Review of BC Ferry Corporation and Alternative Uses for the Fast Ferries

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I. EXECUTIVE SUMMARY

This review has been conducted in accordance with the terms of reference with the principle objectives of:

- learning from the fast ferries project;
- identifying the best future use of the fast ferries;
- determining whether there is an alternative service delivery model to the existing BC Ferries operating framework; and
- identifying the changes necessary to enable BC Ferries to provide an efficient, customer-focused ferry service at an acceptable cost to taxpayers.

A. Fast Ferries

Despite the enthusiastic response by the public and a variety of knowledgeable industry people, there was no proposal that clearly enhanced the value of the PacifiCats. The optimal use for the PacifiCats is that alternative which has the greatest value today after considering the cost of modifications, the future associated revenues and expenses and the future realizable value of the vessels. We determined the present value of the following alternative uses for the fast ferries: sell, use "as is", refit and use, refit for new use and scrap. Based on our financial analysis of these options, PricewaterhouseCoopers' estimated sale value exceeds the present value of all other alternatives.

Recommendation

Given the very limited market for the PacifiCats, the sale process can be expected to take up to two years. Accordingly, we recommend that the present sales process continue.

B. BC Ferry Corporation

Governance

BC Ferries is entangled in a web of formal and informal accountability to various government agencies, ministry personnel and politicians that it is powerless to change. Its enabling legislation provides that the Province, not BC Ferries' board, make all significant decisions. As a result the Province's policy imperatives can, at times, conflict with BC Ferries' primary goal of serving its customers. This was most notably the case when the public policy priority to rejuvenate BC's shipbuilding industry, through the export of aluminum ferries, overrode BC Ferries' objective to provide cost effective, customer-focused ferry service. But political interference is not limited to such a high profile example. It pervades every important decision whether it involves service levels, tariffs, labour negotiations or the purchase of new vessels.

Based on our analysis of BC Ferries' 15-year Corporate Strategic Plan and related financial forecast, we concluded that BC Ferries is vulnerable to events beyond its control which could severely impact its financial condition. Due to this risk, there is a high probability that BC Ferries will have to make difficult decisions with respect to service, tariff, terminals and vessels to ensure that it remains solvent. Such focused decision-making is an unlikely outcome given the current governance structure. A scenario modeled in our report results in BC Ferries borrowing $1.2 billion in addition to the $1.6 billion in government subsidies over the 15-year period. This extraordinary result is a distinct possibility under the existing governance structure.

Recommendation

We recommend that the Province amend the BC Ferries enabling legislation to vest its powers in an independent board of directors with responsibility for governing, exempt from political and bureaucratic interference. Under this model, BC Ferries would receive a clear mandate and understanding of the Province's expectations and would annually present its business plan, through the Minister of Transportation, to the Legislature and would report quarterly on the results of its operations.

Service Improvement Alternatives

Having recommended greater separation of BC Ferries from the Province, we then considered the quantum of that separation. During the course of our review, we learned that the majority of maritime jurisdictions throughout the world have discovered that with respect to the provision of cost effective, customer driven ferry service, the private sector can do it better. We also learned that commercialization around the world is a response to the state of government finances and the need to provide better service on a more cost effective basis. That being the case, the continued devolution of government services to the private sector is not expected to abate.

Recommendation

We recommend that the Province review alternative approaches to the delivery of ferry services with the objectives of being cost competitive, offering consumers choice and providing efficient, customer-focused service. Such a model would clearly require greater private sector involvement.

Financial Framework

The Province should expect BC Ferries to operate on a break-even basis and provide for the renewal of its decidedly aging vessels and terminals. Based on our review this result will not occur if the same operating framework (route structure, level of service and tariff levels) that has existed for more than a decade is retained.

BC Ferries must replace 18 vessels (up to $1.1 billion) and upgrade terminals and information systems ($165 million) over the next 15 years to sustain the existing level of service. In fiscal 2001 BC Ferries failed, by $49 million, to generate sufficient cashflow to provide for the vital renewal of its fleet and terminals. This, after having received federal and provincial government subsidies totaling $95 million. Not for ten years will BC Ferries, based on its Strategic Plan, generate sufficient cashflow to provide for the renewal of its assets. Our analysis indicates that an equally possible outcome could be that BC Ferries is unable, in any of the 15 years, to generate sufficient cashflow to provide for the renewal of its assets.

Recommendation

Simply put, BC Ferries must increase revenue and reduce costs. To do so it should consider altering service levels, increasing tariffs, implementing more flexible work rules, purchasing its vessels from the lowest cost and risk source, and urging the Province to build fixed links where economically warranted. Such actions are required to provide sufficient funding for the asset renewal necessary to sustain a reliable coastal ferry service at an acceptable cost to taxpayers.

II. REQUEST FOR PUBLIC INPUT

The request for public input was announced on September 24, 2001 by news release and newspaper advertisements in the major newspapers and in publications in ferry-dependent communities throughout coastal British Columbia, the Gulf Islands and Vancouver Island. Input was also requested from local governments in ferry-dependent communities as well as from ferry advisory committees.

A website was established at www.bcferriesinquiry.com to further encourage public participation in the review process. Additionally, public input was received through the Province's Waste Buster website and from correspondence received by the Minister of Transportation, BC Ferries and others.

The submissions covered recommendations regarding alternative uses for the fast ferries and the improved functioning of BC Ferries. 245 submissions were received from:

- 195 individual citizens;
- 6 marine engineers;
- 24 businesses or business organizations;
- 2 unions;
- 6 ferry advisory committees; and
- 12 local governments.

We found much of this input to be insightful and have considered it in our analysis and recommendations. The following provides an overview of the public responses to the review.

Lessons learned from the fast ferries and alternative uses

Overwhelmingly, the public responses shared the view of the Auditor General and others that the fast ferry project was motivated by political considerations, was profoundly ill conceived, was lacking in public input and was poorly implemented.

Before renewing the ferry fleet in the future, it was strongly recommended that comprehensive technical and engineering studies, cost-benefit analyses and an open tendering process be implemented.

Alternative uses are described on page 6.

Developing an Integrated Marine Transportation Plan

There was limited public comment on the need to develop an integrated marine transportation plan. Of the submissions that commented specifically on this issue, there was a strong sense that more should be done to ensure connectivity and scheduling between other transportation modes.

Service Excellence and Improved Operations

BC Ferries is generally perceived to be working closely with local communities and advisory groups in addressing various service-related challenges, but the submissions do indicate a deep disenchantment with the service.

The review received numerous suggestions concerning the need to improve both service and operations. A significant number of respondents suggested that given the level of dissatisfaction with BC Ferries, the private sector could be engaged to provide all or some ferry services in a more cost effective and efficient manner. Taxpayers and even some employees felt strongly that BC Ferries' collective agreement and work practices were the root cause of inefficiencies. A number of customers reported that BC Ferries' services seem over-staffed given the level of customer service, especially in terms of on-time performance.

Public input on pricing was divided, with some respondents calling for more and greater fare discounts and others calling for the elimination of special price breaks for certain users.

In terms of route structures and schedules, there was a high degree of frustration, particularly by Gulf Island residents, but public input was inconclusive in providing clear suggestions for improvements.

Alternate service delivery options

Overall, public input supported the commercialization of ferry services where feasible. A number of suggestions were received about commercializing specific routes, as well as functions such as terminal operations and food services.

Several respondents recommended the building of fixed links between the Lower Mainland, Vancouver Island, and the Gulf Islands.

Finally, there was a call for BC Ferries to examine the cost and benefits of open tendering for the renewal of its ferry fleet. While local shipbuilders and union officials noted that a BC-only procurement policy has benefits, other respondents suggested that they are outweighed by the significant cost savings from purchasing the best vessels at the lowest price in the international marketplace.

III. ALTERNATIVE USES FOR THE FAST FERRIES

Considerable work has been performed by the Province, BC Ferries and their respective consultants and advisors to determine the optimal use for the PacifiCats. The public, in response to the review's request, responded enthusiastically with submissions containing a variety of proposals. The following is a summary thereof together with our conclusions and recommendations.

A. Background

The first PacifiCat began service on the Horseshoe Bay to Nanaimo route in June 1999 and was joined by the second vessel in November. For a time only the two PacifiCats operated on that route. The actual experience gained from their operation proved it was significantly more costly to operate the vessels and the terminals when compared to conventional vessels. Importantly, their introduction would have led to inadequate system capacity, requiring additional capital outlay.

The PacifiCats were designed to provide six round trips daily. Even if this service level had been achieved, thus offering sufficient private passenger vehicle capacity, actual costs would have significantly exceeded original estimates. Ship maintenance costs, ship operating costs, added terminal operating costs and cost for extra service to accommodate displaced commercial traffic on the Tsawwassen to Duke Point route worked against the success of the fast ferries. The following is a list of more specific the operating issues with the PacifiCats:

Distance. BC Ferries' routes are among the shortest in the world for fast ferries.

Speed. Due to the increased weight of the PacifiCats relative to their original specifications, the vessels are only able to travel at a top speed of 34 knots, fully loaded, with engines operating at 90+% workload.

Fuel Efficiency. Fuel costs of the PacifiCats are up to twice that of conventional vessels.

Overheight capacity. The PacifiCats are unable to carry the same number of over-height vehicles as conventional vessels thereby limiting their capacity for commercial vehicles.

Wind. The PacifiCats are best suited to BC Ferries' longest routes, Tsawwassen to Swartz Bay and Tsawwassen to Duke Point. Tsawwassen is buffeted by windy conditions resulting in potential hull damage, which has caused BC Ferries to conclude that the PacifiCats cannot operate out of the Tsawwassen terminal.

B. BC Ferries' Internal Review

BC Ferries conducted numerous studies to determine the optimal internal use of the PacifiCats. Options examined included using the PacifiCats as:

- Supplemental vessels on the Tsawwassen to Swartz Bay route;
- Supplemental vessels on the Tsawwassen to Nanaimo route;
- Primary vessels on route from Horseshoe Bay to Comox;
- Primary vessel from Port Hardy to Prince Rupert route;
- Primary vessel on a route from Nanaimo to Vancouver Harbour; and
- Supplemental vessels on the Horseshoe Bay to Nanaimo and/or the Horseshoe Bay to Langdale route.

The preferred option, to use them as supplemental vessels on the Horseshoe Bay to Nanaimo route, was determined based on examining the net present value of each option after taking into account variances in operating costs and the timing of capital expenditures.

C. PricewaterhouseCoopers Engagement

Following the Province's announcement on March 13, 2000 that the PacifiCats would be sold, BC Ferries sent out a Request for Proposal to identify an experienced, internationally recognized firm to advise and assist with the sale. In June 2000, BC Ferries appointed PricewaterhouseCoopers ("PwC") as advisor and manager for the sale of the PacifiCats and marketing began in August 2000.

D. Public Input

The public provided a variety of suggestions and alternative uses for the three fast ferries. A summary of the public input follows:

- Sell them for whatever price they are able to attract;
- Continue using them "as is" as supplemental vessels;
- Refit them for use within BC Ferries' existing route structure or create a new route for them;
- Refit them to be used as cruise ships, floating hospitals, classrooms, casinos or passenger-only vessels; and
- Do not scrap them under any circumstance.

Each of the proposed alternative uses was assessed from a financial perspective with the objective of determining the optimal value for taxpayers from the PacifiCats. This determination was made, in each case, by estimating the required capital investment and operating costs and comparing the result with other government alternatives. For example, the proposal to convert the PacifiCats to classrooms was compared with the capital and operating costs for the Province to build and operate conventional classrooms at an educational institution's existing location.

