV (millions $)	PSC NPV (millions $)	Difference (millions $)
5%	Not provided	Not provided	13
6%	424	463	39
7%	Not provided	Not provided	59

In June 2007, CUPE received a response to their request for information from Partnerships BC. The response included a letter and a "record which provides the nominal operating and lifecycle costs for the project. This table shows the annual cost of operating costs, repairs, replacement and risk costs for the PSC". Comparative cash flows for the P3 were not provided.

This table showed the nominal annual costs for 30 years which total $855.1 million. We applied a 6 percent discount factor to these annual costs to arrive at a net present value of the Public Sector Comparator of $372 million. This number is much less that the net present value of the Public Sector Comparator of $463 million figure disclosed in the report. See Schedule 1.0 for our calculations.

In February 2008, CUPE received an additional response including the Abbotsford Hospital "Public Sector Comparator calculations – partially severed". The information did not include any dollar amounts, but only spreadsheet titles and headings.

We reviewed the P3 total original and total current costs as disclosed in the BC Fiscal Plan. The BC Fiscal Plan disclosed the following:

Table 6.2: Costs Reported in BC Fiscal Plan for Abbotsford Hospital

	Original Plan ($ millions)	Revised Plan ($ millions)
Capital Costs	356	449
Operating Expenses	1,326	1,233
Total Costs	**1,682**	**1,682**

Based on the above table, the P3 original operating expenses of $1,326 million were revised to $1,233 million. We do not have sufficient information regarding the annual costs but the costs of either the original or the revised plan, in total dollars, exceeded the Public Sector Comparator nominal total operating costs of $855 million by a significant amount.

Based on the above information:

- It appears that the total operating cost of the Public Sector Comparator of $855 million (as disclosed by Partnerships BC) is much less than the total operating cost of the P3 at $1,233 million as per the BC Fiscal Plan; however, the data provided by Partnerships BC was insufficient to determine the total cost of the P3 and perform a comparative analysis with the Public Sector Comparator with any certainty; and
- The use of a 6 percent discount rate to determine the net present value of the costs for the P3 and the Public Sector Comparator appears to be quite arbitrary and the quantum of the discount rate changes the net present value outcomes significantly.

6.2 Sea-to-Sky

The December 2005 Value for Money Report prepared by Partnerships BC indicated the following with regard to comparison of the P3 and the Public Sector Comparator costs.

- The net present value of the P3 was $789.8 million over a 25-year period and the net present value of the Public Sector Comparator was $744 million. The net present value of the P3 costs was approximately $45.8 million more than the net present value of the Public Sector Comparator costs. The net present value was based on a discount rate of 7.5 percent.
- Sensitivity analysis showed that the P3 net present value costs would have been $32.4 million more than the Public Sector Comparator net present value costs if an 8.5 percent discount factor was used and $62.2 million more if a 6.5 percent discount rate was used.
- The report indicated that the 7.5 percent discount rate represented the weighted average cost of capital (WACC) estimated by the Sea-to-Sky and reflected the actual risk profile of the project from the perspective of the investor.
- The report indicated that while the P3 net present value costs exceeded the Public Sector Comparator net present value costs, the benefits from the additional improvements demonstrate value for money. These benefits include such qualitative factors as: additional passing lanes, additional median barriers, additional rumble strips and other such features.
- The report provided two graphs with inflation and no-inflation adjusted nominal annual amounts for both the P3 and the Public Sector Comparator. The following table summarizes these charts.

Table 6.3: Nominal Costs per Value for Money Report for Sea-to-Sky

	P3 Total Cost ($ millions)	PSC Total Cost ($ millions)	Difference ($ millions)
Inflation of 2%	1,982.9	1,670.7	312.2
No inflation	1,727.8	1,293.5	434.3

- The net present value of the Public Sector Comparator and the P3 included several components which were compared on a net present value basis. The following table summarizes these components.

Table 6.4: Net Present Value Comparison per Value for Money Report for Sea-to-Sky

	P3 NPV ($ millions)	PSC NPV ($ millions)
Capital Costs	208.1	516.0
Operations & Maintenance	3.2	107.5
Rehabilitation Costs	0	36.3
Risk Adjustment	0	42.9
Competitive Neutrality Adjustment	0	41.3
Payment to Sea-to-Sky	578.5	0
Total NPV costs	**789.8**	**744.0**

- It was reported that the risk adjustment of $42.9 million for the Public Sector Comparator net present value was valued by the project team and its advisors and included a mix of several positive and negative factors including scheduling risks, contractor cost over-runs, increase in operations and maintenance costs and asset performance.

We reviewed the P3 total original and total current costs as disclosed in the BC Fiscal Plan, disclosed as follows:

Table 6.5: Costs Reported in BC Fiscal Plan for Sea-to-Sky

	Original Plan ($ millions)	Revised Plan ($ millions)
Capital Costs	366	561
Operating Expenses	1,247	1,052
Total Costs	**1,613**	**1,613**

Based on the above information:

- It is not possible with the data presented in the Value for Money report to determine how the total costs provided for the P3 and the Public Sector Comparator translate into the net present value;
- The use of a 7.5 percent discount rate appears to be arbitrary and changes to the discount rate impact the net present value outcomes substantially;
- The risk adjustment to the Public Sector Comparator of $42.9 million appears to be arbitrary and if removed would decrease the net present value of the Public Sector Comparator by $42.9 million, creating an even more favourable net present value of the Public Sector Comparator of $701.1; and

- There appears to be double-counting of risk in that the discount rate used by Partnerships BC of 7.5 percent includes a risk factor and an additional risk adjustment of $42.9 million is added to the Public Sector Comparator.

6.3 Diamond Centre

The November 2004 Value for Money report prepared by Partnerships BC indicated the following with regard to comparison of the P3 and Public Sector Comparator costs.

- The P3 was estimated to cost approximately $64 million over 32 years in net present value terms. This compared favourably to the estimated $81 million net present value cost of the Public Sector Comparator representing a savings of approximately $17 million. The net present value was expressed in 2004 dollars.
- The net present value was calculated based on a discount rate of 7.12 percent. This percent was used because it most appropriately and reasonably reflected the inherent risk transferred to the private sector.
- To test this calculation, the project team also compared the final agreement using discount rates two percent higher than 7.12 percent and two percent lower than the 7.12 percent. Within this range the partnership agreement was found to provide better value and lower cost to taxpayers.
- The Value for Money report identified factors which provide additional value for money beyond the savings expressed in net present value terms. These factors included shifting risk from the public sector and making risk management substantially the responsibility of the private partner. The risks shifted included risks relating to financing, design, construction (schedule, cost and inflation) and maintenance risk.

The total nominal costs of the P3 project and the Public Sector Comparator were not disclosed in the Value for Money report.

In response to a Freedom of Information request made, CUPE received on May 21, 2008, the annual payment schedule of the Public Sector Comparator and the P3 from the Vancouver Coastal Health Authority. These schedules indicated that the total nominal cost of the Public Sector Comparator amounted to $89 million and the total of the P3 amounted to $203 million. This represents a difference of $114 million. In other words, in nominal dollars the P3 costs $114 million more than the Public Sector Comparator.

Based on the annual cost schedules provided by Partnerships BC, we calculated the net present value based on the various discount rates (refer to Schedules 2.0 to 2.9 for more details).

