

Report 15: March 2013

AUDIT OF THE EVERGREEN LINE RAPID TRANSIT PROJECT

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Auditor General
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The Honourable Bill Barisoff
Speaker of the Legislative Assembly
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Dear Sir:

I have the honour to transmit to the Legislative Assembly of British Columbia my 2012/2013 Report 15: *An Audit of the Evergreen Line Rapid Transit Project*.

In this audit, I examined the planning phase of the Evergreen Line by asking whether agencies effectively informed government's decisions about the scope and method of procurement—essentially, what it should build, and the contractual arrangements it should use. Government followed the advice of its agencies in deciding that the Evergreen Line should be scoped as an extension of the SkyTrain system, and procured using a short-term Public Private Partnership (P3), covering its construction. This audit complements my Office's previous P3 audits, which examined how well agencies had implemented these decisions and started to realise and monitor the intended benefits.

As with our previous P3 work, the audit's recommendations are relevant beyond this particular project, applying to the planning of major capital investments delivered through both P3 and traditional, public-sector contracts. I encourage agencies that advise government on the scope and procurement of any major capital project to review them.

John Doyle, MAcc, FCA
Auditor General

Victoria, British Columbia
March 2013

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THE \$1.4 BILLION Evergreen Rapid Transit Line, scheduled to open in 2016, will give those living and working in the northeast region of Metro Vancouver more travel choices by better connecting them to the SkyTrain system. In deciding how best to implement projects of this scale and cost, it is essential that government be fully and accurately informed about the costs, benefits and risks that need to be managed.

In this audit, I examined the planning phase of the Evergreen Line by asking whether agencies effectively informed government's decisions about the scope and method of procurement—essentially, what it should build, and the contractual arrangements it should use. Government followed the advice of its agencies in deciding that the Evergreen Line should be scoped as an extension of the SkyTrain system, and procured using a short-term Public Private Partnership (P3), covering its construction. This audit complements my Office's previous P3 audits, which examined how well agencies had implemented these decisions and started to realise and monitor the intended benefits.

Overall, I found that the recommended scope and procurement options selected are likely the best fit for government's policy objectives. However, I concluded that agencies did not fully inform the scope decision, because the material presented to Treasury Board clearly fell short of the government's own Capital Asset Management Framework guidelines, and had some significant gaps and weaknesses.

Agencies did not clearly and fully explain the different costs, benefits and risks when comparing SkyTrain, light rail and bus improvement options in the material presented to Treasury Board. For the preferred SkyTrain scope, agencies did not explain how Evergreen ridership forecasts assumed both extensive investment in other parts of the transit system and a rapid increase in the cost of using automobiles after 2021. In addition, agencies did not show how the Evergreen Line would impact and be affected by the performance and utilization of other parts of the Metro Vancouver transit system.

Omitting this information meant government did not have the opportunity to understand these risks and endorse actions for protecting and enhancing the benefits of the Evergreen Line over its useful life.

The procurement decision was simplified because it did not make economic sense to operate and maintain the Evergreen Line as a long-term P3 separately from the rest of the SkyTrain network. The risk-adjusted costs of the P3 and public sector options for constructing the line were very similar. In these circumstances, recommending the P3 option was consistent with the government policy for capital projects.



JOHN DOYLE, MAcc, FCA
Auditor General

The business cases used to inform decisions should have included a well-developed framework describing the project outcomes and how agencies intended to measure and report on these. For Evergreen, the performance framework was underdeveloped at the time government made these key decisions. However, I am encouraged that the Ministry of Transportation and Infrastructure has made up some of this ground and shows signs that it intends to measure and report on performance in a way that sets a good example for other major capital projects.

In my previous P3 audits of Academic Ambulatory Care Centre¹ and the Sea-to-Sky Corridor², I noted the importance of adequate documentation for public accountability. The documents we reviewed fell short of what was required to fully understand the analysis and reviews that supported agencies' recommendations. Business cases omitted assumptions and explanations I considered critical to understanding the project's costs, benefits and risks, and none of the agencies documented the substance of their reviews of the material presented to Treasury Board.

As with our previous P3 work, the audit's recommendations are relevant beyond this particular project, applying to the planning of major capital investments delivered through both P3 and traditional, public-sector contracts. I encourage agencies that advise government on the scope and procurement of any major capital project to review them.

I would like to thank the staff in the Ministries of Transport and Finance, and Partnerships British Columbia for their assistance and cooperation during this audit and I look forward to receiving updates on their progress in implementing the recommendations.



John Doyle, MAcc, FCA
Auditor General of British Columbia

March 2013

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¹ [Audit of the Ambulatory Care Centre Public Private Partnership: Vancouver Health Authority](#)
² [Audits of Two P3 Project in the Sea-to-Sky Corridor](#)

AUDIT PURPOSE

EVERY YEAR, THE PROVINCIAL government faces the challenge of deciding how to use public resources to achieve its policy objectives in a way that will best meet the needs of British Columbians. The reality is that the resources available cannot meet all the demands for investment in infrastructure and improved services.

For this reason, it is essential that government be fully and accurately informed about the likely costs, expected benefits and nature of the risks of potential projects. In 2002, the Province published the Capital Asset Management Framework (CAMF) specifically to improve the quality of the information that agencies were giving to government to make investment decisions.

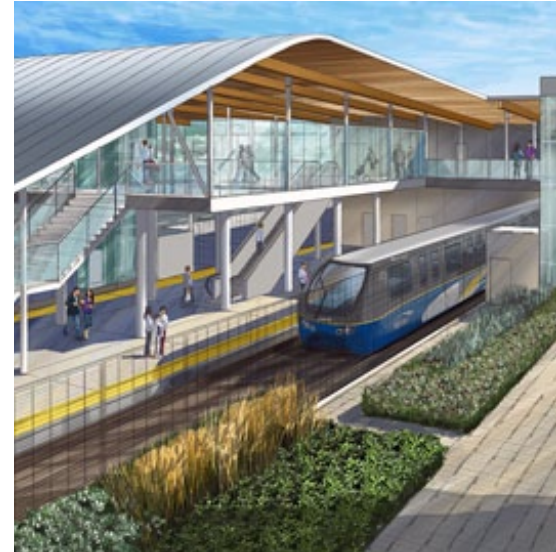
The \$1.4-billion Evergreen Rapid Transit Line now under construction in Metro Vancouver is an 11-kilometre extension of the SkyTrain system. Scheduled to open in 2016, it will link into the Millennium Line, in this way connecting passengers who want to travel between Coquitlam and northeast Vancouver to Burnaby and downtown Vancouver.

The Ministry of Transportation and Infrastructure (MOTI) had overall responsibility for developing the Evergreen Line and informing government's planning decisions. It:

- ◆ jointly developed a 2008 business case with TransLink, recommending that the Evergreen Line be scoped as a SkyTrain extension using a northwestern corridor;
- ◆ jointly developed a 2010 business case with Partnerships British Columbia, recommending a public-private partnership (P3) design-build-finance procurement for the Evergreen Line; and
- ◆ submitted both business cases to Treasury Board in 2010, after their review by the Ministry of Finance (MFIN), and secured the Treasury Board's approval of these recommendations.