E. Kvaerner Masa Marine Proposal

The most comprehensive proposal was a submission entitled "Rehabilitate the Cats", prepared by KMM in June 2001. KMM had submitted two prior proposals with similar recommendations to BC Ferries in May and July 2000. A summary of the KMM proposal is as follows:

- Modify the PacifiCats to carry semi-trailers and to create additional capacity;
- Use two PacifiCats, one full time and one in the summer, to service the Horseshoe Bay to Langdale route and one on the Horseshoe Bay to Nanaimo route for summer service;
- Reduce speed to 18-22 knots to provide the following benefits:
  - Wake wash problems eliminated;
  - Less power required, thereby able to remove two engines, gearboxes and water jets (reduce weight) and run remaining engines at lower loads;
  - Able to withdraw from high-speed code (reclassified as an aluminum ferry), thereby able to reduce the cost of maintenance and inspection requirements; and
  - Become more fuel efficient.
- Fit screens over the separate water jets resulting in reduced impact on performance since the vessel will be operating at slower speeds;
- Reconfigure the existing vessels over the major routes;
- Preliminary estimate of modification cost: $46.2 million ($15.4 million per vessel); and
- Ability to delay the purchase of a major vessel from 2005-08 to beyond 2010.

Analysis of KMM Proposal

The KMM proposal is well developed on the technical aspects of the recommended modifications to the PacifiCats but does not include a business case which determines the net present value to BC Ferries of investing up to $45 million to modify the PacifiCats nor the impact on the remaining fleet.

KMM estimates there are $2 million per year of operational savings available on the Horseshoe Bay to Langdale route (fuel savings of $250,000 and labour savings of $1.75 million). The estimated fuel savings cannot be confirmed until after the modifications have been made.

The majority of the proposed labour cost savings are based on reduced crew levels (17 fewer employees per vessel) in the winter. When compared to the existing crew levels and the number of catering staff and including the same number of catering staff on the modified PacifiCats, the savings are only in the range of three to six crew members. Further, the modified PacifiCats are smaller vessels than those currently servicing the Horseshoe Bay to Langdale route, so that over the next 15 years two vessels will be required more often under the KMM proposal than under the Strategic Plan.

The KMM proposal must be considered in the context of all of BC Ferries major routes, since utilizing two PacifiCats on the Horseshoe Bay to Langdale route and one as a supplemental vessel on the Horseshoe Bay to Nanaimo route will result in a re-allocation of vessels on the other major routes. The primary benefit to BC Ferries indicated in the KMM proposal is the ability to defer the purchase of Spirit-class vessels past 2010. While these purchases can be delayed, two of the existing V-class vessels (originally slated for retirement in 2007 and 2008 at the ages of 44 and 46 years, respectively) must have their useful lives extended at considerable cost. Furthermore, the modified PacifiCats have smaller vehicle capacities resulting in additional supplemental vessels being required in the fleet to service peak demand, thereby increasing operating costs on the major routes.

BC Ferries prepared an internal valuation of the KMM proposal, which we have reviewed and amended, that indicates that the net present value of the KMM proposal is below PwC's estimated net realizable value from a sale of the PacifiCats.

F. Assessment and Recommendation

The optimal use for the PacifiCats is that alternative which has the greatest net present value after considering the cost of modifications, the future associated revenues and expenses and the future realizable value of the vessels. Despite the large difference between their cost and their indicated current market value it should be understood that the $446 million is a sunk cost and is not relevant in determining the highest value alternative today.

We determined the net present value of the following alternative uses for the fast ferries: sell, use "as is", refit and use, refit for new use and scrap. Based on our financial analysis of these options, PricewaterhouseCoopers' estimated sale value exceeds the present value of all other alternatives. Due to the very limited market for the PacifiCats, it should be expected that the sale process could take up to two years. The announcement of this review has had a negative effect on the sales process due to the resulting uncertainty about whether the PacifiCats would be withdrawn from the market. **Accordingly, we recommend that the present sales process continue.**

In the event the PacifiCats are unsaleable, BC Ferries, of necessity, must reconsider the KMM and other modification proposals received from the public during the course of this review.

IV. LESSONS LEARNED: A REVIEW OF THE GORDON AND MORFITT REPORTS ON THE FAST FERRIES

A. Our Review

The purpose of our review of the Gordon and Morfitt Reports was not to re-open the fast ferries debate, but rather, to be sure that we learn from the extraordinarily expensive lessons gained from this experience. Inherent in this is to report on whether the Province and BC Ferries acted on the recommendations of these reports and to recommend such further actions as we deem advisable. Clearly the Province should institutionalize the lessons learned and apply them to BC Ferries for the protection of ferry users and BC taxpayers.

B. Background

In June 1994, the Province announced, as part of a ten-year capital plan for BC Ferries, the construction of three fast ferries at a budgeted cost of $210 million. The Province's objective, by building them in British Columbia, was to revitalize the shipbuilding industry and to position BC as a leading international exporter of aluminum ferries.

In late 1998, the Province learned that the fast ferry project was significantly over budget. Two reviews were immediately commissioned, one dealing with the cost of the project and the other with the technical aspects of the vessels. These reviews confirmed that the cost of the project was substantially more than budgeted, that the vessels would not meet all of the initial performance specifications and that they were very well built. Thereafter, the Auditor General prepared a report reviewing the governance and risk management breakdowns that occurred during the project.

C. The Gordon and Morfitt Reports

A Review of the Fast Ferry Program, Hugh A. Gordon, February 1999 (the "Gordon Report"), was commissioned by the Crown Corporations Secretariat to determine the actual incurred costs and the forecast costs of completion. The Gordon Report identified numerous deficiencies in the project's management and in the corporate reporting.

A Review of the Fast Ferry Project: Governance and Risk Management, Auditor General George L. Morfitt, October 1999 (the "Morfitt Report") reviewed the fast ferry project from its inception and made three major recommendations:

> *Governance* – that the Province commit to putting the principles and practices of good governance in place for its Crown corporations – including, specifically, allowing Crown corporation boards to function effectively within their mandates.
>
> *Project Management* – that the Province require that proven project management practices be used on all significant capital projects.
>
> *Framework of Expectations* – that the Province give BC Ferries clear, integrated, consistent and long-term direction on its performance expectations and then hold BC Ferries' board and, through it, management responsible for meeting those expectations.

D. Governance

The Morfitt Report incorporated a discussion of organizational governance which, if heeded, would do much to ensure the effective functioning of BC Ferries. While interested readers should refer to the full report, the excerpts recited below are particularly poignant:

"Issues of risk and control are at the heart of any organization's success. Organizations that are governed and managed well accept risks knowingly, mitigate risks where appropriate, and endeavour to be prepared for the unknown."

The Morfitt Report further observed:

"It is imperative that assigned responsibilities be clear, and that those assigned a responsibility be allowed to carry out that responsibility without encumbrances or interference."

Finally, in reference to the fast ferries project:

"The governance structure was complex, with many people and groups involved. Ultimately, however, it failed to safeguard those directly involved and other stakeholders. The decision to undertake the fast ferry project was not properly supported, and people were not informed when things started to go wrong."

Inasmuch as it is the tendency of most, if not all, large organizations to dilute authority by multi-party and multi-level approval hierarchies, it is difficult to understand how Morfitt's simple dictums of good governance could possibly have been observed given a governance structure that included, at times, the boards and management of BC Ferries and Catamaran Ferries International, the Crown Corporations Secretariat, Treasury Board, cabinet, and various Ministries and Ministers.

This was not the first time the question of governance at BC Ferries has been visited. In 1981, the Select Standing Committee on Crown Corporations of the Legislative Assembly carried out a review of BC Ferries. Its report noted:

"The future effectiveness of the ferry system would seem to require that the directors have somewhat greater control over the important aspects of their business. …[The] present division of responsibilities between the Lieutenant-Governor in Council and the board creates a situation in which the clarity of the board's mandate to plan, develop, and operate the ferry system is clouded."

The Morfitt Report included an excellent synopsis on this important question:

"The idea of using Crown corporations to deliver publicly-provided services of a commercial nature is sound. Properly applied, such an administrative mechanism can be more cost-effective than direct service by government because it gives more room for the application of business practices. However, BC Ferries has not been allowed to apply these practices in an organized and consistent way.

The Act setting up BC Ferries provides for cabinet, not the corporation's board, to make most key decisions, including approving route additions or deletions, approving fares, tolls and other charges, and approving corporate borrowings. Also, since capital plans need cabinet approval and capital budgets need Treasury Board approval, construction of ferries or terminals is also ultimately a government decision. In short, BC Ferries does not have control over most significant decisions that affect its financial and operating performance.

Most key business decisions are made outside BC Ferries (and, at times, contrary to BC Ferries' advice), by elected officials who also have responsibility for many other important areas of government. As a result, decisions about BC Ferries' business are often ad hoc and lack consistency. For example, decisions about fares have not always been integrated with decisions about subsidies, routes, capital expenditures, or service levels.

This means that the government is unlikely to get the benefits of a Crown corporation approach - a serious disadvantage, given that BC Ferries operates an essential part of the province's

transportation system, and is vital to the social and financial well-being of many Vancouver Island and other coastal communities."

The Morfitt Report further observed:

"In late March 1994 the Crown Corporations Secretariat was instructed by its minister to take over the completion of BC Ferries' cabinet submission on implementing the Mid Island Transportation Strategy. The secretariat did so, and also expanded the submission into a cabinet submission on BC Ferries' 10 year capital plan. The final capital plan was significantly different from the draft BC Ferries had prepared. Instead of leasing a fast ferry for trials, the new plan called for bypassing trials and immediately beginning construction of three fast ferries. Despite its truncated role in developing the capital plan, BC Ferries remained responsible for achieving the results promised in it."

Despite this high-profile scrutiny, there has been no fundamental change in how the Province interacts with BC Ferries. There remains the specter of pervasive government involvement. While the idea of delivering services of a commercial nature through the administrative mechanism of the Crown corporation is sound, it has been an abysmal failure in these circumstances. It has utterly failed to garner the intended benefit of such a structure, namely, the ability to manage BC Ferries in accordance with proven business practices.

Notwithstanding the steps taken by BC Ferries to implement the recommendations of the Morfitt Report, it seems abundantly clear that anything short of a restructured relationship with the Province will result in further failure. BC Ferries remains vulnerable to influence that is inspired by decidedly non-commercial motives. If anyone is dubious about the veracity of this statement they need only refer to the Morfitt Report which stated: "*...the governance role of BC Ferries' board was compromised...."* Morfitt further stated: "*The decision to proceed with fast ferries was, we believe, more a ministerial directive than a board decision."*

Recommendation

We recommend that the Province amend the BC Ferries enabling legislation to vest its powers in a truly-accountable, independent board of directors with responsibility for governing, exempt from political and bureaucratic interference. Under this model, BC Ferries would receive a clear mandate and understanding of the Province's expectations and would annually present its business plan, through the Minister of Transportation, to the Legislature and would report quarterly on the results of its operations.

E. Project Management Practices

The Morfitt Report dealt extensively with the critical importance of adhering to established project and risk management practices. The following excerpts capture the essence of the Report's conclusions:

> *"Construction of the fast ferries started before the scope, schedule and budget for the ships was firmly established. Indeed, these critical elements of ship construction were not managed in a disciplined way throughout the project. It seems self evident, at least in hindsight, that first-rate project management techniques that mitigate risk are essential on any project of this magnitude."*
>
> *"Additionally, the principles of project management are most needed, and most valuable, at the genesis of a project. A clear recognition of how scope, budget and schedule interrelate, together with appropriately precise estimates of these three elements, are essential to sorting out potentially successful projects from superficially attractive ideas that have little potential for practical success."*
>
> *"Proven project management practices* [should] *be used on all significant capital projects."*

Good Project Management Practices

Frameworks for good project management are available in both the private and public sectors. For example, the Treasury Board of Canada has comprehensive policies, guidelines and requirements for managing capital projects undertaken by federal departments and Crown corporations. In the private sector, many companies have developed project management frameworks, and specialize in their application. Groups such as the Project Management Institute are also a source of project management principles and methods. Although these prescriptions come from a variety of sources, there is agreement on the fundamental principles.