The Value for Money report stated that the net present value was calculated using "today's dollars". The Value for Money report was dated in November 2004. We found that in order to arrive at the same dollar net present value figures as reported in the Value for Money report (using a 7.12 percent discount rate) the Public Sector Comparator was discounted from 2002 and the P3 was discounted from 2004. We found this methodology inconsistent but it did not produce material differences in overall results.

In order to perform a sensitivity analysis for different discount rates, we calculated the net present value based on the same methodology used in the Value for Money reports.

The following table summarizes our findings using Partnerships BC's discounting methodology:

Table 6.6: Net Present Value Comparison for the Diamond Centre

Discount Rate	P3 NPV ($ millions)	PSC NPV ($ millions)	Difference ($ millions)
1.12	164.7	87.6	(77.1)
2.12	137.6	85.9	(51.7)
3.12	116.0	84.6	(31.4)
4.12	98.7	83.5	(15.2)
5.12	84.6	82.5	(2.1)
6.12	73.1	81.5	8.4
7.12	63.7	80.6	16.9
8.12	55.9	79.8	23.9
9.12	49.4	79.0	29.6

The Value for Money report indicated a cost savings of $17 million based on a discount rate of 9.12 percent. The Value for Money report also indicated that within two percentage points higher and lower than 7.12 percent, the P3 option was found to provide better value and lower costs to taxpayers.

Based on our calculations as indicated in the above table, we found that at two percentage points higher (9.12 percent), the P3 net present value compared favorably to the Public Sector Comparator net present value; however, at two percentage point lower (5.12 percent), the P3 net present value did not compare favorably to Public Sector Comparator net present value and represented $2.1 million extra costs to the public. At even lower discount rates, the P3 net present value did not compare favorably to the Public Sector Comparator net present value.

Based on the above information:

- We conclude that the total nominal dollar cost of the Diamond Centre P3 project is significantly higher ($114 million) than the Public Sector Comparator.
- The discount rate of 7.12 percent appears to be somewhat arbitrary and creates a more favourable net present value for the P3 project.

6.4 Canada Line

The April 2006 Value for Money report prepared by Canada Line indicated the following with respect to the comparison of the P3 and Public Sector Comparator cost.

- The P3 will cost approximately $1,658 million over 32 years in net present value terms. This will compare favourably to the estimated $1,750 million net present value cost of the PCS representing a savings of approximately $92 million.
- Included in the net present value calculation were risk transfer amounts of $242 million for the PCS and $30 million for the P3. The risk transfer amounts were not specifically quantified or described in any detail.
- The net present value was calculated based on a discount rate of 6 percent which is the rate the Greater Vancouver Transportation Authority ("GVTA") uses to assess the economics of various transportation capital projects.
- To test this calculation, the project team also compared the final agreement using discount rates of 5 percent and 7 percent. They found that the impact of the discount rate was greater for the P3 than the Public Sector Comparator. The report explained that this is because a greater proportion of the P3's costs occur over the operating period as a portion of capital costs are financed with private capital whereas the full cost of building the line is paid during construction in the Public Sector Comparator.
- The following chart as indicated in the Value for Money report summarizes the differences in these discount rates:

Table 6.7: Net Present Value Comparison per Value for Money Report for Canada Line

Discount Rate	P3 NPV (millions $)	PSC NPV (millions $)	Difference (millions $)
7	1,539	1,682	143
6	1,658	1,750	92
5	1,797	1,824	27

- The total nominal cost of the P3 was disclosed as $2,050 million; however, the total nominal cost of the Public Sector Comparator was not disclosed.

In response to CUPE's requests, on February 26, 2007, Canada Line Rapid Transit Inc. provided a hard copy print out of the Value for Money model and the Public Sector Comparator and on June 11, 2008 provided additional information. In total this represented over 600 pages of data that was very difficult to use.

We reviewed the documentation provided by Canada Line and were unable to determine the annual nominal costs of the P3 and the Public Sector Comparator.

Based on the above information:

- We conclude that there is insufficient information provided to compare the total cost of the Canada Line P3 project and the Public Sector Comparator;
- The discount rate of 6 percent used to discount the cash flows appears to be arbitrary and based on a rate used by GVTA to judge other capital projects; and
- The discount rate used significantly affects the comparability of the net present value of the P3 and the Public Sector Comparator.

7.0 GLOSSARY

Design/Build Agreement: The private sector designs and builds infrastructure to meet public sector performance specifications, often for a fixed price, so the risk of cost overruns is transferred to the private sector.

Design Build Finance Operate Agreement: The private sector designs, finances and constructs a new facility under a long-term lease, and operates the facility during the term of the lease. The private partner transfers the new facility to the public sector at the end of the lease term.

Discounting: A method used to convert future costs or benefits to present values using a discount rate.

Discounted Cash Flow: A technique for appraising investments. It reflects the principle that the value to an investor (whether an individual or a firm) of a sum of money depends on when it is received.

Discount Rate: The interest rate used in determining the present value of future cash flows.

Net Present Value (NPV): The discounted sum value of a stream of either future costs or benefits.

Nominal Cost: The cost of goods and services expressed in current actual prices of the period when incurred.

Partnerships British Columbia (Partnerships BC): A private company wholly owned by the BC Ministry of Finance. It has a contractual relationship with the BC government providing advice on public private partnerships, delivering these projects and evaluating their results.

Public Private Partnership (P3): Contractual agreements between government and the private sector by which private-sector businesses provide assets and deliver services, and the various partners share the responsibilities and business risks.

Public Sector Comparator (PSC): Public Sector Comparator is a hypothetical risk-adjusted costing, by the public sector as a supplier, to an output specification produced as part of a P3 procurement exercise. It is expressed in net present value terms; is based on the recent actual public sector method of providing that defined output; and takes full account of the risks which would be encountered by that style of procurement.

Risk: The likelihood, measured by its' probability, that a particular event will occur.

Time Preference Rate: Preference for consumption (or other costs or benefits) sooner rather than later, expressed as an annual percentage rate.

Time Value of Money: The concept that a dollar in hand today will be worth more than a dollar in the future. The time value of money is typically thought of in terms of the amount of interest that could have been earned had money been invested in an interest-bearing account instead of not investing it.

Value for Money: The test of whether the P3 alternative is a supportable procurement mechanism. Generally, the value for money test is that the net present value of the P3 option (adjusted for Risk Transfer) is equal to or less than the net present value of the conventional Public Sector Comparator (adjusted for absence of Risk Transfer).

8.0 RESTRICTIONS AND LIMITATIONS

Our comments and conclusions are based on information that has been made available to us. We reserve the right to review and revise our comments and conclusions in light of any information which becomes known to us subsequent to the date of this report.

Blair
Mackay
Mynett
VALUATIONS INC

9.0 PROFESSIONAL QUALIFICATIONS

The statements of professional qualifications of the writers, who had the principal responsibility for the content and preparation of this report, are set out in Appendix A.

Yours very truly,

BLAIR MACKAY MYNETT VALUATIONS INC.