Our overall objective was to determine whether MOTI and Partnerships British Columbia provided government with sufficient, rigorous information to enable it to make well-informed decisions. To do this, we asked:

1. Did these two agencies provide sufficient, rigorous information to recommend the project (scope) option most likely to cost-effectively meet government's objectives?
2. Did these two agencies demonstrate that the recommended P3 arrangement represented the best procurement solution, taking account of the expected costs, benefits and risks?



CONCLUSION

Scope decision – In response to the first question, we concluded that the agencies had not fully informed government’s scope decision in the material provided to Treasury Board. The 2008 and 2010 business cases summarised an extensive body of work, but fell short of meeting the CAMF guidelines because they did not:

- ♦ assess the risks of the alternative scope options or clearly explain the difference in their costs before recommending the SkyTrain;
- ♦ explain that ridership forecasts were at the upper end of the estimated range (the forecasts assumed, by 2021, extensive investment in other parts of the transit system, consistent with the aspirations of the Provincial Transit Plan, and the introduction of fiscal measures to increase the cost of using cars from 2021);
- ♦ describe the risks from changes in complementary and competing transit services and how these would be monitored and managed; and
- ♦ include a framework for measuring performance.

In addition, we found that agencies had not adequately documented their reviews of the material presented to Treasury Board and verified its accuracy.

Despite these gaps and weaknesses, we also concluded that the preferred SkyTrain option is likely the best one to meet government’s objectives. However, this conclusion relied on information that was not presented or adequately explained in the submission to Treasury Board.

Getting this right despite the information shortfalls is not a cause for complacency. Relying on the same approach in future capital asset projects puts government at risk of making decisions that would have been modified had government understood the full costs, benefits and risks. In the case of the Evergreen Line, we found that neither business case informed government decision-makers about the ridership risks or how they would be managed.

Procurement decision – In response to the second question, we concluded that MOTI and Partnerships British Columbia demonstrated that a short-term P3 arrangement, covering the designing, building and financing of the Evergreen Line, best meets government’s policy objectives.

The expected costs and risks of building, operating and maintaining a SkyTrain extension were clearly presented and provided a solid basis for government’s decision to:

- ♦ reject a longer-term P3 arrangement, including operations and maintenance, because of the integration and efficiency benefits of having one operator across the entire SkyTrain system; and

- ♦ recommend a P3 arrangement rather than a public design-build arrangement – a decision that is consistent with government policy about delivering large projects under a P3 arrangement unless the public option is clearly superior.

In addition, we found that:

- ♦ the procurement recommendation in the 2010 business case was consistent with the underlying analysis and reflected input from the stakeholder consultations; and
- ♦ the agencies responsible for the project had adequately prepared for its procurement.

These conclusions and findings led to recommendations for improving:

- ♦ guidelines, documentation and oversight (recommendations 1, 2 and 6)
- ♦ performance measurement and reporting (recommendations 4 and 5)
- ♦ transit ridership and benefit estimates (recommendations 3 and 7)

WE RECOMMEND THAT TO IMPROVE:

Guidelines, documentation and oversight:

The Ministry of Finance implement a project plan, describing the scope, required resources, timelines and deliverables, for updating the Capital Asset Management Framework (CAMF) to provide comprehensive guidance for public sector agencies on:

- ◆ the information required to underpin capital project planning and how this should be documented; and
- ◆ the type of oversight that should be applied to verify the information presented to government (recommendation 1).

The Ministry of Finance, the Ministry of Transportation and Infrastructure, and Partnerships British Columbia document project reviews so that the scope of these reviews, and the analysis underpinning decisions, are clearly described in their written records (recommendation 2).

The Ministry of Finance, Ministry of Transportation and Infrastructure, and Partnerships British Columbia improve how they assess and report on whether strategic options assessments and business cases have followed the CAMF guidelines (recommendation 6).

Performance measurement:

The Ministry of Transportation and Infrastructure provide more detailed guidance on performance measurement so that business cases follow CAMF by including appropriate detail on performance indicators, targets and how these will be measured (recommendation 4).

The Ministry of Transportation and Infrastructure develop and apply a detailed framework for measuring, managing and reporting on the performance of the Evergreen Line. The framework should describe:

- ◆ evaluation objectives and specific performance measures;
- ◆ methods for collecting reliable, meaningful information;
- ◆ how agencies will measure and manage performance and resource this work; and
- ◆ how the outcomes will be shared across government and the wider community (recommendation 5).

Transit ridership and benefit estimates:

The Ministry of Transportation and Infrastructure provide more detailed guidance on its requirements for estimating ridership and the economic benefits of transit projects (recommendation 3).

The Ministry of Transportation and Infrastructure update its guidelines to make relevant comparisons with observed data central to justifying and explaining traffic and ridership forecasts (recommendation 7).

What We Evaluated Against	Not Achieved	Partially Achieved	Fully Achieved	Rationale for Assessment
<p>Objective 1: Have agencies provided sufficient and rigorous information to recommend the project option that is most likely to cost-effectively meet government’s objectives?</p>		X		<p>Partly met but clear weaknesses and deficiencies that need to be addressed.</p>
<p>Criterion 1: An appropriate strategic analysis, governance and management framework exists to guide and oversee agencies’ work.</p>		X		<p>Useful and appropriate high-level guidance. Agencies have partly filled gaps in detailed guidance and templates.</p>
<p>Criterion 2: Investment objectives and intended outcomes have been clearly defined and aligned with government’s policy objectives.</p>		X		<p>Objectives are aligned with government policy. However, agencies fell short of CAME’s requirements because of the absence of specific, measurable indicators and a plan for how performance will be tracked and managed.</p>
<p>Criterion 3: The costs, benefits and risks of the project options that could feasibly deliver on investment objectives have been rigorously assessed, verified and clearly communicated to decision makers.</p>		X		<p>Our investigations beyond the material presented to government showed that costs were rigorously assessed. However, we found significant gaps in the analysis of the ridership risks. Furthermore agencies did not adequately communicate the costs, benefits and risks of the scope options to decision-makers.</p>
<p>Criterion 4: Project recommendations have been based on the analysis of costs, benefits and risks while taking account of stakeholder consultations.</p>		X		<p>Partially Met: Choice of technology and alignment are consistent with the underlying analysis. However, there is uncertainty around demand and we did not see this reflected in the 2008 or 2010 business cases.</p>

What We Evaluated Against	Not Achieved	Partially Achieved	Fully Achieved	Rationale for Assessment
<p>Objective 2: Have agencies adequately demonstrated that the recommended P3 arrangement represents the best procurement solution taking full account of the expected costs, benefits and risks across the project’s life-cycle?</p>			X	<p>Met: Based on policy that P3 procurement should be used unless the public sector alternative is demonstrably better.</p> <p>Decision not to cover operations and maintenance using a P3 was reasonable.</p> <p>The short term nature of the P3 means it is very similar to the public sector alternative.</p>
<p>Criterion 1: An appropriate procurement assessment, governance and management framework exists to guide and oversee agencies’ work.</p>		X		<p>Useful and appropriate high-level guidance.</p> <p>More detailed agency tools largely, but not completely fill the gaps in CAMF.</p>
<p>Criterion2: Procurement objectives and intended outcomes have been clearly defined and are consistent with government’s project objectives.</p>		X		<p>Definite procurement objectives.</p> <p>But absence of a comprehensive measurement framework in the business case.</p>
<p>Criterion 3: The qualitative and quantitative analysis of procurement costs, benefits and risks have been rigorously assessed, verified and clearly communicated to decision makers.</p>			X	<p>Rigorous assessment of costs and risks.</p>
<p>Criterion 4: Project recommendations have been based on the analysis of costs, benefits and risks while taking account of stakeholder consultations.</p>			X	<p>Recommendation for a P3 design-build-finance consistent with government policy and evidence.</p>
<p>Criterion 5: Agencies had prepared the management framework needed to successfully procure the project</p>			X	<p>Confirmed that an adequate management framework is in place.</p>