The principles of good project management for large public sector capital projects were laid out in the 1987 "Report of the Commissioner Inquiry into the Coquihalla and Related Highway Projects." Particularly applicable to the fast ferry project are that report's recommendations that there be:

- A disciplined evaluation process for new capital projects of financial significance, including the development of rigorously-prepared business cases, before a project is approved;
- Periodic project cost estimates based on most probable costs, including all associated works required to make the project complete;
- Rigorous project control procedures documenting formally approved scope, schedule and budget parameters; and
- A requirement that all project managers provide timely and accurate cost reporting.

These are not difficult concepts and what is most alarming is not that they were not understood, but that they were, and that the project still wasted millions of dollars of taxpayer money. If it is possible, despite the best efforts of so many knowledgeable and well-intentioned individuals, for the management of the project to have become so utterly dysfunctional then, surely it puts into question not just project management practices but the very framework within which ferry services are delivered to the public.

Recommendation

The recommended project management practices have been adopted by BC Ferries. In January 2000, representatives of the Auditor General advised BC Ferries' board of directors that management's responses to the recommendations met the expectations of the Auditor General's Office, and were appropriate in the circumstances. Accordingly, we have no recommendation with respect to project management practices.

F. Framework of Expectations

The Morfitt Report observed that the fast ferries project illustrated why a framework that clearly sets out the Province's expectations for BC Ferries is required. Morfitt also observed that:

> *"...for a decade, BC Ferries' board and senior management have recognized and communicated to government that the corporation needs a financial framework – that is, an integrated set of government decisions to ensure that the corporation's revenues, including subsidies, are sufficient to cover its operating and capital costs. In absence of such a framework, decisions on fares, schedules and subsidies will likely continue to be made in a fragmented and ineffective way."*

In early 2000, the Province approved a Financial Framework for BC Ferries, which is summarized on page 15 and analyzed on page 32.

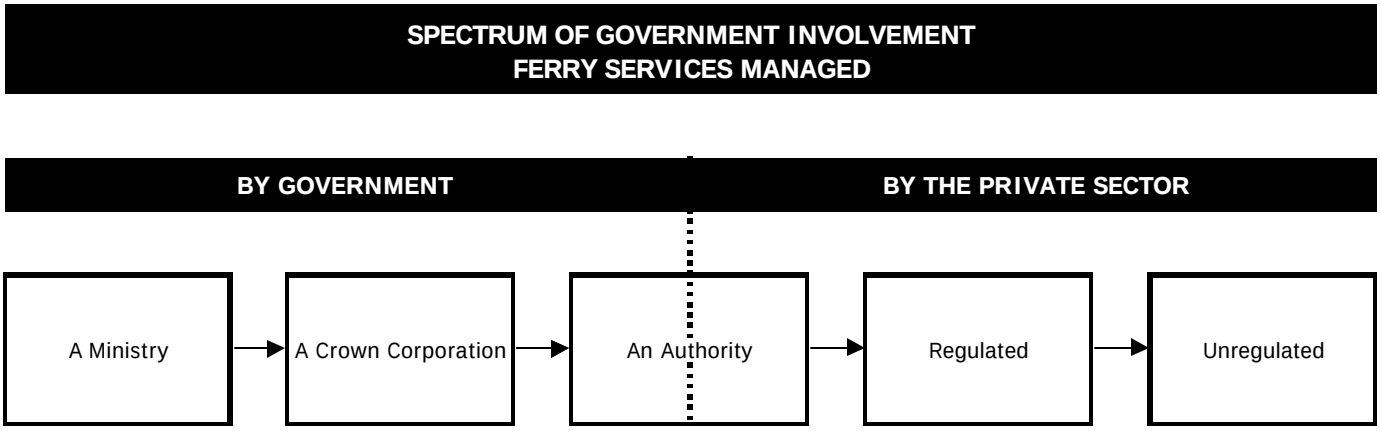
V. SERVICE IMPROVEMENT ALTERNATIVES

Many jurisdictions throughout the world have developed approaches to service delivery that incorporate competition, private sector operations and private sector finance. Our review examined alternative service delivery structures and we believe that government should consider these in the context of its Core Services Review to provide BC Ferries with:

- A better separation of public policy imperatives and decision-making;
- The provision of more competitive ferry and transportation services for customers; and
- Less financial exposure for taxpayers.

Our review of other jurisdictions revealed that over the past decade the trend in government involvement in the provision of ferry service is in a word, less. This is particularly evident in Europe, which has the greatest concentration of ferry service of any region in the world, and in New Zealand but minimally in North America. This trend is a response to the state of government finances and the need to provide better service on a more cost-effective basis. That being the case, the continued devolution of government services to the private sector, such as those provided by the BC Ferries, is not expected to abate.

On the spectrum of government involvement, from total to none at all, there is a range of alternatives for the Province to consider. The chart below sets out the basic structural choices, ranging from the most to the least government involvement.



The optimal solution for BC, as with other jurisdictions, is likely to be a dynamic mixture of several structures which, over time, will evolve as the market for ferry services continues to mature. Our review of other jurisdictions revealed a number of possible approaches to move to a more cost-effective system of delivering these transportation services to the public:

- Restructuring of government ferry services to optimize their commercial value thereby enhancing their value to the private sector and therefore to taxpayers;
- For commercially viable routes, the outright sale of government assets and operations, both vessels and terminals, to the private sector;
- For routes not commercially viable, tendering to private operators for the provision of subsidized vessel and terminal services;
- Permitting multi-user access to ferry terminals to encourage competition;
- Increasing tariffs and/or rationalizing service levels to stimulate private sector participation; and
- Building fixed links to reduce or eliminate existing routes.

It is significant to note that the primary source of cost savings realized by commercialized operations worldwide, as a result of an arm's length relationship with government, derives from the clearer operational focus, reduced overhead, improved operating efficiency and increased labour productivity.

The backbone of the ferry service is comprised of the three routes connecting Vancouver to Vancouver Island which annually:

- Generate revenues of $249 million, (74% of total revenue); and
- Transport:
  - 11.1 million passengers (52% of total passengers);
  - 241,000 commercial vehicles (63% of total commercial vehicles); and
  - 3.3 million private vehicles (45% of private vehicles).

Because of the 30-year government monopoly, the market price for ferry service tariffs is unknown. A review of tariffs in other jurisdictions was not conclusive and provided little assistance in this regard. However, it is clear that the private sector would gladly relieve the Province of the burden of providing this segment of the service.

It is no less clear, with respect to the remaining routes, that the private sector would not be as forthcoming without a suitable subsidy and/or a rationalized level of service. However, experience in other jurisdictions with the awarding, in a competitive tender process, of contracts to the private sector to operate subsidized routes suggests that it could work equally well in BC. In fact, BC Ferries already contracts out for services on 11 subsidized routes.

Further, the experience of other jurisdictions indicates that the Province could contract with the private sector for the provision of other services such as food and beverage, vessel repairs and maintenance, and terminal operations. Even for operations where there is little present appetite in the private sector, the very conduct of this process and the accompanying pre-commercialization activities will ultimately result in further commercialization opportunities. In this regard, it is important to recognize that the existing level of government subsidy to BC Ferries undermines the viability of alternative delivery models whether they be marine, air or fixed link alternatives.

Applications of this approach in other jurisdictions have, despite the protestations of an impressive array of critics, resulted in sufficient success to warrant its introduction in British Columbia. **Accordingly, we recommend that the Province review alternative approaches to the delivery of ferry services with the objective of commercializing, to the greatest extent possible, the provision of ferry services.**

VI. REVIEW OF BC FERRY CORPORATION

A. Scope of Review

In the course of our analysis of BC Ferries we reviewed:

- Public input. The public's input is summarized in section II of this report;
- Management, primarily in the areas of governance, project management and operational effectiveness. The first two areas, governance and project management were covered at length in section IV of this report.
- 2000 Financial Framework;
- Proforma historical financial performance; and
- Strategic Plan.

B. Management

The Act governing the stewardship of BC Ferries requires that the Province, through its central agencies, make all significant decisions affecting BC Ferries. As a consequence of its quasi-political nature BC Ferries has been buffeted continuously with concerns extraneous to the operation of a cost effective, customer-focused ferry service. Of necessity, and over a long period of time, BC Ferries has gradually allocated more and more resources to answering its government masters and its myriad of critics, garnering in the process a reputation for being unapproachable, unbending and bureaucratic. It is important to understand this evolution because it provides necessary perspective when assessing whether and if so, what change process might lead to a lower cost, more effective ferry service.

With this backdrop it is decidedly inappropriate to attribute the ills of BC Ferries to its management. Beginning in 1999, with the appointment of the current President and Chief Executive Officer, a substantially new management team has been installed. Considerable progress has been achieved in a variety of areas including planning, capital asset monitoring, market research, project management, financial reporting, union-management relations and information technology. From a financial perspective, controllable operating expenses have remained flat over the past two years. Considerable effort has also been directed to receiving community and customer feedback. Of particular importance, management and the Province in early 2000 implemented a Financial Framework for BC Ferries which has as its twin objectives to enable BC Ferries to operate on a break-even basis after receiving the federal and provincial subsidies, and to renew its decidedly aging capital assets.

Major Components of the Financial Framework	
Subsidies	The federal government contract for coastal ferry services of $22.4 million (fiscal 2001) has been assigned to BC Ferries in perpetuity and will change based on CPI. BC Ferries was also granted a fixed BC Motor Fuel Tax contribution of 1.25 cents per litre ($72.5 million in fiscal 2001).
Debt	The Province assumed $1.1 billion of BC Ferries debt.
Asset Sale Proceeds	Proceeds from the sale of the PacifiCats will be retained by BC Ferries.

To fulfill its commitment to the Financial Framework BC Ferries developed a comprehensive Strategic Plan with the following key assumptions.

Strategic Plan – Key Assumptions	
Service	The same level of service will be provided on each of the existing routes, that is, generally the same number of trips by the same number of vessels on the same number of routes.
Fleet	The increase in vehicles and passengers forecasted over the 15-year term will be serviced by replacing the 18 retiring vessels with generally larger standard vessels.
Tariffs	Tariffs will increase at a rate of no greater than the Provincial Consumer Price Index ("CPI").

It is of critical importance to assess whether BC Ferries can deliver on the Strategic Plan with these key assumptions. To make this assessment we conducted a comprehensive review of BC Ferries' ten-year proforma historical performance, the Strategic Plan and the Financial Framework.

C. Proforma Historical Financial Performance

Inasmuch as the Strategic Plan is based on the assumptions contained in the Financial Framework, we first tested the ten-year historical results assuming the Financial Framework had been implemented at the beginning of that period ("proforma"). This was possible because BC Ferries provided generally the same level of service (or less) over the past ten years as that which it proposes to deliver in the next 15 years pursuant to the Strategic Plan. The financial impact (operating and training costs and capital expenditures) of the fast ferry project was removed from the historical results for the purpose of our analysis.

Summary of Ten-Year Proforma Historical Financial Performance	
Tariff revenue	Increased at a rate of 4.1% per annum or 43% over the ten years while passenger volume grew 0.5% per annum and the number of vehicles remained flat.
Operating expenses	Increased at a rate of 4.7% per annum or 51% over the ten years.
Subsidies	Would have totalled $866 million ($202 million from the federal government and $664 million from the Province).
Debt	Would have increased from nil to $235 million.
Cumulative net income	Would have generated cumulative net income of $131 million.
Annual cash flow	Would have been insufficient to fund sustaining[1] capital expenditures ("CAPX") in any year.