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Tab 1

Abbotsford Hospital **Schedule 1.0**
Nominal Operating and Lifecycle Costs
Calculation of NPV

Operating Year	PSC Costs $ (provided by PBC)	Discount Factor - 6%	NPV $
1	19,848	0.9713	19,278
2	19,588	0.9163	17,949
3	19,980	0.8644	17,272
4	20,380	0.8155	16,620
5	22,053	0.7693	16,966
6	21,203	0.7258	15,389
7	21,627	0.6847	14,808
8	22,750	0.6460	14,696
9	22,529	0.6094	13,729
10	35,482	0.5749	20,399
11	23,576	0.5424	12,787
12	23,878	0.5117	12,217
13	24,356	0.4827	11,757
14	24,843	0.4554	11,313
15	30,204	0.4296	12,976
16	26,655	0.4053	10,803
17	26,363	0.3823	10,080
18	26,925	0.3607	9,712
19	27,428	0.3403	9,333
20	74,749	0.3210	23,996
21	28,537	0.3029	8,642
22	29,313	0.2857	8,375
23	29,689	0.2695	8,002
24	31,231	0.2543	7,941
25	33,721	0.2399	8,089
26	31,507	0.2263	7,130
27	32,178	0.2135	6,870
28	32,797	0.2014	6,606
29	33,435	0.1900	6,353
30	68,275	0.1793	12,239
	885,100		372,327

Tab 2

Diamond Centre

Schedule 2.0

Difference between P3 Cost and PSC Cost

Schedule Reference	Discount Rate	NPV P3$ ('000)	NPV PSC$ ('000)	Difference
	none	203,446	89,903	113,543
2.1	1.12	164,675	87,571	77,104
2.2	2.12	137,634	85,947	51,687
2.3	3.12	116,042	84,611	31,431
2.4	4.12	98,677	83,469	15,208
2.5	5.12	84,610	82,454	2,156
2.6	6.12	73,134	81,521	-8,387
2.7	7.12	63,703	80,639	-16,936
2.8	8.12	55,899	79,788	-23,889
2.9	9.12	49,395	78,954	-29,559

Diamond Centre **Schedule 2.1**

Calculation of NPV Comparison

Discount Rate of 1.12%

Year	PSC Costs $	Discount Factor Applied at 1.12%	PSC NPV $	P3 Costs $	Discount Factor Applied at 1.12%	P3 NPV $
2002	12,128,000	0.9944	**12,060,648**	0		**0**
2003	43,520,000	0.9834	**42,798,968**	0		**0**
2004	48,264,000	0.9725	**46,938,657**	0		**0**
2005	-911,000	0.9618	**-876,171**	0		**0**
2006	-1,778,000	0.9511	**-1,691,083**	4,099,260	0.9725	**3,986,693**
2007	-2,120,000	0.9406	**-1,994,032**	4,140,267	0.9618	**3,981,976**
2008	-2,103,000	0.9302	**-1,956,133**	4,226,725	0.9511	**4,020,103**
2009	-2,086,000	0.9199	**-1,918,829**	4,368,740	0.9406	**4,109,153**
2010	-1,544,000	0.9097	**-1,404,534**	4,520,619	0.9302	**4,204,913**
2011	-1,512,000	0.8996	**-1,360,190**	4,787,309	0.9199	**4,403,657**
2012	-1,480,000	0.8896	**-1,316,657**	4,947,241	0.9097	**4,500,368**
2013	-1,446,000	0.8798	**-1,272,161**	5,111,357	0.8996	**4,598,161**
2014	-1,412,000	0.8700	**-1,228,489**	5,279,764	0.8896	**4,697,052**
2015	-1,280,000	0.8604	**-1,101,310**	5,452,574	0.8798	**4,797,062**
2016	-1,230,000	0.8509	**-1,046,569**	5,504,170	0.8700	**4,788,821**
2017	-1,179,000	0.8414	**-992,063**	5,686,130	0.8604	**4,892,338**
2018	-1,126,000	0.8321	**-936,973**	5,872,844	0.8509	**4,997,020**
2019	-1,072,000	0.8229	**-882,158**	6,064,433	0.8414	**5,102,885**
2020	-1,063,000	0.8138	**-865,063**	6,261,025	0.8321	**5,209,955**
2021	-1,006,000	0.8048	**-809,609**	6,908,728	0.8229	**5,685,249**
2022	-948,000	0.7959	**-754,481**	7,115,715	0.8138	**5,790,725**
2023	-889,000	0.7871	**-699,689**	7,328,103	0.8048	**5,897,513**
2024	-827,000	0.7783	**-643,682**	7,546,031	0.7959	**6,005,634**
2025	1,143,000	0.7697	**879,782**	7,769,642	0.7871	**6,115,109**
2026	1,270,000	0.7612	**966,709**	8,254,867	0.7783	**6,425,046**
2027	1,400,000	0.7528	**1,053,860**	8,490,288	0.7697	**6,535,089**
2028	1,533,000	0.7444	**1,141,195**	8,731,843	0.7612	**6,646,575**
2029	1,669,000	0.7362	**1,228,675**	8,979,691	0.7528	**6,759,527**
2030	903,000	0.7280	**657,403**	9,233,994	0.7444	**6,873,967**
2031	1,047,000	0.7200	**753,795**	8,803,409	0.7362	**6,480,846**
2032	1,194,000	0.7120	**850,108**	9,071,126	0.7280	**6,603,968**
2033	1,345,000	0.7041	**947,011**	9,345,812	0.7200	**6,728,585**
2034	1,499,000	0.6963	**1,043,752**	9,627,645	0.7120	**6,854,720**
2035		0.6886	**0**	9,916,810	0.7041	**6,982,398**
	89,903,000		**87,570,687**	203,446,162		**164,675,108**