JOINT RESPONSE FROM THE MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE, THE MINISTRY OF FINANCE AND PARTNERSHIPS BC

Overall Management Comments

Government would like to thank the Office of the Auditor General (“the Auditor General”) for undertaking this performance audit. We are pleased to note that the Auditor General has concluded that moving forward with SkyTrain technology for the Evergreen Line was the right decision, and an in-depth and comprehensive assessment of procurement options was undertaken, verifying that the design-build-finance solution best met government’s objectives.

We are also pleased that the Auditor General has acknowledged that extensive stakeholder consultations have been undertaken as part of project planning, and that an appropriate management framework required to successfully procure the Project was in place.

The audit report recognizes that the business cases for the Evergreen Line are based upon an extensive body of work; this reflects the fact that the project had been a regional priority and under study for more than a decade. The Ministry of Transportation and Infrastructure, working with Treasury Board staff, provided an analysis of critical issues including costs, benefits and risks in the submissions provided to decision makers. We note that the Evergreen Line demand forecasts were based on methodologies that were consistent with previous transit projects, including the Millennium Line and the Canada Line, and have proven to be robust and reliable. The Ministries and Partnerships BC are confident that the decisions made with respect to the Evergreen Line were underpinned by extensive technical expertise, advice and due diligence, and were sound, and that the project will successfully meet its objectives of supporting wider transit use and growth management in Metro Vancouver.

The audit recommendations have highlighted areas that the Ministries and Partnerships BC recognize as opportunities to improve and strengthen the business case planning process for major capital projects. Work has already begun to act on these recommendations, and will continue over the coming fiscal year.

Guidelines, documentation and oversight:

The Ministry of Finance appreciates the Auditor General’s comment that CAMF provides a “good, high-level guide for project planning”. The Ministry will take the Auditor General’s observations into consideration as part of its update to CAMF and will continue to consult government, the broader public sector and the construction industry as part of that process.

The Ministry will continue to work with other agencies, including the Ministry of Transportation and Infrastructure and Partnerships British Columbia, to refine guidelines around business case review processes and documentation requirements.

Performance measurement:

The audit report notes that the Ministry of Transportation and Infrastructure has made progress in building a framework that will allow it to measure and manage performance, and further notes that this is an opportunity to create a best-practice example of how to monitor and measure performance.

The Ministry of Transportation and Infrastructure confirms that it is currently developing a consolidated performance management framework for the Evergreen Line, drawing together existing performance measures and ensuring that all project objectives can be appropriately measured and managed. This performance management framework will inform the development of broader guidance on performance measurement for major capital projects across the Ministry. The Ministry of Transportation and Infrastructure will work with the Ministry of Finance to determine how best to share this work across government.

Transit ridership and benefit estimates:

To date, the Ministry of Transportation and Infrastructure has retained specialist experts to establish ridership and traffic forecasts and economic benefit analysis, and to conduct due diligence to support the development of major projects. While the Ministry expects that highly specialized analysis will continue to be required from external experts, the Ministry agrees that there would be benefit in developing guidance to set out requirements for the estimation and validation of traffic and ridership demand and economic analysis, and to ensure that a standard approach is taken across major projects. This work will commence over the coming fiscal year.

BACKGROUND

Informed decision-making: essential to responsible public spending

EVERY YEAR, GOVERNMENT MUST DECIDE how to use public resources to achieve its policy objectives in a way that will best meet the needs of British Columbians. This is a challenging task because, even in times of prosperity and economic growth, the available resources are unlikely to meet all the demands for investment in infrastructure and improved services. When growth stalls, the challenge is only greater because there is less to go around.

For this reason, it is essential that government be fully and accurately informed about the likely cost of potential projects, their expected benefits and the nature of the risks likely to be involved. If government does not have this information, there is greater chance of its decisions being undermined by unforeseen costs or diminished benefits.

CAMF: government's investment framework

In 2000, the provincial government examined the capital management process in British Columbia. The review concluded that “a single, integrated framework is needed to ensure a higher success rate on the Government’s capital projects.” Exhibit 1 summarises the findings that led to this conclusion.

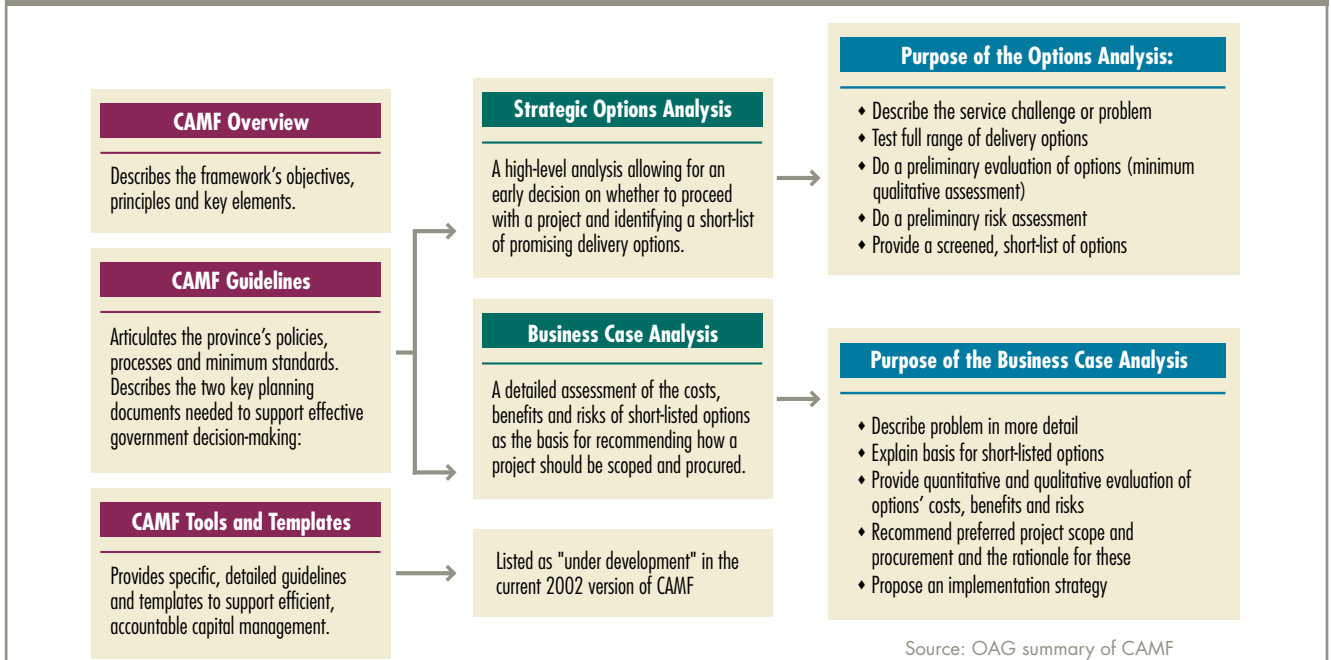
The government responded by developing the Capital Asset Management Framework (CAMF), which it issued in 2002. CAMF’s objectives were to establish best practices in managing public sector capital assets, and to help agencies find the most efficient ways to meet the province’s infrastructure needs. Exhibit 2 shows the three parts of CAMF and the key planning documents supporting effective government decision-making.