[1] Sustaining CAPX represents the amount of capital expenditures that must be made each year in order to maintain (not grow) BC Ferries' operations. Sustaining CAPX in fiscal 2001 is $105.3 million.

The ten-year historical financial results and the ten-year proforma financial results are outlined on the following page.

BC Ferry Corporation

10 Year Review

	1992	1993	1994	1995	1996	1997	1998	1999	7 Year CAGR[2]	2000	2001	2 Year CAGR	9 Year CAGR
Traffic (000's)													
Passengers	20,518	20,533	21,529	22,021	22,512	22,269	21,799	21,397	0.6%	21,381	21,369	-0.1%	0.5%
Vehicles	7,956	7,903	8,254	8,273	8,304	8,163	7,985	7,815	-0.3%	7,884	7,933	0.8%	0.0%
Employees (000's)													
Full time equivalents	2,945	3,097	3,140	3,159	3,272	3,292	3,374	3,389	2.0%	3,390	3,339	-0.7%	1.4%
(All numbers below in $millions)													
Operating Revenue													
Tolls	204.3	216.3	241.3	259.6	271.5	267.8	290.1	296.5	5.5%	292.4	292.8	-0.6%	4.1%
Other income	3.3	3.9	7.1	7.2	9.5	5.4	6.4	8.6	14.7%	8.0	10.9	12.6%	14.2%
Catering income	43.3	45.1	49.4	53.5	59.5	60.6	60.3	57.0	4.0%	55.5	57.8	0.7%	3.3%
Cost of catering goods sold	(17.9)	(18.3)	(20.7)	(22.5)	(24.3)	(24.2)	(25.4)	(23.5)	4.0%	(20.7)	(21.9)	-3.4%	2.3%
	25.4	26.8	28.7	31.0	35.2	36.4	34.9	33.5	4.0%	34.8	35.9	3.5%	3.9%
Net revenue	233.0	246.9	277.1	297.8	316.2	309.6	331.4	338.6		335.2	339.6	0.1%	
Operating expenses													
Salaries, wages and benefits[1]	164.3	186.2	194.8	201.4	208.9	220.8	220.6	235.2	5.3%	234.4	234.1	-0.2%	4.0%
Fuel	28.2	31.5	31.8	32.5	35.7	40.2	38.0	32.0	1.8%	42.6	53.5	29.3%	7.4%
Materials and supplies	16.0	17.7	17.2	17.7	17.6	18.1	20.9	23.4	5.6%	23.4	23.4	0.0%	4.3%
Repairs and maintenance	22.8	22.9	21.0	19.2	24.0	24.9	25.9	29.8	3.9%	30.4	34.6	7.7%	4.8%
Travel, advertising, professional, computer, other	10.8	12.4	15.4	18.4	19.6	20.0	23.7	28.3	14.8%	26.7	24.4	-7.1%	9.5%
Insurance, taxes and utilities	8.5	8.9	7.9	8.3	8.7	8.0	8.4	8.8	0.5%	8.4	8.5	-1.5%	0.1%
	250.4	279.7	288.0	297.6	314.6	332.0	337.5	357.4	5.2%	366.0	378.4	2.9%	4.7%
Operating income (loss)	**(17.4)**	**(32.8)**	**(10.8)**	**0.2**	**1.6**	**(22.3)**	**(6.0)**	**(18.8)**		**(30.8)**	**(38.8)**		
Subsidy													
Federal	16.5	17.5	18.4	18.0	21.3	21.8	21.9	22.0		22.2	22.4		
Provincial/Motor Fuel Tax	11.6	23.8	17.9	16.0	9.4	4.7	4.7	24.0		64.9	72.5		
	28.1	41.3	36.3	34.0	30.7	26.5	26.6	46.0		87.1	95.0		
Operating income after subsidies	10.7	8.5	25.5	34.2	32.3	4.2	20.6	27.2		56.3	56.1		
Depreciation	(12.9)	(17.1)	(27.6)	(34.7)	(36.1)	(38.3)	(41.2)	(42.3)		(51.0)	(50.0)		
Loss on disposal of assets	-	-	-	-	-	-	-	-		(7.9)	(1.4)		
Operating loss of subsidiary	-	-	-	-	-	(1.1)	(3.3)	(8.8)		(10.5)	(1.3)		
Investment in training and infrastructure/write down	-	-	-	-	-	(8.6)	(1.3)	(48.0)		(240.0)	-		
Interest (expense) income	(3.1)	(8.4)	(19.7)	(30.4)	(35.7)	(32.6)	(33.8)	(42.4)		(53.1)	0.3		
Net income - per audited financial statements[1]	**(5.2)**	**(16.9)**	**(21.8)**	**(30.9)**	**(39.5)**	**(76.5)**	**(59.0)**	**(114.3)**		**(306.2)**	**3.7**		

[1] 2000, 2001 salaries and net income have been restated to add back a $7 million non-recurring gain.

[2] Compound Annual Growth Rate.

BC Ferry Corporation

10 Year Review - Proforma Financial Framework

Net income	**(5.2)**	**(16.9)**	**(21.8)**	**(30.9)**	**(39.5)**	**(76.5)**	**(59.0)**	**(114.3)**	**(306.2)**	**3.7**
Proforma adjustments										
Remove										
Provincial subsidy	(11.6)	(23.8)	(17.9)	(16.0)	(9.4)	(4.7)	(4.7)	(24.0)	(64.9)	(72.5)
Operating loss of CFI	-	-	-	-	-	1.1	3.3	8.8	10.5	1.3
Investment in training and infrastructure/write down	-	-	-	-	-	8.6	1.3	48.0	240.0	-
Interest expense (income)	3.1	8.4	19.7	30.4	35.7	32.6	33.8	42.4	53.1	(0.3)
Other subsidies from the provincial government	(4.8)	(4.8)	(4.8)	(4.8)	-	-	-	-	-	-
Add										
Motor Fuel Tax[1]	60.7	61.9	63.1	64.4	65.7	67.0	68.3	69.7	71.1	72.5
Interest expense	(5.0)	(17.9)	(28.5)	(27.2)	(23.1)	(19.5)	(16.0)	(15.0)	(14.3)	(14.0)
Net income - proforma financial framework	**37.1**	**6.9**	**9.9**	**16.0**	**29.4**	**8.6**	**27.1**	**15.6**	**(10.7)**	**(9.2)**
Debt	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
Opening balance[2]	-	170.0	325.0	350.0	322.5	320.0	318.0	286.0	254.0	230.0
New debt (debt repayments)	170.0	155.0	25.0	(27.5)	(2.5)	(2.0)	(32.0)	(32.0)	(24.0)	5.0
Ending balance	170.0	325.0	350.0	322.5	320.0	318.0	286.0	254.0	230.0	235.0
Capital expenditures	**217.8**	**178.4**	**64.2**	**22.2**	**64.1**	**45.7**	**36.3**	**25.6**	**23.8**	**46.5**
Cashflow after subsidy	55.0	41.8	65.9	77.8	88.6	66.4	84.2	72.9	62.5	56.1
Less: Sustaining CAPX[3]	(83.8)	(86.0)	(88.2)	(90.5)	(92.8)	(95.2)	(97.6)	(100.1)	(102.7)	(105.3)
Cashflow after subsidy less sustaining CAPX	**(28.9)**	**(44.2)**	**(22.3)**	**(12.6)**	**(4.2)**	**(28.7)**	**(13.4)**	**(27.2)**	**(40.2)**	**(49.2)**

[1] Motor Fuel Tax - estimate, subsidy grows by 2% per annum.

[2] Opening balance is zero, as per financial framework.

[3] Sustaining CAPX - estimate.

Assessment

From 1992 to 1999, total revenues increased at 5.5% per annum substantially as a result of increased tariffs. Over this same period, total operating costs increased at a rate of 5.2% per annum while passenger traffic grew at less than 1% per annum and vehicle traffic remained flat. The main driver of expense growth was an increase in the number of full time equivalent employees and increased wages. A portion of the increase in employees was due to the introduction of two Spirit class vessels, the new Duke Point terminal, additional service to the Gulf islands, a new northern route and new terminal safety measures.

Over the past two years, management has reduced the number of full time equivalent employees by 50 and kept controllable operating costs flat (excluding fuel costs, which are uncontrollable). In spite of this performance, cashflow after subsidy decreased in each of the two years as a result of marginal net revenue growth and a surge in the cost of fuel.

Over the ten-year period, with the failure of the Pacificats, the average age of BC Ferries' fleet increased from 24 to 28 years. Despite the strong growth in toll revenues, cumulative subsidies of $866 million, and spending $218 million less than sustaining CAPX, BC Ferries, under the proposed Financial Framework, would have incurred additional debt of $235 million. Further, BC Ferries was unable to generate sufficient cashflow after subsidy in any year to fund its sustaining CAPX. This performance does not support a high level of confidence that BC Ferries will be able to deliver on its Strategic Plan.

D. Strategic Plan

BC Ferries prepared the Strategic Plan in fiscal 2001. This plan was approved by the former board of directors for submission to Treasury Board and has not been reviewed by the current government nor been the subject of specific public consultation. The success of the Province's financial framework is dependent upon the successful implementation of BC Ferries' Strategic Plan and the ability of management and the Province to make changes when actual results deviate from those anticipated in the Strategic Plan. Accordingly, for the purposes of our review, it was of paramount importance that we were able to satisfy ourselves as to the reasonableness of its underlying assumptions and as to its overall achievability.

Summary of Strategic Plan	
Tariff revenue	Increases at a rate of 2.5% per annum or 42% over the 15 years as a result of projected tariff increases at 75% of CPI and 1.3% and 1.4% annual projected growth in passengers and vehicles, respectively.
Operating expenses	Increase at a rate of 1.4% per annum or 19% over the 15 years.
Subsidies	$1.65 billion in total ($372 million from the federal government and $1.28 billion from the Province)
Debt	Increase from $21 million to $325 million.
Cumulative net income	$263 million.
Annual cash flow	Insufficient to fund sustaining capital expenditures until the tenth year of the forecast.

The forecasted results of the Strategic Plan are outlined on the following table.