Note: Discount methodology used by PBC

Diamond Centre **Schedule 2.2**

Calculation of NPV Comparison

Discount Rate of 2.12%

Year	PSC Costs $	Discount Factor Applied at 2.12%	PSC NPV $	P3 Costs $	Discount Factor Applied at 2.12%	P3 NPV $
2002	12,128,000	0.9896	**12,001,452**	0		**0**
2003	43,520,000	0.9690	**42,171,852**	0		**0**
2004	48,264,000	0.9489	**45,797,977**	0		**0**
2005	-911,000	0.9292	**-846,507**	0		**0**
2006	-1,778,000	0.9099	**-1,617,831**	4,099,260	0.9489	**3,889,811**
2007	-2,120,000	0.8910	**-1,888,976**	4,140,267	0.9292	**3,847,162**
2008	-2,103,000	0.8725	**-1,834,928**	4,226,725	0.9099	**3,845,965**
2009	-2,086,000	0.8544	**-1,782,310**	4,368,740	0.8910	**3,892,663**
2010	-1,544,000	0.8367	**-1,291,830**	4,520,619	0.8725	**3,944,370**
2011	-1,512,000	0.8193	**-1,238,794**	4,787,309	0.8544	**4,090,349**
2012	-1,480,000	0.8023	**-1,187,403**	4,947,241	0.8367	**4,139,246**
2013	-1,446,000	0.7856	**-1,136,041**	5,111,357	0.8193	**4,187,777**
2014	-1,412,000	0.7693	**-1,086,300**	5,279,764	0.8023	**4,235,952**
2015	-1,280,000	0.7534	**-964,304**	5,452,574	0.7856	**4,283,781**
2016	-1,230,000	0.7377	**-907,399**	5,504,170	0.7693	**4,234,545**
2017	-1,179,000	0.7224	**-851,719**	5,686,130	0.7534	**4,283,718**
2018	-1,126,000	0.7074	**-796,545**	5,872,844	0.7377	**4,332,532**
2019	-1,072,000	0.6927	**-742,601**	6,064,433	0.7224	**4,380,994**
2020	-1,063,000	0.6783	**-721,080**	6,261,025	0.7074	**4,429,117**
2021	-1,006,000	0.6643	**-668,247**	6,908,728	0.6927	**4,785,849**
2022	-948,000	0.6505	**-616,647**	7,115,715	0.6783	**4,826,904**
2023	-889,000	0.6370	**-566,265**	7,328,103	0.6643	**4,867,779**
2024	-827,000	0.6237	**-515,837**	7,546,031	0.6505	**4,908,480**
2025	1,143,000	0.6108	**698,140**	7,769,642	0.6370	**4,949,014**
2026	1,270,000	0.5981	**759,607**	8,254,867	0.6237	**5,148,929**
2027	1,400,000	0.5857	**819,979**	8,490,288	0.6108	**5,185,832**
2028	1,533,000	0.5735	**879,237**	8,731,843	0.5981	**5,222,653**
2029	1,669,000	0.5616	**937,366**	8,979,691	0.5857	**5,259,396**
2030	903,000	0.5500	**496,626**	9,233,994	0.5735	**5,296,064**
2031	1,047,000	0.5386	**563,869**	8,803,409	0.5616	**4,944,287**
2032	1,194,000	0.5274	**629,687**	9,071,126	0.5500	**4,988,882**
2033	1,345,000	0.5164	**694,595**	9,345,812	0.5386	**5,033,247**
2034	1,499,000	0.5057	**758,055**	9,627,645	0.5274	**5,077,390**
2035		0.4952	**0**	9,916,810	0.5164	**5,121,316**
	89,903,000		**85,946,877**	203,446,162		**137,634,006**

Note: Discount methodology used by PBC

Diamond Centre Schedule 2.3

Calculation of NPV Comparison

Discount Rate of 3.12%

Year	PSC Costs $	Discount Factor Applied at 3.12%	PSC NPV $	P3 Costs $	Discount Factor Applied at 3.12%	P3 NPV $
2002	12,128,000	0.9848	**11,943,118**	0		**0**
2003	43,520,000	0.9550	**41,559,903**	0		**0**
2004	48,264,000	0.9261	**44,695,732**	0		**0**
2005	-911,000	0.8980	**-818,122**	0		**0**
2006	-1,778,000	0.8709	**-1,548,420**	4,099,260	0.9261	**3,796,192**
2007	-2,120,000	0.8445	**-1,790,399**	4,140,267	0.8980	**3,718,161**
2008	-2,103,000	0.8190	**-1,722,306**	4,226,725	0.8709	**3,680,959**
2009	-2,086,000	0.7942	**-1,656,695**	4,368,740	0.8445	**3,689,523**
2010	-1,544,000	0.7702	**-1,189,139**	4,520,619	0.8190	**3,702,278**
2011	-1,512,000	0.7469	**-1,129,261**	4,787,309	0.7942	**3,802,066**
2012	-1,480,000	0.7243	**-1,071,917**	4,947,241	0.7702	**3,810,205**
2013	-1,446,000	0.7024	**-1,015,605**	5,111,357	0.7469	**3,817,496**
2014	-1,412,000	0.6811	**-961,719**	5,279,764	0.7243	**3,823,966**
2015	-1,280,000	0.6605	**-845,436**	5,452,574	0.7024	**3,829,642**
2016	-1,230,000	0.6405	**-787,831**	5,504,170	0.6811	**3,748,914**
2017	-1,179,000	0.6211	**-732,316**	5,686,130	0.6605	**3,755,671**
2018	-1,126,000	0.6023	**-678,235**	5,872,844	0.6405	**3,761,632**
2019	-1,072,000	0.5841	**-626,172**	6,064,433	0.6211	**3,766,823**
2020	-1,063,000	0.5664	**-602,129**	6,261,025	0.6023	**3,771,269**
2021	-1,006,000	0.5493	**-552,601**	6,908,728	0.5841	**4,035,499**
2022	-948,000	0.5327	**-504,985**	7,115,715	0.5664	**4,030,647**
2023	-889,000	0.5166	**-459,229**	7,328,103	0.5493	**4,025,362**
2024	-827,000	0.5009	**-414,276**	7,546,031	0.5327	**4,019,657**
2025	1,143,000	0.4858	**555,249**	7,769,642	0.5166	**4,013,549**
2026	1,270,000	0.4711	**598,277**	8,254,867	0.5009	**4,135,183**
2027	1,400,000	0.4568	**639,564**	8,490,288	0.4858	**4,124,432**
2028	1,533,000	0.4430	**679,134**	8,731,843	0.4711	**4,113,436**
2029	1,669,000	0.4296	**717,012**	8,979,691	0.4568	**4,102,205**
2030	903,000	0.4166	**376,197**	9,233,994	0.4430	**4,090,747**
2031	1,047,000	0.4040	**422,991**	8,803,409	0.4296	**3,781,996**
2032	1,194,000	0.3918	**467,784**	9,071,126	0.4166	**3,779,100**
2033	1,345,000	0.3799	**511,000**	9,345,812	0.4040	**3,775,734**
2034	1,499,000	0.3684	**552,277**	9,627,645	0.3918	**3,771,911**
2035		0.3573	**0**	9,916,810	0.3799	**3,767,650**
	89,903,000		**84,611,444**	203,446,162		**116,041,907**