Exhibit 1: Findings of the 2000 review of BC’s capital management process

- ◆ Absence of a comprehensive and consistent framework resulted in the inconsistent management of projects.
- ◆ Project risks, impacts and constraints were not always clearly identified and, where they were, in many cases they lacked sufficient support.
- ◆ There was little evidence of an administrative framework to manage projects in proportion to their risk.
- ◆ Reporting on project progress was found to be weak.
- ◆ A common shortfall was the absence of a post-completion performance assessment.

Source: Capital Management Process Review, April 2000—Executive Summary

Exhibit 2: Summary of planning guidance Capital Asset Management Framework



The framework allows for flexibility both in the extent to which the guidelines’ minimum standards are applied and in the level and intensity of oversight exercised by ministries. For smaller, less complex projects, a strategic options analysis is likely unnecessary. Instead, a single, simplified business case, together with minimal oversight, is likely to be sufficient for informing government’s planning decisions.

In contrast, costly, complex and moderate- to high-risk projects are likely to need both a strategic options analysis and a detailed business case that includes a substantive evaluation of the options and a thorough risk assessment. The level of oversight should also be intensified to verify the rigour and completeness of the business case material.

The Evergreen Rapid Transit Line, described below, is exactly the kind of costly and complex project requiring this more intensive approach.

The Evergreen Line and the Provincial Transit Plan

The \$1.4-billion Evergreen Rapid Transit Line, now under construction, is an 11-kilometre extension of the SkyTrain system. Scheduled to open in 2016, it will connect Coquitlam and northeast Vancouver to the Millennium Line (Exhibits 3 and 4).



Source: www.evergreenline.gov.bc.ca



Source: www.evergreenline.gov.bc.ca

The Evergreen Line is part of the Provincial Transit Plan, which aims to improve transit services as a way of supporting economic growth in British Columbia and the government’s climate change goals.

For Metro Vancouver, the plan’s targets include increasing weekday transit market share from 12 percent in 2008 to 17 percent by 2020 and 22 percent by 2030. Within the overall transit plan, the objectives of the Evergreen Line are to:

- ◆ improve Metro Vancouver’s transport network and provide fast, frequent and convenient transit between downtown Vancouver and Coquitlam, Port Moody and Burnaby;
- ◆ make transit a more attractive choice for people living and working in northeast Metro Vancouver and so reduce car use and support the Province’s environmental goals; and
- ◆ support the population and job growth targets set for northeast Metro Vancouver by stimulating high-density developments oriented to transit use.

Exhibit 5 summarises the key milestones during the project’s planning, procurement and delivery. In 2010, Treasury Board endorsed the project as a SkyTrain extension delivered through a public-private partnership (P3) design-build-finance arrangement, signalling the conclusion of the planning phase of this project.

Exhibit 5: Key milestones in the Evergreen Line project	
Milestone	Description
PLANNING	
2004 Alternatives study	TransLink study into the rapid transit options.
2006 Business case	Recommended Light Rapid Transit.
2008 Business case	Updated assessment recommended SkyTrain along the alignment shown in Exhibit 4 and a P3 procurement, subject to further option analysis.
2009 Memorandum of Understanding	Signed agreement between MOTI and TransLink to jointly develop the preferred SkyTrain option.
2010 Business case	Recommended, by MOTI and Partnerships British Columbia, procurement of the SkyTrain option through a P3 design-build-finance arrangement.
2010 Treasury Board decision	Endorsed recommended scope and procurement.
PROCUREMENT AND DELIVERY	
2012 Early works start	Relocated utilities and widened roads.
2012 Preferred proponent	Announced on October 4, 2012.
2012 Contract signed	Signed in December 2012.
2013–2016 Construction	Build the line and prepare for opening.
2016 Opening	Scheduled for summer 2016.

(MOTI – Ministry of Transportation and Infrastructure)

The material presented to Treasury Board included:

- ◆ the 2008 business case, which recommended an extension of the SkyTrain system along the route shown in Exhibit 4. Lincoln station was only added to the project scope in 2011; and
- ◆ the 2010 business case, which further developed the preferred option, assessed the procurement options and recommended a design-build-finance arrangement.

Provincial agency roles and responsibilities

Three agencies were involved in developing the Evergreen Line project to the point where Treasury Board decided on its scope and procurement:

- ◆ **Ministry of Transportation and Infrastructure (MOTI)** – This ministry had overall responsibility for developing the Evergreen Line and informing government’s planning decisions.
- ◆ **Partnerships British Columbia (PBC)** – This Crown agency was responsible for providing detailed guidance on P3 procurement planning, reviewing the 2008 business case and writing the 2010 business case with MOTI.
- ◆ **Ministry of Finance (MFIN)** – This ministry was responsible for developing CAMF and for reviewing the information submitted to Treasury Board about the Evergreen Line project.

In addition, TransLink, the agency responsible for managing transit in Metro Vancouver, jointly developed the 2008 business case with MOTI.

Also important to note is that the government’s “Provincial Capital Standard” favours the use of P3 arrangements for large projects unless there are clear reasons against this. As stated in a 2008 news release, “All capital projects with a provincial contribution of \$50 million or more will be considered first by Partnerships BC to be built as public-private partnerships (P3s) unless there is a compelling reason to do otherwise.”

AUDIT OBJECTIVES AND SCOPE

In this audit, we asked whether the responsible agencies effectively informed government’s decisions on the scope and procurement of the Evergreen Line.

Decisions about scope included choices about the preferred route for the line and whether it should be an extension of the SkyTrain system or use another form of rail technology.

In examining whether government received sufficient information to enable it to recommend the most cost-effective scope option to meet provincial objectives, we asked whether the two agencies had:

- ◆ used an appropriate planning framework for guidance;
- ◆ clearly defined investment objectives and intended outcomes and aligned these with government’s policy objectives;

- ♦ rigorously assessed, reviewed and clearly communicated the costs, benefits and risks of the project options that could deliver on government's objectives; and
- ♦ framed recommendations that were consistent with their analysis of the costs, benefits and risks, while taking account of stakeholder consultations.

Decisions about procurement included choosing between a traditional public sector led procurement approach or a public-private partnership (P3) having greater private sector involvement.

For the procurement decision, we examined whether the two agencies adequately demonstrated that the recommended P3 arrangement represents the best procurement solution – one that takes full account of the expected costs, benefits and risks across the project's life cycle.

Our assessment was based on the same four criteria as we used to examine the project scope. In addition, we examined whether the two agencies were prepared to go ahead with the procurement option chosen.