BC Ferry Corporation

15-Year Corporate Strategic Plan

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	CAGR[1]
Traffic (000's)																
Passengers	21,111	21,303	21,583	21,877	22,155	22,483	22,819	23,176	23,543	23,911	24,282	24,658	25,039	25,426	25,806	1.3%
Vehicles	7,818	7,940	8,076	8,216	8,357	8,482	8,610	8,746	8,886	9,028	9,172	9,317	9,465	9,615	9,761	1.4%
(All amounts below in $millions)																
Operating Revenue																
Tolls	300.1	306.5	314.6	323.8	332.6	340.0	348.9	356.9	366.7	375.2	385.4	394.3	405.1	414.5	425.7	2.5%
Other income	9.9	10.9	12.6	13.2	13.6	13.9	14.2	14.6	14.9	15.3	15.6	16.0	16.4	16.8	17.2	3.1%
Catering	57.1	58.2	59.5	61.6	63.1	64.8	66.5	68.4	70.3	72.3	74.3	76.4	78.6	80.8	83.0	2.4%
Cost of food and goods sold	(21.6)	(22.0)	(22.5)	(23.3)	(23.9)	(24.5)	(25.2)	(25.9)	(26.7)	(27.4)	(28.2)	(29.0)	(29.8)	(30.7)	(31.5)	2.5%
	35.5	36.1	37.0	38.3	39.2	40.3	41.3	42.5	43.7	44.9	46.1	47.4	48.8	50.1	51.5	2.4%
Net revenue	345.5	353.5	364.2	375.3	385.4	394.2	404.5	414.0	425.3	435.4	447.2	457.8	470.3	481.4	494.4	
Operating expenses																
Salaries, wages and benefits	237.5	238.5	242.3	246.5	248.3	251.3	254.9	258.7	262.5	266.8	271.8	276.8	281.4	286.3	290.9	1.7%
Fuel	56.1	53.4	53.4	54.5	55.0	57.2	57.8	57.9	58.1	58.6	58.7	59.6	60.7	61.9	62.1	1.0%
Materials and supplies	24.6	24.1	23.7	24.5	24.5	23.9	24.3	24.5	24.8	25.1	25.4	25.8	26.1	26.3	26.4	0.8%
Repairs and maintenance	34.5	35.2	34.9	35.2	34.8	33.9	34.4	34.8	35.2	35.7	36.1	36.6	37.1	37.0	36.9	0.4%
Travel, advertising, professional, computer, other	26.6	27.2	27.5	27.9	28.3	28.6	29.0	29.4	29.7	30.1	30.5	30.9	31.2	31.6	32.0	1.8%
Insurance, taxes and utilities	8.0	8.3	8.4	8.6	8.9	9.1	9.4	9.5	9.6	9.8	9.9	10.1	10.3	10.4	10.6	1.5%
	387.3	386.6	390.3	397.2	399.8	404.1	409.8	414.8	420.0	426.1	432.3	439.7	446.8	453.5	458.9	1.4%
Cashflow from operations	**(41.9)**	**(33.1)**	**(26.1)**	**(21.9)**	**(14.4)**	**(9.9)**	**(5.3)**	**(0.9)**	**5.3**	**9.3**	**14.9**	**18.0**	**23.5**	**27.9**	**35.5**	
Subsidy																
Federal	22.7	23.0	23.3	23.6	23.9	24.2	24.5	24.8	25.1	25.4	25.7	26.0	26.4	26.7	27.0	
Motor Fuel Tax	73.7	75.6	77.8	80.0	81.8	83.4	85.1	86.8	87.7	88.6	89.4	90.3	91.2	92.1	93.1	
	96.4	98.6	101.1	103.6	105.7	107.6	109.6	111.6	112.8	114.0	115.2	116.4	117.6	118.8	120.1	
Cashflow after subsidy	54.6	65.6	75.0	81.7	91.3	97.7	104.3	110.7	118.0	123.2	130.1	134.4	141.1	146.8	155.6	
Depreciation	50.0	55.5	61.5	65.8	69.4	77.3	77.9	84.1	88.0	85.2	88.4	92.1	95.0	96.4	99.7	
Interest expense (income)	2.0	0.3	0.3	0.3	0.3	4.7	12.2	18.0	16.1	16.5	17.6	19.2	25.8	24.9	22.8	
Net income	**2.6**	**9.8**	**13.3**	**15.7**	**21.6**	**15.7**	**14.1**	**8.6**	**13.9**	**21.5**	**24.1**	**23.1**	**20.3**	**25.4**	**33.2**	

Debt	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Opening balance	21.4	58.0	15.8	41.1	151.1	246.7	307.1	329.1	314.6	322.7	359.9	365.3	390.7	373.2	352.4
New debt (debt repayments)	36.6	(42.3)	25.3	110.0	95.7	60.4	22.0	(14.4)	8.1	37.2	5.4	25.4	(17.4)	(20.8)	(26.9)
Ending balance	58.0	15.8	41.1	151.1	246.7	307.1	329.1	314.6	322.7	359.9	365.3	390.7	373.2	352.4	325.5
Capital expenditures	**89.2**	**93.1**	**150.1**	**191.6**	**186.8**	**153.6**	**114.3**	**78.5**	**110.3**	**144.2**	**118.2**	**141.0**	**98.3**	**101.5**	**106.4**
Cashflow after subsidy	54.6	65.6	75.0	81.7	91.3	97.7	104.3	110.7	118.0	123.2	130.1	134.4	141.1	146.8	155.6
Less: Sustaining CAPX	(108.0)	(109.4)	(110.7)	(112.2)	(113.6)	(115.0)	(116.4)	(117.9)	(119.3)	(120.8)	(122.3)	(123.9)	(125.4)	(127.0)	(128.6)
Cashflow after subsidy less sustaining CAPX	**(53.4)**	**(43.9)**	**(35.7)**	**(30.5)**	**(22.3)**	**(17.3)**	**(12.2)**	**(7.2)**	**(1.3)**	**2.4**	**7.7**	**10.5**	**15.6**	**19.8**	**27.1**

[1] CAGR - Cumulative Annual Growth Rate.

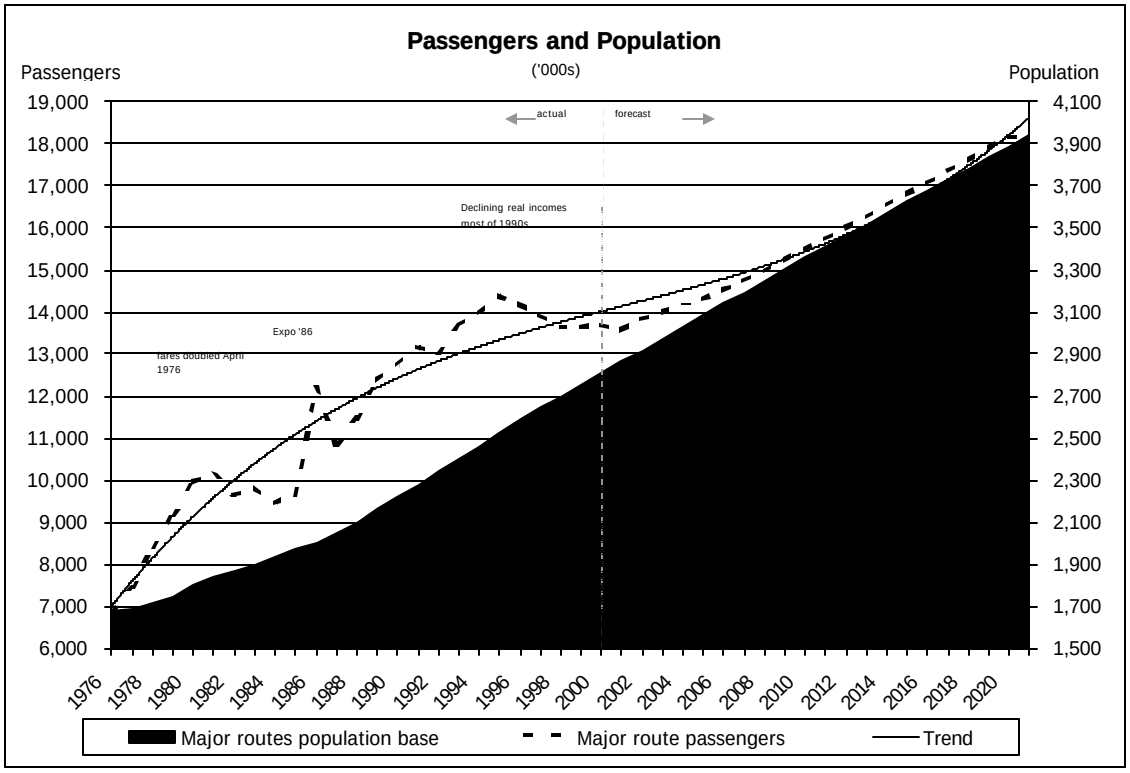
1. Strategic Plan – Revenue, Expense and Capital Expenditure Assumptions

(a) Vehicle and passenger forecasts

(i) Major Routes

Long-term major route forecasts were developed using sophisticated forecasting methodologies. The first year of the forecast was determined using Time Series Analysis (data trending methods). The next four years of the forecast were developed combining separate forecasts based on demographic analysis and multiple regression analysis. The last ten years of the forecast were based on BC Stats, Population Statistics Branch population growth rates for the major route service areas.

The following chart outlines the change in traffic versus the population growth over the past 25 years and the forecasted growth in traffic versus forecasted growth in population in the major route areas over the 15-year forecast period. Actual traffic patterns have been erratic over short periods but in line with population growth over long periods.



(ii) Minor Routes

Long-term minor route forecasts were developed based on the relationship between population growth and traffic growth. BC Stats, Population Statistics Branch provided forecasts to BC Ferries for Local Health Areas and also provided custom forecasts for smaller geographic regions such as individual islands serviced by BC Ferries. Simple regression models relating traffic growth to population growth in the ferry service area were used to forecast growth in total vehicles and total passengers on each of the minor routes.

Assessment – Medium Risk

There is a strong historical relationship between population change and ferry travel demand over the long-term. However, during the 15-year forecast period actual traffic will fluctuate unpredictably as it did in the past 25 years. Consequently, the forecasting method is reasonable but subject to risk, particularly based on recent trends, in the crucial first five years of the forecast. It should be noted, however, that year-to-date traffic growth in fiscal 2002 is ahead of forecast by 1.8%.

(b) Tariff

The Strategic Plan assumes that tariffs will increase at 75% of the CPI. This was used to provide a cushion in the event traffic growth was less than projected or costs increased faster than projected.

Assessment – Low Risk

This is a conservative assumption.

(c) Capital Plan - Vessels

A critical challenge for BC Ferries is to renew its aging vessels and terminals. Eighteen of the fleet's 40 vessels will require replacement over the next 15 years.

(i) Background

In the early 1960's significant capital investment was made in new vessels in response to the rapid growth in traffic. Between the late 1960's and the early 1980's the capacities of a number of vessels were expanded (platform decks added, vessels stretched and lifted). Between 1982 and 1990, BC Ferries experienced a period of low growth followed by rapid growth towards the end of the decade. During this period no new or second-hand vessels were acquired nor vessel lives extended. In the 1990's, two Spirit class vessels, the Queen of Capilano, Queen of Cumberland, Skeena Queen and three PacifiCats were constructed.

(ii) Vessel Retirement

In 1982, the average age of the fleet was 15 years. At the end of 2001 it was over 28 years. Three quarters of the vessels are in the last half, and over 44% are in the last quartile, of their useful lives. BC Ferries has recently undertaken a comprehensive review of its existing vessels. The following table identifies the 18 vessels with less than 15 years of service life remaining.

Retirement Year	Vessel	Age at Retirement
2001/02	Queen of Sidney	41
2002/03	Dogwood Princess	24
2003/04	Queen of Chilliwack	25
2005/06	North Island Princess	48
2005/06	Queen of Tsawwassen	46
2006/07	Queen of Esquimalt	43
2006/07	Queen of Nanaimo	43
2007/08	Queen of Saanich	44
2008/09	Queen of Vancouver	46
2009/10	Queen of the North	41
2010/11	Tenaka	47
2010/11	Queen of Prince Rupert	45
2012/13	Howe Sound Queen	49
2013/14	Tachek	45
2013/14	Queen of New Westminster	50
2014/15	Quadra Queen II	46
2014/15	Bowen Queen	50
2015/16	Mayne Queen	51

(iii) Vessel Replacement Options

BC Ferries retained Kvaerner Masa Marine ("KMM") to examine the relative attractiveness of extending the vessels' useful lives, purchasing secondhand vessels and building new vessels. Based on the KMM report, the following was concluded:

- Extending the vessels' useful lives is not economic since most of the vessels are very old and have significant hull deficiencies;
- Purchasing secondhand vessels is limited to specific situations; and
- The majority of the vessels will have to be replaced with new vessels.

(iv) Vessel Selection

BC Ferries has assumed that the increase in vehicles and passengers forecasted over the 15-year period will be serviced by replacing the 18 retiring vessels with generally larger standard vessels with a proven operating history in BC waters. This has been BC Ferries' approach since inception, with the notable exception of the PacifiCats. This approach has been selected because large vessels have superior economies of scale (lower labour, fuel and capital costs per passenger/vehicle). Use of demand mechanisms (reservations) will be increased to maintain generally the same level of impact on terminal communities.