Note: Discount methodology used by PBC

Diamond Centre **Schedule 2.4**

Calculation of NPV Comparison

Discount Rate of 4.12%

Year	PSC Costs $	Discount Factor Applied at 4.12%	PSC NPV $	P3 Costs $	Discount Factor Applied at 4.12%	P3 NPV $
2002	12,128,000	0.9800	**11,885,627**	0		**0**
2003	43,520,000	0.9412	**40,962,613**	0		**0**
2004	48,264,000	0.9040	**43,630,271**	0		**0**
2005	-911,000	0.8682	**-790,950**	0		**0**
2006	-1,778,000	0.8339	**-1,482,614**	4,099,260	0.9040	**3,705,698**
2007	-2,120,000	0.8009	**-1,697,845**	4,140,267	0.8682	**3,594,668**
2008	-2,103,000	0.7692	**-1,617,585**	4,226,725	0.8339	**3,524,522**
2009	-2,086,000	0.7387	**-1,541,019**	4,368,740	0.8009	**3,498,794**
2010	-1,544,000	0.7095	**-1,095,486**	4,520,619	0.7692	**3,477,170**
2011	-1,512,000	0.6814	**-1,030,332**	4,787,309	0.7387	**3,536,594**
2012	-1,480,000	0.6545	**-968,619**	4,947,241	0.7095	**3,510,126**
2013	-1,446,000	0.6286	**-908,920**	5,111,357	0.6814	**3,483,066**
2014	-1,412,000	0.6037	**-852,428**	5,279,764	0.6545	**3,455,460**
2015	-1,280,000	0.5798	**-742,162**	5,452,574	0.6286	**3,427,352**
2016	-1,230,000	0.5569	**-684,951**	5,504,170	0.6037	**3,322,881**
2017	-1,179,000	0.5348	**-630,571**	5,686,130	0.5798	**3,296,899**
2018	-1,126,000	0.5137	**-578,395**	5,872,844	0.5569	**3,270,417**
2019	-1,072,000	0.4933	**-528,868**	6,064,433	0.5348	**3,243,476**
2020	-1,063,000	0.4738	**-503,676**	6,261,025	0.5137	**3,216,117**
2021	-1,006,000	0.4551	**-457,806**	6,908,728	0.4933	**3,408,398**
2022	-948,000	0.4371	**-414,341**	7,115,715	0.4738	**3,371,604**
2023	-889,000	0.4198	**-373,179**	7,328,103	0.4551	**3,334,843**
2024	-827,000	0.4032	**-333,416**	7,546,031	0.4371	**3,298,134**
2025	1,143,000	0.3872	**442,582**	7,769,642	0.4198	**3,261,494**
2026	1,270,000	0.3719	**472,299**	8,254,867	0.4032	**3,328,063**
2027	1,400,000	0.3572	**500,043**	8,490,288	0.3872	**3,287,530**
2028	1,533,000	0.3430	**525,880**	8,731,843	0.3719	**3,247,275**
2029	1,669,000	0.3295	**549,879**	8,979,691	0.3572	**3,207,305**
2030	903,000	0.3164	**285,736**	9,233,994	0.3430	**3,167,629**
2031	1,047,000	0.3039	**318,192**	8,803,409	0.3295	**2,900,424**
2032	1,194,000	0.2919	**348,508**	9,071,126	0.3164	**2,870,369**
2033	1,345,000	0.2803	**377,048**	9,345,812	0.3039	**2,840,268**
2034	1,499,000	0.2692	**403,591**	9,627,645	0.2919	**2,810,142**
2035		0.2586	**0**	9,916,810	0.2803	**2,780,008**
	89,903,000		**83,469,102**	203,446,162		**98,676,726**

Note: Discount methodology used by PBC

Diamond Centre **Schedule 2.5**

Calculation of NPV Comparison

Discount Rate of 5.12%

Year	PSC Costs $	Discount Factor Applied at 5.12%	PSC NPV $	P3 Costs $	Discount Factor Applied at 5.12%	P3 NPV $
2002	12,128,000	0.9753	**11,828,959**	0		**0**
2003	43,520,000	0.9278	**40,379,493**	0		**0**
2004	48,264,000	0.8826	**42,600,033**	0		**0**
2005	-911,000	0.8397	**-764,926**	0		**0**
2006	-1,778,000	0.7988	**-1,420,194**	4,099,260	0.8826	**3,618,196**
2007	-2,120,000	0.7599	**-1,610,892**	4,140,267	0.8397	**3,476,399**
2008	-2,103,000	0.7228	**-1,520,143**	4,226,725	0.7988	**3,376,136**
2009	-2,086,000	0.6876	**-1,434,413**	4,368,740	0.7599	**3,319,608**
2010	-1,544,000	0.6541	**-1,010,001**	4,520,619	0.7228	**3,267,707**
2011	-1,512,000	0.6223	**-940,895**	4,787,309	0.6876	**3,291,936**
2012	-1,480,000	0.5920	**-876,124**	4,947,241	0.6541	**3,236,217**
2013	-1,446,000	0.5631	**-814,304**	5,111,357	0.6223	**3,180,719**
2014	-1,412,000	0.5357	**-756,428**	5,279,764	0.5920	**3,125,491**
2015	-1,280,000	0.5096	**-652,316**	5,452,574	0.5631	**3,070,577**
2016	-1,230,000	0.4848	**-596,304**	5,504,170	0.5357	**2,948,662**
2017	-1,179,000	0.4612	**-543,739**	5,686,130	0.5096	**2,897,774**
2018	-1,126,000	0.4387	**-494,004**	5,872,844	0.4848	**2,847,153**
2019	-1,072,000	0.4174	**-447,405**	6,064,433	0.4612	**2,796,838**
2020	-1,063,000	0.3970	**-422,041**	6,261,025	0.4387	**2,746,864**
2021	-1,006,000	0.3777	**-379,956**	6,908,728	0.4174	**2,883,397**
2022	-948,000	0.3593	**-340,611**	7,115,715	0.3970	**2,825,137**
2023	-889,000	0.3418	**-303,855**	7,328,103	0.3777	**2,767,752**
2024	-827,000	0.3251	**-268,896**	7,546,031	0.3593	**2,711,246**
2025	1,143,000	0.3093	**353,542**	7,769,642	0.3418	**2,655,620**
2026	1,270,000	0.2942	**373,691**	8,254,867	0.3251	**2,684,044**
2027	1,400,000	0.2799	**391,879**	8,490,288	0.3093	**2,626,133**
2028	1,533,000	0.2663	**408,207**	8,731,843	0.2942	**2,569,300**
2029	1,669,000	0.2533	**422,775**	8,979,691	0.2799	**2,513,535**
2030	903,000	0.2410	**217,598**	9,233,994	0.2663	**2,458,826**
2031	1,047,000	0.2292	**240,010**	8,803,409	0.2533	**2,229,994**
2032	1,194,000	0.2181	**260,376**	9,071,126	0.2410	**2,185,892**
2033	1,345,000	0.2074	**279,019**	9,345,812	0.2292	**2,142,393**
2034	1,499,000	0.1973	**295,820**	9,627,645	0.2181	**2,099,505**
2035		0.1877	**0**	9,916,810	0.2074	**2,057,233**
	89,903,000		**82,453,952**	203,446,162		**84,610,281**