We conducted the audit in the fall of 2012, in accordance with Section 11(8) of the *Auditor General Act* and the standards for assurance engagements established by the Canadian Institute of Chartered Accountants.

Scope exclusion

In this audit, we examined the planning of the Evergreen Line and how well the information provided by MOTI and PBC informed government decision-making on the project scope (route and technology) and form of procurement. We did not examine how the preferred procurement was applied to choose a contractor to build the line.

AUDIT CONCLUSIONS

Scope decision – We concluded that the agencies had not fully informed government's scope decision in the material provided to Treasury Board. The 2008 and 2010 business cases fell short of meeting the CAMF guidelines because they did not adequately communicate the project risks or how agencies would measure performance.

In addition, we found that agencies had not adequately documented their reviews of the material presented to Treasury Board and verified its accuracy.

Procurement decision – In response to the second question, we concluded that MOTI and Partnerships British Columbia demonstrated that a short-term P3 arrangement, covering the designing, building and financing of the Evergreen Line, best meets government's policy objectives.

KEY FINDINGS AND RECOMMENDATIONS

Informing the scope decision

We found that both the 2008 and 2010 business cases fell short of meeting the CAMF guidelines for informing government's decision about project scope. Neither case included:

- ◆ a risk analysis of the short-listed scope options or sufficient information on the ridership risks and how these would be managed;
- ◆ a framework for measuring performance;
- ◆ sufficient information to enable the reader to understand that the ridership forecasts, which MOTI considered consistent with the Provincial Transit Plan, were at the upper end of the expected range, because of the risk that elements of the Plan that impact Evergreen line are not implemented as envisaged; and
- ◆ evidence that agencies had reviewed the material against the CAMF guidelines.

Although we concluded that the preferred SkyTrain option is likely the best one to meet government's objectives, the gaps and weaknesses above still need to be addressed. All risks, including those significant ridership-related ones that were not identified in the business case, have the potential to diminish the project's benefits if they are not managed. Failing to meet the CAMF guidelines on another major project could potentially result in government making decisions without sufficiently weighing all risks.

Use of analysis and the oversight framework

To assess whether the work to inform government's decision about project scope had followed an appropriate guidance and oversight framework, we examined:

- ◆ the relevant parts of CAMF and MOTI's and PBC's supplementary guidelines; and
- ◆ evidence that agencies had reviewed the analysis underpinning the scope recommendation against these guidelines.

Planning guidelines

We found that CAMF provides a good, high-level guide for project planning, by describing the type of information agencies need to provide to support key planning decisions. However, the detailed tools and templates required to translate the guidelines into consistent cross-government practices have not been developed. Specific tools and templates were identified in CAMF and described as "currently being developed."

MOTI has largely, but not completely, filled these gaps by developing its own detailed tools and templates. We also learned from MFIN that other public sector agencies have done the same, and that the ministry is reviewing the application of CAMF.

We consider this review of CAMF and of agency effectiveness in applying the guidelines as a critical step to improving the quality and consistency of project planning across government. MFIN should therefore develop and apply a detailed project plan to complete its review and update the framework.

Furthermore, while MOTI supplemented CAMF with more detailed guidelines, gaps remain in the CAMF documentation for planning transport projects. The ministry needs to develop additional guidelines for setting up a performance framework that is part of the project business case which shows how agencies will measure and report on the outcomes. As well, the ministry should develop guidance on the modelling and economic appraisal of transit projects describing the standard requirements for verifying ridership forecasts and completing a transit economic appraisal.

Oversight and review

Because of inadequate documentation and record-keeping by agencies, we could not be assured about the scope and rigour of their reviews of the 2008 and 2010 business cases.

While the decisions about the preferred project scope were recorded in various documents from MOTI, the Evergreen Project Board and Treasury Board, the information underpinning these decisions was not. Missing were:

- ◆ issues raised with the business case analysis and how these were resolved;
- ◆ purpose and outcomes of meetings held to review the business cases; and
- ◆ some of the specialist review documentation (for example, the consultant who reviewed the 2008 business case was not required to provide a written report).

We addressed this assurance gap by interviewing staff and specialists who wrote and reviewed the business cases and by requesting information to justify their recollections. Our findings under the remaining criteria (discussed below) show that we had mixed success in establishing the rigour and comprehensiveness of agencies' reviews.

RECOMMENDATION 1: *We recommend that the Ministry of Finance implement a project plan, describing the scope, required resources, timelines and deliverables, for updating the Capital Asset Management Framework (CAMF) to provide comprehensive guidance for public sector agencies on:*

- ◆ *the information required to underpin capital project planning and how this should be documented; and*
- ◆ *the type of oversight that should be applied to verify the information presented to government.*

RECOMMENDATION 2: *We recommend that the Ministry of Finance, the Ministry of Transportation and Infrastructure, and Partnerships British Columbia document project reviews so that the scope of these reviews, and the analysis underpinning decisions, are clearly described in written records.*

RECOMMENDATION 3: *We recommend that the Ministry of Transportation and Infrastructure provide more detailed guidance on its requirements for estimating ridership and the economic benefits of transit projects.*

RECOMMENDATION 4: *We recommend that the Ministry of Transportation and Infrastructure provide more detailed guidance on performance measurement so that business cases include appropriate detail on performance indicators, targets and how these indicators will be measured.*

Clarity of objectives and outcomes

Performance measurement – measuring project outcomes against intended objectives – is critical to achieving CAMF’s aim of strong accountability. Achieving this requires:

- ◆ **Setting clear project objectives** – defining what a project is meant to achieve and how those achievements relate to government’s policy objectives.
- ◆ **Establishing a performance framework in the business case** – including measures and targets as described in CAMF (see Exhibit 6).

Beyond this, CAMF recommends a systematic approach to managing performance by:

- ◆ applying a well-constructed framework;
- ◆ understanding and reporting on differences between actual and expected outcomes; and
- ◆ using the results to address performance issues and inform future projects.

We assessed the content of the 2008 and 2010 business cases against CAMF’s performance measurement guidelines.

We found that the 2008 and 2010 business cases set project objectives that aligned with the policy objectives in the Provincial Transit Plan, but neither case described how performance should be measured and managed.

The 2008 and 2010 business case project objectives (see Exhibit 7) are consistent with the transit plan’s objectives and its aim of raising Metro Vancouver’s transit share.

However, the performance tools needed to apply the CAMF guidelines have not been developed and MOTI did not write its own ministry-specific guidelines for the Evergreen Line business cases.

The ministry has made progress in building a framework that will allow it to measure and manage performance, but this is not complete. Before we can be assured that the plan will effectively address the CAMF guidelines, the ministry has to define specific measures and say how they will be monitored and managed.