(v) BC Shipbuilders versus International Shipbuilders

To date, all of BC Ferries' new vessels have been built in British Columbia. BC Ferries hired KMM to examine three standard vessels (Century Class, C-Class and Spirit Class) and to estimate the cost of building them in the USA, South America, Europe and Korea. KMM concluded that there is a 30% cost advantage (after paying the 25% federal import duty) to purchase a vessel built at a Korean yard, the least expensive option, over a BC yard, the most expensive option. The major differences in the cost are attributable to wage differentials and higher productivity. Over the 15-year plan this difference is estimated at $350 million.

(vi) Capacity of the BC Shipbuilding Industry

Several BC shipyards have the capacity to build Century Class vessels but, of financial necessity, can only perform this service on a cost plus basis. Only one shipyard in BC is capable of posting the bonds in excess of $100 million that would be required to insure both the design and construction risk for a major vessel. BC shipyards could, however, form a consortium to build the larger vessels, as has been done successfully in the past.

During the last two major vessel construction programs (the two Spirit class vessels and the three PacifiCats), BC Ferries had to assume the design and construction risk because BC shipbuilders would or could not.

(vii) Government Intervention

Vessels built outside the North American Free Trade zone incur a 25% federal import duty. The total cost of this import duty to BC Ferries over the 15-year plan, if all new vessels are purchased outside of North America, is estimated to exceed $140 million.

When the Spirit class vessels were tendered, the best bid (lowest price, 100% of the design and construction risk borne by the shipbuilder) came from a Louisiana based shipbuilder. However, the Province intervened in favour of BC shipyards. Similarly the PacifiCats, at great expense and risk, were built in BC despite the recommendation to the contrary by BC Ferries.

Based on the recommendations of the National Partnership Committee, the federal government has established a new Structured Financing Facility that provides lower interest charges to foreign and domestic purchasers of Canadian built vessels. The net result is that the Structured Financing Facility has the potential to reduce the cost of vessels by up to 10%.

Assessment – Useful Life – High Risk / Replacement Costs – Medium Risk

Eleven of the 18 vessels to be retired over the 15-year plan will be 45 years or older when they are retired. Only one of BC Ferries' medium or large ferries is currently over 40 years old. There is a considerable risk that the older vessels will not continue to meet federal regulations or last as long as forecasted, thereby increasing the need for capital in the early years of the Strategic Plan.

BC Ferries' cost estimates for the 18 vessels to be replaced over the 15-year plan appear reasonable relative to the prices being paid by foreign purchasers of similar vessels in the international market. There is a risk that prices may increase, but in recent years prices for nearly all types of vessels have declined.

Given that its fleet renewal is of such critical importance and that BC Ferries forecasts that they will spend up to $1.1 billion in this regard over the next 15 years, it is vital that BC Ferries have the ability to effectively manage this cost. **We recommend that BC Ferries be given clear authority to purchase standard vessels with a proven operating history in BC waters from the lowest cost provider that can accept 100% of the design and construction risk.**

We expect that BC shipbuilders would, individually or as a consortium, bid competitively on each vessel to be built. If they require financial subsidies to compete, they should be clear and visible, not delivered through the subterfuge of BC Ferries being compelled to purchase vessels at higher prices and risk.

(d) Capital Plan – Terminals and Information Technology

The terminal marine structures are in a disproportionately aged condition. Three-quarters of all marine structures are beyond the mid-point of their economic lives whereas three-quarters of terminal shore structures are in the first half of their economic lives. In the next five years $165 million of specified terminal improvements and replacements are earmarked to remediate these aging structures.

Accurate and timely information is absolutely essential for the successful operation of a complicated logistics and transportation operation. In 1999, BC Ferries was effectively without information systems. BC Ferries first implemented new financial, project management, and payroll software systems and recently implemented new Corporate Maintenance Management and Supply Chain Management systems. Even with these upgrades, significant additional investment is required. For example, scheduling for many of BC Ferries 4,590 employees is still performed manually. In the past decade the most significant strategic thrust for transportation and logistics management companies has been their development of increasingly sophisticated systems to improve customer service and reduce costs.

Assessment – Medium Risk

BC Ferries appears to have adequately provided for investment in terminal marine and shore structures to service the anticipated increase in demand during the 15-year plan. It is expected that an additional mainland terminal will be required beyond the 15-year time frame, but no provision for this potentially large expenditure is included in the Strategic Plan. Although it is clear that management has identified information technology as a critical issue and is implementing the necessary changes as quickly as possible, the costs of such systems are notoriously difficult to predict. These systems improvements must be addressed if BC Ferries is to operate more efficiently in the future.

(e) Labour Costs

In fiscal 2001, labour represented 62% of BC Ferries' total operating expenditures.

	Number of FTE's[1]	$ M	%
Vessel operations	1,938	127.2	54.3
Vessel repairs and maintenance	211	20.5	8.8
Terminal operations and maintenance	739	45.7	19.5
Other	120	6.0	2.6
Regional and corporate overhead	331	34.7	14.8
	3,339	234.1	100.0

[1] FTE – full time equivalent employees.

(i) Vessel Operations

Labour costs for vessel operations are driven by several factors, including:

- The service plan (the allocation of ships and hours of service to each route);
- Transport Canada crewing and certification regulations which establish:
  - The minimum crew level relative to the number of passengers;
  - The qualifications of the crew in terms of navigating, engineering, fire fighting and lifesaving;
  - The level of education, experience and training required by crewmembers.
- Provincial labour legislation; and
- The collective bargaining agreement.

The main driver of labour costs for vessel operations is the service plan. The Strategic Plan assumes the same level of service and therefore only a marginal increase in vessel operations crew for the larger vessels. It has also been assumed that federal regulations will not negatively impact this assumption. BC Ferries is obligated to increase wages by 2% in 2002 and thereafter forecasts increases at generally the rate of the CPI over the 15-year plan.

Assessment – Medium Risk

Assuming BC Ferries purchases generally larger standard vessels to replace retiring vessels, the number of crew required to maintain the existing service level is reasonably predictable. There is a risk that the wage increases will exceed the CPI and that changes in federal regulations could increase crew sizes.

(ii) Vessel Repairs and Maintenance

Repairs and maintenance costs reflect the age and condition of the capital assets. Significant investment has been undertaken in the last three years to address deferred maintenance needs which had accumulated as a result of insufficient funding over previous years. This catch up will be substantially complete by the end of fiscal 2003. Provisions have been made for normalized extraordinary maintenance in the 15-year plan to reflect the age profile of the assets. As vessel replacements are implemented the average age of the assets and maintenance requirements will reduce. This combined with the benefits from the corporate maintenance management system, are forecasted to reduce, in real terms, maintenance expenditures over the 15-year plan.

Assessment – High Risk

New systems notwithstanding, the increasing demands by federal regulators, increases in repairs and maintenance costs over the past three years, and the aged condition of many of the vessels, pose a considerable risk in forecasting these expenditures.

(iii) Terminal Operations and Maintenance

Vehicle traffic is forecasted to increase by over 20% during the 15-year plan while labour costs are forecasted to increase at the rate of CPI. Management believes, with the implementation of automated processes, this forecast can be achieved.

Assessment – Medium Risk

Given the 13% increase in full-time equivalent employees over the past ten years while vehicle traffic remained flat, there is a risk that these costs are understated.

(iv) Regional and Corporate Overhead

Regional and corporate overhead includes the cost of 48 full-time equivalent regional employees and 283 full-time equivalent employees at head office who are involved primarily in corporate accounting, human resources, planning and customer and information services. These labour costs are forecasted to increase by CPI.

Assessment – Low Risk

These costs are high relative to private sector standards but are a necessary response to the imperfection of the governance structure. Given that there is no planned increase in services provided during the 15-year plan this assumption appears to be conservative.

(v) Collective Bargaining Agreement ("CBA")

Over 94% or 4,300 of the employees at BC Ferries are unionized. Not withstanding the recent improvement in union-management relations, the CBA has a number of significant issues affecting the efficient operations of BC Ferries such as:

- Inflexibility. No employee shall be required to perform any duties other than those required in his/her job descriptions. Split shifts are not permitted unless agreed to by the union. BC Ferries is only allowed to contract out services if it results in no layoff of unionized employees and it must be to a union shop, if available;
- Seniority. Promotions are based on seniority. There is no incentive for less experienced staff to excel;
- Above-market wages. Parking lot attendants are paid $18.08 per hour and cashiers in the terminal cafeterias are paid $20.64 per hour, far in excess of the wages paid for comparable jobs in the private sector;
- Overtime policy. Every 30 minutes or portion thereof is calculated as 30 minutes and is paid double the base rate. Therefore, five minutes of overtime equates to one hour of pay (30 minutes of work at double time). This compensation structure creates a disincentive to achieve on time performance – the most prevalent complaint of the public. Numerous other clauses are woven into the CBA that generate unnecessary overtime; and
- Operating efficiency. The union has resisted efficiencies (fewer crew) in new vessels. For example, the unionized officers working on the Spirit-class vessels receive 7% more pay than those working on other vessels for no apparent reason. Also, the union has strongly opposed discontinuing or reducing service on any routes.

Assessment

The CBA lacks the flexibility to allow BC Ferries to operate as an efficient, cost effective operator.

(f) Fuel

Fuel costs represented 14% ($53.5 million) of total operating expenditures in fiscal 2001. BC Ferries consumes over 132 million litres of diesel fuel per year and is forecasted to rise to more than 150 million litres in 15 years due to increased vessel size. Fuel costs are forecasted to be 42.5 cents per litre in fiscal 2002 and 41 cents thereafter based on US$28 per barrel of oil and a US$0.65 cent Canadian dollar.

Assessment – High Risk

Fuel is a commodity over which BC Ferries has no control. The forecast was consistent with OPEC policy announcements and the current market for futures contracts at the time it was developed. Based on current oil prices, and allowing for a further decline in the Canadian dollar, these assumptions appear conservative. However, the price of oil is extremely volatile and there is always risk in forecasting its price over long periods of time.

(g) Repairs, Maintenance, Materials and Supplies

Repairs, maintenance, materials and supplies costs represented 15% ($58 million) of total operating expenses in fiscal 2001. These costs are affected by the same factors as the repairs and maintenance labour costs described on page 24.

Assessment – High Risk

Despite the potential benefits of the new systems, the increasing demands by federal regulators, increases in repairs and maintenance costs over the past three years, and the aged condition of many of the vessels, there is a considerable risk that these costs are understated.

(h) Other Expenses

Other expenses represented 7% ($24.4 million) of total operating expenses in fiscal 2001 and include advertising, legal, audit, consultants, travel agent commissions, travel, telephone and data communications, computer software and data processing and training costs. These expenses are forecasted to grow at CPI over the 15-year plan.

Assessment – Medium Risk

Although other expenses have increased from approximately $10 million in 1992 to over $24 million in 2001 (a 9.5% annual growth rate), these expenses have decreased $3.9 million over the past two years under new management. Accordingly, we consider the forecast to be reasonable.

(i) Insurance, Taxes and Utilities

Insurance, taxes and utilities represented 2% ($8.5 million) of total operating expenses for BC Ferries in fiscal 2001. These costs are forecasted to increase at CPI over the 15-year plan.

Assessment – Medium Risk

Based on historical growth rates this forecast is reasonable. However, insurance costs continue to rise for most businesses and in the past BC Ferries has paid minimal taxes. For example, we are advised that the Province's property tax policy is under review and could require BC Ferries to pay increased property taxes.