Note: Discount methodology used by PBC

Diamond Centre **Schedule 2.6**

Calculation of NPV Comparison

Discount Rate of 6.12%

Year	PSC Costs $	Discount Factor Applied at 6.12%	PSC NPV $	P3 Costs $	Discount Factor Applied at 6.12%	P3 NPV $
2002	12,128,000	0.9707	**11,773,093**	0		**0**
2003	43,520,000	0.9148	**39,810,078**	0		**0**
2004	48,264,000	0.8620	**41,603,533**	0		**0**
2005	-911,000	0.8123	**-739,994**	0		**0**
2006	-1,778,000	0.7654	**-1,360,956**	4,099,260	0.8620	**3,533,559**
2007	-2,120,000	0.7213	**-1,529,153**	4,140,267	0.8123	**3,363,086**
2008	-2,103,000	0.6797	**-1,429,411**	4,226,725	0.7654	**3,235,314**
2009	-2,086,000	0.6405	**-1,336,088**	4,368,740	0.7213	**3,151,167**
2010	-1,544,000	0.6036	**-931,903**	4,520,619	0.6797	**3,072,669**
2011	-1,512,000	0.5688	**-859,960**	4,787,309	0.6405	**3,066,282**
2012	-1,480,000	0.5360	**-793,215**	4,947,241	0.6036	**2,985,977**
2013	-1,446,000	0.5050	**-730,298**	5,111,357	0.5688	**2,907,116**
2014	-1,412,000	0.4759	**-672,000**	5,279,764	0.5360	**2,829,720**
2015	-1,280,000	0.4485	**-574,047**	5,452,574	0.5050	**2,753,806**
2016	-1,230,000	0.4226	**-519,811**	5,504,170	0.4759	**2,619,548**
2017	-1,179,000	0.3982	**-469,523**	5,686,130	0.4485	**2,550,081**
2018	-1,126,000	0.3753	**-422,556**	5,872,844	0.4226	**2,481,924**
2019	-1,072,000	0.3536	**-379,091**	6,064,433	0.3982	**2,415,088**
2020	-1,063,000	0.3332	**-354,229**	6,261,025	0.3753	**2,349,584**
2021	-1,006,000	0.3140	**-315,902**	6,908,728	0.3536	**2,443,129**
2022	-948,000	0.2959	**-280,521**	7,115,715	0.3332	**2,371,208**
2023	-889,000	0.2788	**-247,891**	7,328,103	0.3140	**2,301,152**
2024	-827,000	0.2628	**-217,304**	7,546,031	0.2959	**2,232,930**
2025	1,143,000	0.2476	**283,016**	7,769,642	0.2788	**2,166,508**
2026	1,270,000	0.2333	**296,327**	8,254,867	0.2628	**2,169,063**
2027	1,400,000	0.2199	**307,821**	8,490,288	0.2476	**2,102,264**
2028	1,533,000	0.2072	**317,625**	8,731,843	0.2333	**2,037,387**
2029	1,669,000	0.1952	**325,861**	8,979,691	0.2199	**1,974,385**
2030	903,000	0.1840	**166,137**	9,233,994	0.2072	**1,913,210**
2031	1,047,000	0.1734	**181,521**	8,803,409	0.1952	**1,718,806**
2032	1,194,000	0.1634	**195,069**	9,071,126	0.1840	**1,668,937**
2033	1,345,000	0.1540	**207,066**	9,345,812	0.1734	**1,620,311**
2034	1,499,000	0.1451	**217,466**	9,627,645	0.1634	**1,572,911**
2035		0.1367	**0**	9,916,810	0.1540	**1,526,718**
	89,903,000		**81,520,763**	203,446,162		**73,133,840**

Note: Discount methodology used by PBC

Diamond Centre **Schedule 2.7**

Calculation of NPV Comparison

Discount Rate of 7.12%

Year	PSC Costs $	Discount Factor Applied at 7.12%	PSC NPV $	P3 Costs $	Discount Factor Applied at 7.12%	P3 NPV $
2002	12,128,000	0.9662	**11,718,011**	0		**0**
2003	43,520,000	0.9020	**39,253,921**	0		**0**
2004	48,264,000	0.8420	**40,639,364**	0		**0**
2005	-911,000	0.7861	**-716,096**	0		**0**
2006	-1,778,000	0.7338	**-1,304,711**	4,099,260	0.8420	**3,451,668**
2007	-2,120,000	0.6850	**-1,452,271**	4,140,267	0.7861	**3,254,478**
2008	-2,103,000	0.6395	**-1,344,871**	4,226,725	0.7338	**3,101,605**
2009	-2,086,000	0.5970	**-1,245,332**	4,368,740	0.6850	**2,992,734**
2010	-1,544,000	0.5573	**-860,493**	4,520,619	0.6395	**2,890,941**
2011	-1,512,000	0.5203	**-786,650**	4,787,309	0.5970	**2,858,000**
2012	-1,480,000	0.4857	**-718,821**	4,947,241	0.5573	**2,757,168**
2013	-1,446,000	0.4534	**-655,627**	5,111,357	0.5203	**2,659,291**
2014	-1,412,000	0.4233	**-597,658**	5,279,764	0.4857	**2,564,328**
2015	-1,280,000	0.3951	**-505,775**	5,452,574	0.4534	**2,472,237**
2016	-1,230,000	0.3689	**-453,714**	5,504,170	0.4233	**2,329,753**
2017	-1,179,000	0.3444	**-405,994**	5,686,130	0.3951	**2,246,799**
2018	-1,126,000	0.3215	**-361,971**	5,872,844	0.3689	**2,166,333**
2019	-1,072,000	0.3001	**-321,707**	6,064,433	0.3444	**2,088,317**
2020	-1,063,000	0.2802	**-297,802**	6,261,025	0.3215	**2,012,710**
2021	-1,006,000	0.2615	**-263,101**	6,908,728	0.3001	**2,073,305**
2022	-948,000	0.2441	**-231,452**	7,115,715	0.2802	**1,993,486**
2023	-889,000	0.2279	**-202,621**	7,328,103	0.2615	**1,916,530**
2024	-827,000	0.2128	**-175,962**	7,546,031	0.2441	**1,842,350**
2025	1,143,000	0.1986	**227,032**	7,769,642	0.2279	**1,770,859**
2026	1,270,000	0.1854	**235,491**	8,254,867	0.2128	**1,756,396**
2027	1,400,000	0.1731	**242,342**	8,490,288	0.1986	**1,686,414**
2028	1,533,000	0.1616	**247,726**	8,731,843	0.1854	**1,619,113**
2029	1,669,000	0.1509	**251,777**	8,979,691	0.1731	**1,554,397**
2030	903,000	0.1408	**127,168**	9,233,994	0.1616	**1,492,175**
2031	1,047,000	0.1315	**137,646**	8,803,409	0.1509	**1,328,038**
2032	1,194,000	0.1227	**146,539**	9,071,126	0.1408	**1,277,468**
2033	1,345,000	0.1146	**154,099**	9,345,812	0.1315	**1,228,670**
2034	1,499,000	0.1070	**160,328**	9,627,645	0.1227	**1,181,593**
2035		0.0998	**0**	9,916,810	0.1146	**1,136,185**
	89,903,000		**80,638,815**	203,446,162		**63,703,339**