Exhibit 6: CAMF performance measure attributes

Results oriented – reflecting the project’s intended outcomes

Comparative – use benchmark data from similar projects and other jurisdictions where available

Diverse and balanced – develop a mix of measures to provide a balanced perspective on project outcomes

Stable – allow an analysis of changes over time

Realistic – set targets that incentivise improved performance

Able to withstand scrutiny – report externally using clear, meaningful, easy-to-understand and straightforward to interpret information

Source: CAMF Guidelines, Table 11.2.1

Exhibit 7: OAG Summary of the project objectives in 2008 and 2010 business cases

Increasing transportation choice – by: providing a quick and reliable transit alternative to car travel, increasing transit capacity in the northeast, and better connecting people to the wider transit network

Supporting the effective management of planned population growth – by: stimulating concentrated and mixed-use development and supporting existing development and business expansion

Contributing to a better environment – by: reducing regional car trips and greenhouse gasses, preserving green space, and encouraging walking along the Evergreen corridor

Source: OAG summary of Table 2, 2010 business case

There is still time to complete a rigorous framework and collect baseline data to measure performance after the line opens in 2016. Indeed, we think this is an opportunity to create a best-practice example of how to monitor and manage project performance. Doing this well will also improve the ministry's grasp of the impact of a major transit project in furthering sustainable development and of the accuracy of current approaches to estimating travel demand and benefits.

RECOMMENDATION 5: *We recommend that the Ministry of Transportation and Infrastructure develop and apply a detailed framework for measuring, managing and reporting on the performance of the Evergreen Line. The framework should describe:*

- ◆ *evaluation objectives and specific performance measures;*
- ◆ *methods for collecting reliable, meaningful information;*
- ◆ *how agencies will measure and manage performance and provide the necessary resources to do this work; and*
- ◆ *how the outcomes will be shared across government and the wider community.*

Rigour and communication of the option assessment

The critical documents that informed the scope decision comprised:

- ◆ **the 2008 business case** – which, equivalent to a strategic options analysis, compared the costs and benefits for a short list of four scope options
- ◆ **the 2010 full business case**, which included refined costs and benefits for the SkyTrain option recommended in the 2008 business case.

We assessed whether the ministry had rigorously assessed, verified and clearly communicated the costs, benefits and risks of the project options for the Evergreen Line.

We concluded that the submission to Treasury Board in 2010 did not fully meet the CAMF or the MOTI guidelines, failing to clearly and fully communicate the costs, benefits and risks of the scope options for a project of the cost and complexity of the Evergreen Line.

The 2008 business case summarised an extensive body of work, but did not include:

- ◆ an assessment of the project risks and how these varied across the scope options;
- ◆ detailed information about the problems the Evergreen Line is addressing, as the basis for explaining projected benefits and the demand-related risks that need to be managed; and
- ◆ sufficient information to be assured about the estimates of costs, ridership and benefits used to justify the preferred SkyTrain option.

The 2010 business case refined the cost, ridership and benefit estimates for the preferred SkyTrain option and examined its risks without fully addressing these weaknesses.

Assessing the risks

The CAMF guidelines describe the critical risk management tasks that agencies need to consider at key milestones during project development (Exhibit 8). The guidelines advise tailoring the level of due diligence according to the scale and complexity of a project. Given the costly and complex nature of the Evergreen Line project, we expected agencies to have rigorously and fully applied CAMF’s risk management guidelines.

While MOTI did a thorough job analysing the cost and timeline risks of the preferred SkyTrain option in the 2010 business case, it did not provide information on:

- ◆ the risks affecting the four scope options compared in the 2008 business case; and
- ◆ the potentially significant risks and impacts connecting the Evergreen Line outcomes with the performance of other parts of TransLink’s metro transit system.

The scope decision should have involved an assessment of the risks of the options short-listed in the 2008 business case. However, we found no documented evidence that the agencies considered this omission when they reviewed the business case.

Even though the Evergreen Line’s performance will both affect and depend on the service levels and the performance of the wider metro transit system, neither business case informed government decision-makers about the potential impacts of:

- ◆ the level and coverage of bus connector services on ridership;
- ◆ parking at the more popular Evergreen stations;
- ◆ changes to the West Coast Express (WCE), which provides peak commuter services for passengers who want to travel between the northeast Metro Vancouver and downtown Vancouver. TransLink’s contract to run services on this privately owned infrastructure ends in 2015. Translink and the infrastructure owner have advised us that the WCE is part of their longer term plans beyond the end of the current contract; and
- ◆ Evergreen services on those parts of the SkyTrain system that are near or at capacity in the commuting peak periods (for example, around Broadway station).

Appendix A describes these risks and their potential impacts in greater detail.

Describing the problem being addressed

The CAMF guidelines advise describing the fundamental service challenge in a strategic options analysis before describing the challenge in more detail in the business case. We found that MOTI’s guidance for writing transit business cases is consistent with CAMF and describes the greater level of detail required in the business case.

“Levels of due diligence in managing a project should be commensurate with the project’s risks, financial costs and level of complexity.”

“... a large, complex and costly project should be supported by a substantial business case...”

Source: CAMF Guidelines, Page 17

Exhibit 8: Critical risk management tasks in CAMF

Strategic Options Analysis – preliminary (qualitative) risk assessment

- ◆ Initially identify major project risks
- ◆ Assess the likelihood of risks occurring and potential consequences
- ◆ Establish relative risk priorities

Business Case – full risk assessment

- ◆ Identify all project risks
- ◆ Analyse (quantify) likelihood/ consequences
- ◆ Develop a detailed risk management strategy (risk treatment, transfer and monitoring)

Source: CAMF Guidelines, Figure 3.2.2

The problem descriptions in the 2008 and 2010 business cases did not make best use of the significant body of evidence underpinning the rationale for the project. Both included only high-level summaries of the major challenges that Evergreen will help address. The 2010 full business case provided insufficient information on the precise nature of the problems and their local impacts. For example, it:

- ◆ described the expected growth in the population of the northeast, but did not provide detail on how this growth would be spread across the region;
- ◆ alluded to worsening congestion, but did not fully describe current and projected traffic volumes, journey times and how these had changed over time; and
- ◆ failed to explain how and where people living in the northeast travelled and how their use of transit compared with that in nearby municipalities.

Better explaining project costs and ridership estimates

The business case material presented to Treasury Board did not adequately explain the basis for the difference between the options' costs and the basis and reliability of the ridership estimates for the preferred SkyTrain option.

Project costs – The 2008 business case did not adequately explain the small difference in the cost estimates for the northwest and southeast SkyTrain options. It also did not explain the closeness of the costs between the SkyTrain line and the Light Rapid Transit (LRT) option on the same alignment. This issue provoked keen public interest because of the expectation that LRT would be significantly cheaper than the SkyTrain.

When verifying the costs, we again found an incomplete set of supporting documentation. However, through a combination of document review and interviews we were able to verify that the costs formed a reliable basis for choosing the project scope. In particular, we were satisfied that the LRT cost estimates were within the range of estimates for other contemporary North American systems.

Ridership estimates – The 2010 business case did not explain the assumptions used. This omission is significant because the forecasts assume that government will deliver the transit investments and pricing policies that will encourage enough travellers to use transit to achieve the government's targets for increasing the proportion of trips using transit.

The underlying ridership modelling included two alternative forecasts:

- ◆ a lower Minimum Level forecast with minimal changes in complementary transit infrastructure and services and no change in the real cost of using cars; and
- ◆ a higher Provincial Transit Plan forecast, including the substantial improvements in the transit system and policy changes described in Exhibit 9.