(j) Catering and Other Retail Services

BC Ferries operates a substantial food services business, generating revenues of over $57 million in 2001. 86% of all catering and other retail services revenues are generated on the four major routes with 47% on the Tsawwassen to Swartz Bay route. In June 1999, BC Ferries partnered with White Spot to provide a branded food product on the Tsawwassen to Swartz Bay route resulting in a 60% increase in hamburger sales alone. Based on these results, BC Ferries and White Spot are working together to provide the same branded food product offering on other routes. BC Ferries has forecasted food services revenues and cost of goods sold to increase at 2.1% per annum over the term of the forecast.

Assessment – Low Risk

Given BC Ferries' ability to increase food services revenues over the past ten years at a rate of over 3% per annum while experiencing limited growth in passengers and vehicle traffic, the forecast appears conservative.

(k) Risk Assessment Summary

The following table summarizes our assessment of the risk in each of the assumptions underlying the Strategic Plan.

Risk Assessment Summary	Risk
Vehicle and passenger forecasts	Medium
Tariff	Low
Capital plan – Vessels	
Useful life	High
Replacement costs	Medium
Capital Plan – Terminals and Information Technology	Medium
Labor costs	
Vessel operations	Medium
Vessel repairs and maintenance	High
Terminal operations and maintenance	Medium
Regional and corporate	Low
Fuel	High
Repairs, maintenance, materials and supplies	High
Other expenses	Medium
Insurance, taxes, and utilities	Medium
Catering and other retail services	Low

2. Strategic Plan – Sensitivity Analysis

To assess the reasonableness of the Strategic Plan we performed sensitivity analyses on the key assumptions. The following table summarizes these assumptions and their financial impact on BC Ferries. The five tables thereafter record the financial impact of an adjustment to each assumption and the final table records the impact of changes to all the assumptions.

(a) Strategic Plan Summary

Assumptions	
Tariff increase as a % of CPI	75%
Traffic growth as a % of BC Ferries forecast	100%
Interest rates (average over 15-year term)	6.6%
Acquisition cost of vessels as a % of BC Ferries forecast	100%
Expense CAGR (compound annual growth rate)	1.4%
Financial Results ($ M)	
Long-term debt – maximum balance	391
Long-term debt – ending balance	325
Cumulative cashflow from operations	(19)
Cumulative net income	263
Cumulative cashflow after subsidy less sustaining CAPX	(140)

(b) Tariff

Assumptions		Change
Tariff increase as a % of CPI	100%	25
Traffic growth as a % of BC Ferries forecast	100%	-
Interest rates (average over 15-year term)	6.6%	-
Acquisition cost of vessels as a % of BC Ferries forecast	100%	-
Expense CAGR	1.4%	-
Financial Impact ($ M)		**Change**
Long-term debt – maximum balance	298	(92)
Long-term debt – ending balance	155	(170)
Cumulative cashflow from operations	104	123
Cumulative net income	433	170
Cumulative cashflow after subsidy less sustaining CAPX	(17)	123

An increase in the tariff rate to 100% of CPI has the effect of increasing cashflow from operations over the 15 years by $123 million thereby reducing long-term debt at the end of the period by $170 million. Despite this favourable variance to plan, BC Ferries will fail to generate sufficient cashflow to fund sustaining CAPX until the eighth year of the plan.

(c) Traffic

Assumptions		Change
Tariff increase as a % of CPI	75%	-
Traffic growth as a % of BC Ferries forecast	75%	(25)
Interest rates (average over 15-year term)	6.6%	-
Acquisition cost of vessels as a % of BC Ferries forecast	100%	-
Expense CAGR	1.4%	-
Financial Impact ($ M)		**Change**
Long-term debt – maximum balance	555	164
Long-term debt – ending balance	555	230
Cumulative cashflow from operations	(183)	(164)
Cumulative net income	33	(230)
Cumulative cashflow after subsidy less sustaining CAPX	(305)	(164)

A decrease of 25% in the projected traffic growth has the effect of decreasing cashflow from operations by $164 million over the 15-year plan. Not until the fifteenth year will BC Ferries generate sufficient cashflow to fund sustaining capital expenditures.

(d) Interest Rates

Assumptions		Change
Tariff increase as a % of CPI	75%	-
Traffic growth as a % of BC Ferries forecast	100%	-
Interest rates (average over 15-year term)	7.6%	1.0
Acquisition cost of vessels as a % of BC Ferries forecast	100%	-
Expense CAGR	1.4%	-
Financial Impact ($ M)		**Change**
Long-term debt – maximum balance	420	29
Long-term debt – ending balance	378	53
Cumulative cashflow from operations	(19)	-
Cumulative net income	210	(53)
Cumulative cashflow after subsidy less sustaining CAPX	(140)	-

A 1% increase in interest rates will increase long-term debt at the end of the 15-year plan by $53 million.

(e) Vessel Acquisition Costs

Assumptions		Change
Tariff increase as a % of CPI	75%	-
Traffic growth as a % of BC Ferries forecast	100%	-
Interest rates (average over 15-year term)	6.6%	-
Acquisition cost of vessels as a % of BC Ferries forecast	136%	36%
Expense CAGR	1.4%	-
Financial Impact ($ M)		**Change**
Long-term debt – maximum balance	888	498
Long-term debt – ending balance	888	563
Cumulative cashflow from operations	(19)	-
Cumulative net income	(19)	(281)
Cumulative cashflow after subsidy less sustaining CAPX	(140)	-

BC Ferries' assumption is that all vessels are acquired at the lowest possible cost. An increase in the acquisition cost of the vessels of 36% would increase the amount of BC Ferries debt at the end of the 15-year plan by $563 million.

(f) Expense Compound Annual Growth Rate

Assumptions		Change
Tariff increase as a % of CPI	75%	-
Traffic growth as a % of BC Ferries forecast	100%	-
Interest rates (average over 15-year term)	6.6%	-
Acquisition cost of vessels as a % of BC Ferries forecast	100%	-
Expense CAGR	2.4%	1.0
Financial Impact ($ M)		**Change**
Long-term debt – maximum balance	950	559
Long-term debt – ending balance	950	624
Cumulative cashflow from operations	(522)	(503)
Cumulative net income	(425)	(688)
Cumulative cashflow after subsidy less sustaining CAPX	(644)	(503)

An increase in the cumulative growth of operating expenses from 1.4% per annum to 2.4% per annum would increase the amount of debt required by BC Ferries at the end of the 15-year plan by $624 million.

(g) Tariff, Traffic, Interest Rates, Vessel Acquisition Costs, and Expense CAGR

Assumptions		Change
Tariff increase as a % of CPI	100%	25
Traffic growth as a % of BC Ferries forecast	75%	(25)
Interest rates (average over 15-year term)	7.6%	1.0
Acquisition cost of vessels as a % of BC Ferries forecast	136%	36
Expense CAGR	2.4%	1.0
Financial Impact ($ M)		**Change**
Long-term debt – maximum balance	1,559	1,169
Long-term debt – ending balance	1,559	1,234
Cumulative cashflow from operations	(568)	(549)
Cumulative net income	(753)	(1,016)
Cumulative cashflow after subsidy less sustaining CAPX	(690)	(549)

The cumulative effect of tariff increases of 100% of CPI, a 25% decrease in traffic growth, a 1% increase in interest rates, 36% increase in vessel acquisition costs, and a 1% increase in the cumulative growth in expenses would decrease cashflow from operations by $549 million over the 15-year plan. BC Ferries would not generate sufficient cashflow to fund sustaining CAPX after subsidy in any year and the balance of long-term debt at the end of the 15-year plan would increase by $1.2 billion.

(h) Strategic Plan Summary and Assessment

The Strategic Plan was developed in accordance with Treasury Board guidelines that, unlike commercial enterprises, do not make adequate provision for the renewal of capital assets. The Plan is largely a status quo plan with costs generally increasing at the rate of CPI and tariff revenue increasing at CPI plus the projected growth in passenger and vehicle traffic. The net result is that BC Ferries forecasts an improvement in cashflow after subsidy in every year and an ability, after ten years, to provide for the renewal of its assets and the repayment of the debt incurred over the first nine years of the Plan.

While the revenue and expense assumptions are generally reasonable, it is clear from the sensitivity analysis that small unfavourable changes in the forecast assumptions could have large negative impacts on the financial position of BC Ferries. If, for example, just two of the adjusted assumptions, the purchase cost of vessels and the rate of increase in expenses were realized, the financial impact could be severe, causing long-term debt to increase by approximately $1.2 billion. Given the cost overruns of the last two major vessel construction programs and the fact that operating expenses for the past ten years (a period of no traffic growth), grew at a higher rate than is forecast for the next 15 years (despite forecast traffic growth of over 20%), this outcome is a distinct possibility. The fact that in 2001, the first year of the new Financial Framework, annual cashflow after subsidy was insufficient, by $49 million, to sustain (not expand) BC Ferries' capital assets lends further credence to the possibility of this scenario. Confronted with this possibility BC Ferries would, of necessity, respond with service reductions, increased tariffs and other cash generating measures, a most unlikely outcome given the existing governance structure.

Assessment

Based on BC Ferries' ten year historical financial performance, the high level of sensitivity to changes in the forecast assumptions, and the fiscal 2001 $49 million cashflow shortfall, we conclude that BC Ferries will not achieve its Strategic Plan and therefore the objectives of the Financial Framework will not be fulfilled.

E. Service Level, Tariff and Financial Framework

This section assesses the key assumptions in the Corporate Strategic Plan (service level and tariff) and each of the components of the Financial Framework (page 15) to determine the changes necessary to make BC Ferries financially viable.

Maintain Existing Service Level

Maintaining the existing service level (26 routes serviced by 37 vessels) is the primary assumption in the Corporate Strategic Plan. The following table summarizes the financial contribution/cost of each route. It should be noted that no attempt was made to allocate regional, corporate and other expenses of $74 million and the fiscal 2001 $7 million non-recurring gain. Only five out of the 26 generate a positive route contribution and only two cover their sustaining capital expenditures. The 24 routes that are unable to cover their direct operating costs and sustaining capital expenditures after allocation of the federal subsidy, lose a collective $83 million per annum.