Note: Discount methodology used by PBC

Diamond Centre
Calculation of NPV Comparison
Discount Rate of 8.12%

Schedule 2.8

Year	PSC Costs $	Discount Factor Applied at 8.12%	PSC NPV $	P3 Costs $	Discount Factor Applied at 8.12%	P3 NPV $
2002	12,128,000	0.9617	**11,663,695**	0		**0**
2003	43,520,000	0.8895	**38,710,594**	0		**0**
2004	48,264,000	0.8227	**39,706,190**	0		**0**
2005	-911,000	0.7609	**-693,182**	0		**0**
2006	-1,778,000	0.7038	**-1,251,280**	4,099,260	0.8227	**3,372,410**
2007	-2,120,000	0.6509	**-1,379,916**	4,140,267	0.7609	**3,150,338**
2008	-2,103,000	0.6020	**-1,266,048**	4,226,725	0.7038	**2,974,588**
2009	-2,086,000	0.5568	**-1,161,499**	4,368,740	0.6509	**2,843,629**
2010	-1,544,000	0.5150	**-795,144**	4,520,619	0.6020	**2,721,502**
2011	-1,512,000	0.4763	**-720,186**	4,787,309	0.5568	**2,665,607**
2012	-1,480,000	0.4405	**-652,001**	4,947,241	0.5150	**2,547,779**
2013	-1,446,000	0.4075	**-589,181**	5,111,357	0.4763	**2,434,607**
2014	-1,412,000	0.3769	**-532,120**	5,279,764	0.4405	**2,325,954**
2015	-1,280,000	0.3486	**-446,148**	5,452,574	0.4075	**2,221,683**
2016	-1,230,000	0.3224	**-396,522**	5,504,170	0.3769	**2,074,275**
2017	-1,179,000	0.2982	**-351,536**	5,686,130	0.3486	**1,981,916**
2018	-1,126,000	0.2758	**-310,519**	5,872,844	0.3224	**1,893,263**
2019	-1,072,000	0.2551	**-273,426**	6,064,433	0.2982	**1,808,201**
2020	-1,063,000	0.2359	**-250,768**	6,261,025	0.2758	**1,726,616**
2021	-1,006,000	0.2182	**-219,498**	6,908,728	0.2551	**1,762,148**
2022	-948,000	0.2018	**-191,309**	7,115,715	0.2359	**1,678,637**
2023	-889,000	0.1866	**-165,929**	7,328,103	0.2182	**1,598,909**
2024	-827,000	0.1726	**-142,764**	7,546,031	0.2018	**1,522,807**
2025	1,143,000	0.1597	**182,496**	7,769,642	0.1866	**1,450,178**
2026	1,270,000	0.1477	**187,545**	8,254,867	0.1726	**1,425,031**
2027	1,400,000	0.1366	**191,216**	8,490,288	0.1597	**1,355,597**
2028	1,533,000	0.1263	**193,657**	8,731,843	0.1477	**1,289,460**
2029	1,669,000	0.1168	**195,003**	8,979,691	0.1366	**1,226,471**
2030	903,000	0.1081	**97,581**	9,233,994	0.1263	**1,166,486**
2031	1,047,000	0.0999	**104,645**	8,803,409	0.1168	**1,028,572**
2032	1,194,000	0.0924	**110,375**	9,071,126	0.1081	**980,255**
2033	1,345,000	0.0855	**114,996**	9,345,812	0.0999	**934,090**
2034	1,499,000	0.0791	**118,537**	9,627,645	0.0924	**889,992**
2035		0.0731	**0**	9,916,810	0.0855	**847,875**
	89,903,000		**79,787,555**	203,446,162		**55,898,880**

Note: Discount methodology used by PBC

Diamond Centre **Schedule 2.9**

Calculation of NPV Comparison

Discount Rate of 9.12%

Year	PSC Costs $	Discount Factor Applied at 9.12%	PSC NPV $	P3 Costs $	Discount Factor Applied at 9.12%	P3 NPV $
2002	12,128,000	0.9573	**11,610,128**	0		**0**
2003	43,520,000	0.8773	**38,179,686**	0		**0**
2004	48,264,000	0.8040	**38,802,742**	0		**0**
2005	-911,000	0.7368	**-671,202**	0		**0**
2006	-1,778,000	0.6752	**-1,200,500**	4,099,260	0.8040	**3,295,676**
2007	-2,120,000	0.6188	**-1,311,783**	4,140,267	0.7368	**3,050,444**
2008	-2,103,000	0.5671	**-1,192,507**	4,226,725	0.6752	**2,853,871**
2009	-2,086,000	0.5197	**-1,084,006**	4,368,740	0.6188	**2,703,225**
2010	-1,544,000	0.4762	**-735,293**	4,520,619	0.5671	**2,563,419**
2011	-1,512,000	0.4364	**-659,873**	4,787,309	0.5197	**2,487,762**
2012	-1,480,000	0.3999	**-591,924**	4,947,241	0.4762	**2,356,004**
2013	-1,446,000	0.3665	**-529,991**	5,111,357	0.4364	**2,230,719**
2014	-1,412,000	0.3359	**-474,275**	5,279,764	0.3999	**2,111,635**
2015	-1,280,000	0.3078	**-394,004**	5,452,574	0.3665	**1,998,488**
2016	-1,230,000	0.2821	**-346,970**	5,504,170	0.3359	**1,848,789**
2017	-1,179,000	0.2585	**-304,787**	5,686,130	0.3078	**1,750,282**
2018	-1,126,000	0.2369	**-266,757**	5,872,844	0.2821	**1,656,667**
2019	-1,072,000	0.2171	**-232,739**	6,064,433	0.2585	**1,567,735**
2020	-1,063,000	0.1990	**-211,496**	6,261,025	0.2369	**1,483,281**
2021	-1,006,000	0.1823	**-183,427**	6,908,728	0.2171	**1,499,933**
2022	-948,000	0.1671	**-158,405**	7,115,715	0.1990	**1,415,754**
2023	-889,000	0.1531	**-136,131**	7,328,103	0.1823	**1,336,154**
2024	-827,000	0.1403	**-116,053**	7,546,031	0.1671	**1,260,896**
2025	1,143,000	0.1286	**146,992**	7,769,642	0.1531	**1,189,754**
2026	1,270,000	0.1179	**149,674**	8,254,867	0.1403	**1,158,409**
2027	1,400,000	0.1080	**151,205**	8,490,288	0.1286	**1,091,868**
2028	1,533,000	0.0990	**151,732**	8,731,843	0.1179	**1,029,080**
2029	1,669,000	0.0907	**151,386**	8,979,691	0.1080	**969,840**
2030	903,000	0.0831	**75,061**	9,233,994	0.0990	**913,954**
2031	1,047,000	0.0762	**79,757**	8,803,409	0.0907	**798,511**
2032	1,194,000	0.0698	**83,353**	9,071,126	0.0831	**754,027**
2033	1,345,000	0.0640	**86,047**	9,345,812	0.0762	**711,932**
2034	1,499,000	0.0586	**87,884**	9,627,645	0.0698	**672,105**
2035		0.0537	**0**	9,916,810	0.0640	**634,431**
	89,903,000		**78,953,524**	203,446,162		**49,394,647**

Note: Discount methodology used by PBC

Appendix A

Blair
Mackay
Mynett
VALUATIONS INC

Appendix A.1

Ronald H. Parks

BA, FCA, CA•IFA

Background

Ronald Parks is an Investigative and Forensic Accountant at Blair Mackay Mynett Valuations Inc.. He qualified as a Chartered Accountant in 1983 and began specializing as an Investigative and Forensic Accountant in 1987 with Ernst & Young. In 1994 Ron joined Lindquist Avey Macdonald Baskerville and opened their Vancouver office, where he focused on criminal fraud investigations, damages quantification in civil litigation, special purpose audits, financial reviews and inquiries, and statutory compliance and process reviews. In 2004, he joined PricewaterhouseCoopers as a Director of Investigations and Forensic Services. He has been at Blair Mackay Mynett Valuations Inc. since February 2006.

Ron is recognized throughout British Columbia and Western Canada for the "Parks Report", the result of his investigation into the affairs of the Nanaimo Commonwealth Holding Society and related parties, which was prompted by allegations of the misuse of charitable donations, lottery commissions, and bingo proceeds. The "Parks Report" presented detailed findings that led to an RCMP investigation and criminal charges as well as a Commission of Inquiry.

For an international assignment, Ron prepared and facilitated training in an Inter-Agency Anti-Graft Program in the Philippines. This project was sponsored by the Canadian International Development Agency to assist the Philippines government in detecting, investigating and prosecuting graft and corruption cases.

Ron has been a frequent lecturer and seminar presenter to the Institute of Chartered Accountants of BC, the Institute of Internal Auditors, the Justice Institute of BC, police, legal and regulatory organizations, and various corporations and not-for-profit groups. He co-designed and taught a continuing-education program on investigative and forensic accounting at British Columbia Institute of Technology.