The ridership and benefit estimates in the 2010 business case were based on the Provincial Transit Plan assumptions. These assumptions represent an upper-end forecast for Evergreen Line ridership because the transit improvements do not yet have committed funding and government has not decided to increase the real cost of automobile use from 2021.

Exhibit 9: Assumptions underpinning the Evergreen 'Provincial Transit Plan' ridership forecast

Buses serving Evergreen stations

- ◆ 50 percent increase over the service levels assumed by TransLink in the 2008 business case (the minimum level forecast)

Future SkyTrain extensions

- ◆ University of British Columbia by 2021
- ◆ Fleetwood in Surrey by 2021

(By contrast, the minimum level forecast did not assume that the UBC and Fleetwood extensions would be completed up to 2031)

Evergreen stations

- ◆ Included the six stations in the minimum level forecast
- ◆ Added further stations at Lincoln, between Guildford and Coquitlam, and at Port Moody West

Car operating costs

- ◆ Assumed that the cost in real terms increases by 70 percent between 2021 and 2031, from 13.8 to 23.5 cents per kilometre
- ◆ Included as a policy measure to meet the Provincial Transit Plan ridership targets

Areas where Provincial Transport Plan and Minimum Level forecasts shared the same service assumptions

- ◆ Highway improvements
- ◆ SkyTrain service frequencies

Source: OAG summary of Technical Note: Ridership Methodology, Forecasts and User Benefit Estimates, July 2009, pages 6-7 and 9-10

The 2021 forecast of 44,000 Evergreen “boardings” (riders getting on the line) was at the high end of the benchmark range of 31,000 to 48,000 set before running the model.

In our view, the material presented to Treasury Board should have clearly explained these assumptions so that the board was made aware of the complementary government commitments embedded in the forecasts. As well, the business case should have justified the opening year forecasts by comparing the Evergreen Line station boardings against those for SkyTrain stations with similar characteristics. Comparisons against this type of observed data are a powerful and essential check to confirm that modelled results are reasonable and should have been presented in the business case.

Alignment of recommendation with analysis

We assessed whether the scope recommendation was consistent with the underlying costs, benefits and risks and whether it took account of stakeholder views on the project.

We concluded that the recommendation that the Evergreen Line take the form of a SkyTrain extension using a northern route between Lougheed and Douglas College was based on a reasonable appreciation of the costs, and that it is likely to best meet government’s policy objectives.

Nevertheless, we also concluded that 2010 business case did not clearly explain the cost and ridership estimates or the significant risks and dependencies likely to affect ridership and the expected project outcomes. The scope choice should have been informed by a more refined analysis of the most promising options.

In our view, MOTI missed the opportunity to advise government about how it intended to monitor and manage these risks to protect and enhance the project’s intended outcomes. These gaps should have been picked up through, in the first instance, MOTI’s and PBC’s review of the 2008 and 2010 business cases. Failing this, we expected MFIN’s review of the material presented to Treasury Board to have raised these issues.

It has been difficult for us to verify what the agencies discovered from reviewing the business case material because they did not adequately document these reviews. What is clear is that the reviews were not effective in discovering and addressing clear deviations from the CAMF guidelines.

For this to happen on a project of the scale and complexity of the Evergreen Line concerns us.

In terms of stakeholder considerations, we found that MOTI carried out extensive consultations. By 2012, all affected municipalities signed agreements accepting the SkyTrain preferred option.

RECOMMENDATION 6: *We recommend that the Ministry of Finance, Ministry of Transportation and Infrastructure, and Partnerships British Columbia improve how they assess and report on whether strategic options assessments and business cases have followed the CAMF guidelines.*

RECOMMENDATION 7: *We recommend that the Ministry of Transportation and Infrastructure update its guidelines to make relevant comparisons with observed data central to justifying and explaining traffic and ridership forecasts.*

Informing the procurement decision

We found that MOTI and PBC demonstrated that a short-term P3 arrangement, covering the designing, building and financing of the Evergreen Line, best meets government’s policy objectives.

The expected costs and risks of building, operating and maintaining a SkyTrain extension were clearly presented and provided a solid basis for government’s decision to:

- ◆ reject a longer-term P3 arrangement, including operations and maintenance, because of the integration and efficiency benefits of having one operator across the entire SkyTrain system; and
- ◆ recommend a P3 arrangement rather than a public design-build arrangement, because that is consistent with government policy about delivering large projects under a P3 arrangement unless the public option is clearly superior.

Use of analysis and the oversight framework

We assessed whether the procurement decision had been guided by an appropriate guidance and oversight framework. This involved examining:

- ◆ the relevant parts of CAMF and MOTI’s and PBC’s supplementary guidelines; and
- ◆ evidence that the agencies had exercised appropriate oversight by critically reviewing the analysis underpinning the procurement recommendation.

We found that MOTI and PBC had addressed the gaps in CAMF’s procurement planning tools and templates by writing detailed and appropriate guidelines. However, documented evidence of review and quality control was lacking.

Planning guidelines

For the Evergreen Line project, MOTI and PBC addressed the gaps in CAMF by applying guidelines they had previously developed covering procurement planning. However, the guidelines are dispersed across several documents and are not immediately accessible to other public sector agencies that might benefit from them. Our Recommendation 1 above, calling for a review of practices before supplementing CAMF to ensure agencies are provided with best- practice guidance, applies here as well.

We found detailed guidelines on procurement planning in the following documents:

- ◆ PBC’s publicly available *Methodology for Quantitative Procurement Options Analysis Discussion Paper*, together with internal guidelines on business case content and risk assessment; and
- ◆ MOTI’s business case guidelines and tools covering procurement planning.

Oversight and review

As was the case for the scope decision, we found that none of the three agencies involved in developing and overseeing the procurement planning was able to provide evidence of their review of the procurement analysis and recommendations in the 2010 business case. The standard of record-keeping fell short of what was needed to understand and justify recommendations.

Although sign-off by the Evergreen Project Board and Treasury Board on the business case recommendations were documented, the records about the review of the 2010 business case were inadequate. The agencies did not:

- ◆ write up the content and outcomes of the meetings and reviews used to verify the material underpinning the 2010 business case procurement recommendations; and
- ◆ fully document the analysis and review underpinning their recommendations.

And although Treasury Board’s approval of the recommendations was documented, MFIN did not record its review of the business case, offering us instead only verbal evidence of the issues covered during their review. Recommendation 2 above, calling for agencies to better document their review work to provide greater assurance about the information government relies on when deciding how to procure projects, applies here as well.

Clarity of objectives and outcomes

We assessed the content of the 2010 business case against CAMF’s guidance for setting clear objectives and establishing a performance management framework.

Using eight procurement objectives (Exhibit 10), MOTI compared the design-build-finance procurement option with the public sector alternative in the 2010 business case.

The 2010 business case set definite procurement objectives but did not follow CAMF by describing how performance should be measured and managed.

We acknowledge that MOTI has provided information about how standard processes will play their role in doing this.

However, our conclusion is that the business case should have described how agencies would measure and report on the achievement of these objectives. To this end, our Recommendation 5, calling for MOTI to develop and apply a comprehensive performance measurement framework, applies here.