BC Ferry Corporation

2001 Detailed Route Report

	($ 000's)	Revenues	Vessel Labour	Fuel	Vessel Refit and Maint.	Marine Insurance	Other	Vessel Contribution	Terminal Operations	Terminal Maintenance	Route Contribution	Vessel Sustaining CAPX[1]	Terminal Sustaining CAPX[2]	Federal Subsidy[3]	Route Profitability	Subsidy per Passenger Per Trip
Major Routes																
1	Tsawwassen/Swartz Bay	**133,762**	30,284	12,193	12,339	751	1,576	**76,619**	11,524	2,738	**62,357**	22,054	5,673	1,225	**35,855**	
2	Horseshoe Bay/Nanaimo	**70,812**	19,317	11,233	8,012	602	627	**31,021**	7,731	1,278	**22,012**	16,540	3,237	1,531	**3,765**	
30	Tsawwassen/Nanaimo	**47,528**	14,422	9,900	8,267	298	635	**14,006**	6,234	791	**6,981**	11,027	1,506	1,914	**(3,639)**	(2.52)
3	Horseshoe Bay/Langdale	**24,324**	6,615	3,357	4,412	117	186	**9,637**	4,154	877	**4,606**	11,027	2,638	495	**(8,564)**	(3.43)
		276,426	70,638	36,683	33,030	1,768	3,024	**131,283**	29,643	5,684	**95,956**	60,648	13,055	5,164	**27,417**	
Southern Gulf Islands																
4	Swartz Bay/Saltspring	**3,480**	2,354	814	856	42	27	**(613)**	1,044	263	**(1,920)**	911	717	255	**(3,293)**	(5.32)
5	Swartz Bay/Outer Gulf Islands	**3,123**	4,628	2,124	2,642	62	48	**(6,381)**	1,191	655	**(8,227)**	2,141	504	1,429	**(9,443)**	(22.41)
6	Crofton/Saltspring	**2,310**	1,629	278	712	12	14	**(335)**	214	331	**(880)**	911	474	143	**(2,122)**	
9	Tsawwassen/Gulf Islands	**7,401**	6,210	1,641	2,336	70	134	**(2,990)**	1,520	1,265	**(5,775)**	2,530	438	1,123	**(7,621)**	(18.54)
		16,314	14,821	4,857	6,546	186	223	**(10,319)**	3,969	2,514	**(16,802)**	6,493	2,133	2,950	**(22,479)**	
Northern Sunshine Coast																
7	Saltery Bay/Earls Cove	**3,904**	3,748	1,581	2,321	55	74	**(3,875)**	857	714	**(5,446)**	1,772	404	485	**(7,137)**	(19.90)
17	Comox/Powell River	**5,468**	4,366	1,340	1,984	145	89	**(2,456)**	760	190	**(3,406)**	1,620	353	990	**(4,389)**	(12.77)
18	Powell River/Texada	**769**	1,960	410	802	12	25	**(2,440)**	235	111	**(2,786)**	699	236	296	**(3,425)**	(16.34)
		10,141	10,074	3,331	5,107	212	188	**(8,771)**	1,852	1,015	**(11,638)**	4,091	993	1,771	**(14,951)**	
Other Minor Routes																
8	Horseshoe Bay/Bowen Island	**4,488**	2,994	1,070	1,552	47	36	**(1,211)**	1,074	287	**(2,572)**	911	1,155	138	**(4,500)**	(4.07)
12	Brentwood/Mill Bay	**782**	794	28	141	3	9	**(193)**	-	37	**(230)**	699	126	158	**(897)**	(8.10)
13	Langdale/Gambier/Keats	**123**	311	56	72	3	22	**(341)**	-	-	**(341)**	295	29	362	**(303)**	(5.29)
19	Nanaimo Harbour/Gabriola	**2,655**	2,140	437	639	21	32	**(614)**	595	164	**(1,373)**	911	946	219	**(3,011)**	(3.36)
20	Chemainus/Thesis/Kuper	**643**	1,446	215	617	7	19	**(1,661)**	243	138	**(2,042)**	699	225	189	**(2,778)**	(11.26)
21	Buckley Bay/Denman	**1,406**	1,686	200	436	15	22	**(953)**	327	209	**(1,489)**	911	627	71	**(2,955)**	(5.42)
22	Denman/Hornby	**1,013**	1,296	133	408	5	14	**(843)**	66	252	**(1,161)**	699	266	87	**(2,039)**	(9.04)
23	Campbell River/Quadra	**2,627**	2,197	508	901	21	19	**(1,019)**	641	438	**(2,098)**	911	1,007	102	**(3,914)**	(4.22)
24	Quadra/Cortes	**468**	1,316	210	407	5	12	**(1,482)**	50	76	**(1,608)**	699	120	367	**(2,060)**	(20.43)
25	Port McNeill/Alert Bay/Sointula	**983**	1,914	378	945	7	239	**(2,500)**	218	291	**(3,009)**	699	260	1,276	**(2,692)**	(9.89)
26	Skidegate/Alliford Bay	**503**	1,155	118	532	4	266	**(1,572)**	469	120	**(2,161)**	699	164	179	**(2,846)**	(20.13)
		15,691	17,249	3,353	6,650	138	690	**(12,389)**	3,683	2,012	**(18,084)**	8,132	4,926	3,149	**(27,993)**	
Northern Services																
10A	Cruise BC	**8,640**	4,168	1,799	1,314	61	228	**1,070**	322	275	**473**	604	-	-	**(131)**	
10	Bear Cove/Prince Rupert	**2,219**	2,794	1,229	1,840	85	300	**(4,029)**	451	385	**(4,865)**	604	58	4,659	**(868)**	(12.61)
11	Prince Rupert/Skidgate	**4,020**	4,348	1,195	1,497	64	352	**(3,436)**	502	164	**(4,102)**	1,723	47	4,746	**(1,126)**	(23.70)
40	Discovery Coast	**1,525**	1,162	320	584	10	28	**(579)**	91	281	**(951)**	1,723	8	-	**(2,682)**	(310.70)
		16,404	12,472	4,543	5,235	220	908	**(6,974)**	1,366	1,105	**(9,445)**	4,654	112	9,405	**(4,806)**	
		334,976	125,254	52,767	56,568	2,524	5,033	**92,830**	40,513	12,330	**39,987**	84,018	21,220	22,438	**(42,813)**	
Contracted routes															(1,364)	
Provincial subsidy															72,519	
Corporate revenues															4,500	
Unallocated regional, corporate and other expenses															(81,742)	
Sustaining cashflow (shortfall)															**(48,900)**	

[1] Allocated based on replacement cost of vessel(s) for the route divided by the average life of the vessel(s).

[2] Allocated based on number of vehicles and passengers per route multiplied by sustaining terminal CAPX.

[3] The federal subsidy is allocated based on route distance. No federal subsidy was allocated to Route 10A and Route 40 as they provide service predominately to the tourist market.

Commuter Routes

BC Ferries offers commuter discounts of 21 to 52% on 18 of its 26 routes. None of these routes generate a positive route contribution. On ten of these routes (5,18,12,13,20,21,22,24,25,26), revenues are insufficient to cover even the vessel labour costs and on another three routes (7,17,23) revenues are insufficient to cover vessel labour and fuel costs.

Demand is heavy in the morning and evening and light for the balance of the day. Continuous service is provided for 11 to 16 hours per day because the collective bargaining agreement precludes split shifts resulting in significant incremental labour costs.

Assessment

Commuter routes are not financially viable given the existing service level and tariff structure. Reduced service levels, split shifts and/or increased tariffs are the only reasonable solutions to address the financial viability of these routes. Further, there is no economic basis for a commuter discount on a route that is not able to cover its operating or capital costs. Combined, these discounts reduce BC Ferries' revenues by over $10 million per year. For example, revenue on the Horseshoe Bay to Bowen Island route could be increased by over 50% if commuter discounts were removed.

Southern Gulf Islands

These routes require six vessels and ten terminals to serve five island communities with a combined population of 15,000 and lose over $20 million ($1,333 per capita) per year before overhead. These islands receive ferry service from both Swartz Bay and Tsawwassen.

Assessment

It is clear from the public input that residents of these islands are not satisfied with the current level of service. It is equally clear that the existing level of service at the existing tariff is not financially viable. Four of the six vessels serving these routes must be replaced at an estimated cost of over $100 million over the next 15 years. Clearly, now is the time to address this situation.

Alternatives to Existing Routes

Given that the existing route structure is uneconomic, alternative delivery mechanisms must be considered. Numerous submissions were received from the public outlining alternatives to the existing route structure:

- Shorten routes from Tsawwassen to Galiano with fixed links (roads and bridges) to Vancouver Island;
- Build fixed links to connect several of the gulf islands;
- Rationalize service levels; and
- Eliminate routes.

With respect to fixed links, their cost over time could be less than operating ferries and their reliability would make users amenable to paying a toll. Clearly, this is a complex question but certainly deserving of careful consideration.

Tariff

The second main assumption of the Strategic Plan is that tariff rates will not increase by more than the rate of the CPI.

In 2000, BC Ferries began phase one of the tariff review with the objective of simplifying it and making it more rational. A central focus of stakeholder consultation prior to the 2000 tariff review had been on establishing either route profitability guidelines or approaches to a subsidy formula. The specific criteria of distance, frequency of service, vessel capacity, utilization, access to essential services and per route cost recovery, were considered as the bases upon which to set fare levels.

Private sector transportation companies typically employ sophisticated yield management models that are market driven and therefore optimize systems revenue. Political constraints precluded this approach and in its place BC Ferries selected a distance-based model which is also employed in the private sector because of the correlation between distance and costs. Inasmuch as it has, as its central focus, cost recovery rather than demand management, it inherently sub-optimizes revenue potential. The cost recovery approach further suffers from the decision not to apply cost recovery to each route but rather to subsidize 24 unprofitable routes with two profitable ones.

BC Ferries plans three more phases of the tariff review that will address discounted and free fares, pricing for different vehicle types and seasonal and demand management pricing.

Assessment

Regardless of the approach taken, the result must be a greater increase in tariff revenue than is presently contemplated in the Strategic Plan.

Debt

BC Ferries' financial condition, exacerbated by the costs associated with the fast ferry program, necessitated the forgiveness by the Province of $1.1 billion in long-term debt.

Assessment

Approximately half of BC Ferries' long-term debt was a direct result of the fast ferry program. We agree that the preferred starting point for BC Ferries is a virtually debt-free balance sheet but it should be clear that the debt removal constitutes a further subsidy to BC Ferries.

Assets Sale Proceeds

Under the terms of the Financial Framework, BC Ferries will receive the proceeds from the sale of the PacifiCats.

Assessment

Including these proceeds in the 15-year plan has a significant impact on the cashflows of BC Ferries. The proceeds from the sale of the PacifiCats are a one-time event and have not been considered in assessing the economic feasibility of BC Ferries. The sale proceeds should be considered as an additional subsidy from the Province.

Subsidies

Federal

The federal government sought to provide financial assistance to the Province for the provision of ferry and coastal freight and passenger services in the waters of British Columbia. The Province agreed to assume sole responsibility for deciding which services should receive financial assistance and to provide all such future assistance. The federal contract, initiated in 1977, increases annually at the rate of the CPI.

Assessment

Since BC Ferries is responsible for providing ferry services, it is reasonable to assign the federal contract in perpetuity to BC Ferries. It could be argued that this subsidy could be shared with future private sector providers of ferry service.

Provincial

The provincial subsidy (1.25 cents per litre Motor Fuel Tax) was established before BC Ferries had developed its Strategic Plan. The provincial subsidy was based on the amount required at the time of negotiation to break-even on an accounting net income basis.

Assessment

Accounting break-even does not recognize that BC Ferries is unable to generate enough cashflow after subsidies to fund its sustaining CAPX.

Financial Framework Assessment

The Financial Framework, by emphasizing accounting net income, is flawed in that it fails to focus on the critical need for cashflow to finance the renewal of BC Ferries' capital assets.

Annual Cost to Taxpayers

From our analysis of the financial framework we have concluded that the annual cost to taxpayers of funding BC Ferries is as follows:

	$M
Federal contract	22.5
Motor fuel tax	72.5
Annual operating cash deficit (2001)[1]	48.9
Interest on forgiven debt	55.0
Amortization of forgiven debt	36.6
Estimated annual cost to taxpayers	235.5

[1] Represents the annual amount of capital which BC Ferries must borrow from the Province to fund its business.

Although this annual subsidy is large, it may be justified by legitimate public policy imperatives. What is most important is that the sources of such financial assistance be disclosed to taxpayers and the basis upon which it is received be clear and measurable.

The average cost per passenger per trip on routes that are unable to cover their operating and sustaining capital expenditures (without any allocation of regional, corporate and other expenses) range from $2.52 on the Tsawwassen to Nanaimo route to $22.41 on the Swartz Bay to the Outer Gulf Islands route and as high as $310.70 on the Discovery Coast route. A detailed list of the average subsidy per passenger per trip is included on page 33.

VII. INTEGRATED MARINE TRANSPORTATION PLAN

It is imperative that an integrated marine transportation plan be prepared which delineates the role of roads, bridges and other competitive transportation alternatives. The present service delivery model is dominated by a heavily subsidized public monopoly that impedes the emergence of viable competitive alternatives. This plan could identify competitive alternatives that would necessitate a significant change from the status quo framework used by BC Ferries for its long-term planning.