Ron was designated a specialist in investigative and forensic accounting (CA•IFA) in 2000 and was elected a Fellow of the Institute of Chartered Accountants of BC (FCA) in 2002. He is a former member of the board of directors of the Alliance for Excellence in Investigative and Forensic Accounting.

Areas of Specialization

- Fraud investigations
- Funds tracing
- Financial reviews
- Fidelity insurance claims
- Election financing investigations
- Wrongful dismissals
- Government inquiries
- Partnership and shareholder disputes
- Breach of contract claims
- Damage quantification

Professional Assignments

- Assisted the Department of Justice, Canada Customs and Revenue Agency in tax evasion cases by reviewing evidence, recommending methods for the presentation of accounting evidence and preparing counsel for potential defenses.
- Investigated, pursuant to the Society Act of British Columbia, the Nanaimo Commonwealth Holding Society for alleged misuse of charitable donations, lottery commissions and bingo proceeds. Wrote the "Parks Report".
- Assisted Elections BC and Elections Manitoba in the investigation of alleged election financing regularities.
- Investigated the Recall Campaigns in Prince George North, Skeena and Comox Valley for Elections BC.

- Reviewed the financial implications of the privatization of highway maintenance in British Columbia.
- Reviewed hospital purchasing practices in British Columbia for the Ministry of Health.
- Assisted in the investigative accounting and financial review of Ridge Meadows Hospital and Health Care Centre.
- Conducted a forensic accounting and archival research study of the Touchwood Agency Mismanagement (1920 – 24) Specific Claim. This case involved quantifying a fraud that was alleged to have occurred in this Indian Agency between 1920 and 1924.
- Conducted a public inquiry for the City of Quesnel into cost estimate inflation of the Place St. Laurent project.
- Conducted an investigation and review of roles and responsibilities and the process followed in the Downtown Core Project for the District of Maple Ridge.
- Reviewed the Initial Evaluation of the Public Private Partnership (P3) for the Fraser Valley Health Centre/Eastern Fraser Valley Cancer Centre and the Request for Proposals that followed.
- Provided an expert report covering accounting and reporting issues over a forty-year period in Canada's largest First Nations civil case. (Samson et al v. HMTQ and Ermineskin et al v. HMTQ Trust Accounting and Reporting Standards).
- Conducted an investigation of CareNet Technology Society and the British Columbia Government's dealings with Douglas F. Walls, for the office of the Comptroller General of B.C.

Recent Presentations

- "Fraud and Error", Institute of Chartered Accountants of BC.
- "Fraud in the Retail Environment", Institute of Chartered Accountants of BC.
- "Fraud Investigation Protocol for Internal Auditors", Institute of Internal Auditors
- "Effective Prevention and Detection of Money Laundering", Mexican Bankers Association, Mexico City, Mexico, 1997.
- "Fraud Auditing and Forensic Accounting", Conference on Governance, Manila, Philippines, 1997.
- "Fraud Awareness for Chartered Accountants in Public Practice", Institute of Chartered Accountants of BC.
- "Risk Management for Chartered Accountants in Public Practice", Institute of Chartered Accountants of BC.
- "Forensic Accounting and Accounting Evidence", Justice Institute of BC.
- "Forensic and Investigative Accounting", Resources Development Canada Major Investigation Workshop.
- "Investigating Employee Fraud", Association of Certified Fraud Examiners Forum on Fraud.
- "Fraud and Theft Prevention and Detection in a Down-sized Workplace", Canadian Controllers' Summit.
- "Fraud Auditing and Forensic Accounting", Chinese Auditor Training Program: Canadian International College.
- "P3 Project Delivery – A Forensic Accountant's Point of View", Council of Educational Facilities Planners International, Whistler, BC, July 2003
- "Employee Fraud Investigations", Privacy Laws & Effective Workplace Investigations, Vancouver, BC, April 2003
- "School Generated Funds: Assessing and Mitigating Risk of Fraud and Misstatement", BC School District Secretary – Treasurer's Association, November 2004

Publications

- "Lost Income", Recovery (a publication of the Insurance Corporation of British Columbia), April 1991. (Co-author)
- "Fraud and Theft Prevention and Detection in a Downsized Workplace", Insight Canadian Controllers' Summit, March 1996. (Co-author)
- "The Proliferation of White Collar Crime and the Role of the Auditor", Beyond Numbers (a publication of the Institute of Chartered Accountants of BC), April 2002. (Co-author)
- "A Protocol for the Conduct of Fraud Investigations", The Balance Sheet (a publication of the Alliance for Excellence in Investigative and Forensic Accounting), Fall 2003. (Co-Author)

Education and Professional Memberships

- 2002 – Elected a Fellow (FCA) of the Institute of Chartered Accountants of British Columbia
- 2000 – Specialist Designation in Investigative and Forensic Accounting (CA•IFA), Canadian Institute of Chartered Accountants
- 1983 – Chartered Accountant (CA), Canadian Institute of Chartered Accountants
- 1981 – Extended Studies in Accounting and Business, Simon Fraser University
- 1964 – Bachelor of Arts (BA), University of Alberta
- Institute of Chartered Accountants of British Columbia (ICABC)
Canadian Institute of Chartered Accountants (CICA)
Alliance for Excellence in Investigative and Forensic Accounting (IFA)

Expert Testimony

Ron has qualified as an expert witness in both criminal and civil trials in British Columbia Provincial Court, British Columbia Supreme Court, and the Federal Court of Canada. He has also provided depositions in the United States District Court and testimony in arbitration and mediation hearings.

Blair Mackay Mynett
VALUATIONS INC

Rosanne E. Terhart
CA, CFE

Professional Memberships

- Canadian Institute of Chartered Accountants (member since 1987)
- Institute of Chartered Accountants of BC (member since 2000)
- Association of Certified Fraud Examiners (member since 2002)
- Vancouver Association of Certified Fraud Examiners (member since 2002)

Education

- Bachelor of Commence, McGill University (1983)
- Order of Chartered Accountants of Quebec Professional Education Program including Graduate Diploma of Public Accountancy, McGill University (1987)
- Association of Certified Fraud Examiners Certification Program (2002)
- Canadian Institute of Chartered Business Valuators' Program of Studies (current student)

Experience

Ms. Terhart has over 20 years of experience in accounting, auditing and forensic accounting investigations. Throughout her career, she has worked on numerous assignments involving the review, analysis and reporting on financial and accounting records. Ms. Terhart's practice is focused on criminal fraud investigations, damage quantification in civil litigation, resolution of financial disputes and special purpose audits.

Ms. Terhart has given expert witness testimony in the Supreme Court of British Columbia and has testified in Discipline Hearings at the Law Society of British Columbia.

Employment History

- Coopers & Lybrand, Chartered Accountants (1983 - 1994)
- Universal Studios Hollywood (1995 - 1996)
- System Modal Software Ltd. (1997 - 1999)
- Law Society of British Columbia (2000 - 2002)
- Meyers Norris Penny, Chartered Accountants (2003 - 2005)
- Kwantlen University College: School of Business (contract instructor, 2005 - present)
- Blair Mackay Mynett Valuations Inc. (contract work, 2006 - present)

Lectures

Ms. Terhart has given several fraud awareness lectures on behalf of the BC Crime Prevention Association. She has also given auditing and fraud courses to various groups of accountants and business people.