Exhibit 10:

Procurement objectives set out in the 2010 business case

- ◆ **Seamless physical integration** – Evergreen Line with existing SkyTrain system
- ◆ **Seamless integration of operations and maintenance** – across SkyTrain system
- ◆ **Allow for system expansion** – no constraints on future services or procurements
- ◆ **Maximise competition** – attractive transaction to local and international bidders
- ◆ **Allocate risks** – to the parties who can best manage these risks
- ◆ **A fair, open and transparent process**
- ◆ **Achieve value for money** – on time, on budget and effective asset performance
- ◆ **Responsive to stakeholder issues** – addressing public issues, environmental approval requirements and issues with utilities affected by the project during delivery

Source: OAG summary of 2010 business case, Table 21

Rigour and communication of the option assessment

The 2010 business case explained the basis for MOTI's recommendation to use a design-build-finance P3 procurement. This recommendation was informed by:

- ◆ a screening analysis to select the most promising procurement options: a P3 design-build-finance, and a public sector design-build;
- ◆ a detailed comparison of the short-listed procurement options, including a quantitative risk analysis and a qualitative assessment; and
- ◆ applying government's Provincial Capital Standard (requiring agencies to use P3 procurement for large projects unless a public sector option clearly delivers better value for money).

We found that MOTI and PBC completed an in-depth and comprehensive assessment of the options for procuring the Evergreen Line, verifying that the recommended design-build-finance option best met government's capital standard.

The 2010 business case analysis demonstrated that:

- ◆ a long-term P3 procurement was inferior because of the scale efficiencies of one agency (TransLink) operating and maintaining the SkyTrain system;
- ◆ a design-build-finance arrangement represented the best P3 option; and
- ◆ the recommendation to use the best P3 option was consistent with government's capital standard because the costs were very close to the public sector alternative.

As well, MOTI and PBC estimated that the discounted, risk-weighted cost of the P3 option would be \$25 million (or 1.75 percent) below the equivalent cost of design-build procurement. The marginal superiority of the P3 design-build-finance option was driven by the expert-informed judgement that including a financier would reduce the risk of delays and restrict scope changes compared to a public design-build.

However, MOTI and PBC were unable to produce for us the documents showing how they calculated the expected costs for tunnelling delay and scope changes. While this does not change our overall findings, it again points to record-keeping weaknesses that MOTI and PBC need to address.

We note that the Evergreen procurement is not typical of P3 arrangements in British Columbia. In this case the P3 and public sector options are very similar, the only difference being partial financing of the build phase over a three- to four-year period. This contrasts with a P3 that involves the private sector operating and maintaining assets over a much longer period of time.

The approach of PBC to setting discount rates and assumptions about how the public sector finances infrastructure will have greater bearing on the value-for-money outcomes for a long-term P3 procurement. However, for the short term of the Evergreen P3, these matters are insignificant.

Alignment of recommendation with analysis

We examined the work underpinning the 2010 business case to confirm that the report and its procurement recommendation were consistent with the underlying analysis and stakeholder consultations.

We found that the recommendations were fully supported and that they reflected input from the stakeholder consultations:

- ◆ The findings documented in the business case were consistent with the project records;
- ◆ The underlying findings that affected the procurement recommendation were discussed in the business case; and
- ◆ The project specifications had been amended to reflect the results of the environmental assessment and stakeholder feedback, where MOTI had agreed to make changes.

Preparing to implement the project

According to CAMEF, agencies must be ready to implement a project once government decides if and how it should go ahead. This involves developing a management plan (describing the detail of how the project will be delivered) and filling the key roles responsible for making the plan happen.

We concluded that the agencies responsible for the Evergreen Line project had adequately prepared for procurement by:

- ◆ writing an overall Project Management Plan describing in sufficient detail what is required to deliver a project of the size and complexity of the Evergreen Line; and
- ◆ defining the roles necessary to implement the plan and filling the key positions with experienced and capable staff.

WE WILL FOLLOW UP on the ministries' implementation of the recommendations arising from both of these audits in our April 2014 follow-up report.

As well, the Office plans to conduct further performance audit work on the planning of long-term public-private partnerships, the adequacy of business cases used to inform government capital decisions and project performance measurement and reporting.

Local bus – The ridership forecasts in the 2010 business case are underpinned by assumptions that are consistent with the Provincial Transit Plan’s aspirations. These include a 50 percent increase in the buses serving Evergreen stations over the services assumed in the 2008 business case. The 2010 business case did not state this assumption or explain the consequences of not delivering on this assumed increase.

Parking provision – The risks around parking provision were not covered in the 2008 or 2010 business cases. Parking is likely to be a challenge especially at locations also served by the West Coast Express. The consultants for the 2010 business case built a parking model in 2010 and we understand that this work led to the provision of an additional 500 parking places for Evergreen Line users. The work was not complete in time for inclusion in the 2010 business case.

Parking should have been flagged and analysed as a risk much earlier in the project development and a mitigation strategy included in the 2010 business case.

MOTI informed us that the provision of additional parking was accommodated within the project budget, which includes contingencies to address scope refinements during project development. MOTI does not view this as a material scope change, but rather an action taken to manage the parking risk, and it would be impractical to return to Treasury Board for items such as this.

West Coast Express (WCE) – Exhibit 11 describes the WCE arrangements between TransLink and the private freight operator that owns and operates the rail infrastructure.

The service carried approximately 2,500 commuters in 2008 to downtown Vancouver in the morning peak hour. Half of these passengers boarded and alighted at three stations serving the northeast (Port Coquitlam, Coquitlam Central and Port Moody – with the latter two also being Evergreen Line stations). Total patronage is expected to reach 3,000 for the AM peak hour into Vancouver in 2014 and to fall to just over 2,000 in 2021 because of the Evergreen Line.

TransLink and the infrastructure owner both see the WCE in their long term plans beyond the end of the current contract in 2015. Because the Evergreen Line and WCE compete for passengers travelling from the northeast to downtown, the business case should have better explained:

- ◆ the WCE’s current role and MOTI’s long-term role for this service; and
- ◆ the risks and opportunities around the 2015 contract negotiation and how the potential impacts on Evergreen Line ridership would be managed.

Exhibit 11:
West Coast Express contract

The WCE uses a rail corridor that is a major freight thoroughfare, operated and maintained by a private owner.

TransLink pays the owner to run five morning peak services into Vancouver and five afternoon peak services in the opposite direction to the northeast and beyond, as far as Mission City.

The WCE is expensive to run compared with other transit services because of the charges levied on TransLink for access to the infrastructure and operating the service.

The contract expires in 2014 and TransLink has the task of negotiating a new contract.

Source: TransLink interview and current contract

The wider SkyTrain system – The Expo Line Upgrade Strategy Project Summary described the options for expanding capacity to cope with the additional passengers expected to use the line. The report describes how demand is likely to exceed capacity in the next three to five years without further investment. It identifies the section between Commercial-Broadway and Main Street-Science World Stations as the most critical pinch point.

The Evergreen Line will increase ridership through this critical section, as travellers to downtown Vancouver are likely to use the Expo Line. It will also add capacity through the purchase of additional trains and by increasing services on the Millennium Line.

The wider system context and risks should have been explained in the 2010 business case. Not effectively addressing these capacity issues means Evergreen ridership is likely to suffer as downtown commuters face more crowded and less reliable journeys.



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