



**An Analysis of a Public-Private Sector-Partnership:
The Confederation Bridge**

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SUMMARY OF FINDINGS
The Confederation Bridge PPP

WHAT IS IT ABOUT?

- The Confederation Bridge was designed and built by SCDI, a international private sector consortium. SCDI will operate and maintain the bridge for 35 years after which time it will be transferred to the Government of Canada.
- Financing for the bridge was of an indirect nature- i.e the government of Canada did not borrow funds directly to build the bridge. Capital was provided by a New Brunswick Crown Corporation, Strait Crossing Finance Inc, which issued bonds in order to raise the money to build the bridge. This bond issue was secured by the Government of Canada which pledged to retire the bonds with a stream of annual payments of \$41.9 million (1992 dollars) over thirty-five years. This sum is an estimate of the value of the annual subsidy which formerly went toward the Borden-Cape Tormentine ferry service.
- SCDI is entitled to all toll revenue from the bridge for 35 years. Toll revenue will also be used to pay for bridge operations and maintenance during this period.

WHAT KIND OF PPP?

- This is an example of a Design-Build-Operate-Transfer (DBOT) PPP with financing being provided by the public sector.

THE CLAIMS:

- According to the federal government, the Public-Private-Partnership which realized the bridge would be characterized by the following:
 - efficient and quick construction
 - accountability
 - developer would be Canadian
 - “no additional cost to taxpayers”¹
 - all risks and resulting costs borne by the private sector
 - Government of Canada’s annual payments to SCDI of \$41.9 million (1992 dollars) for 35 years would be “less than the government costs would be for the Marine Atlantic Ferry Service”.²

¹ Public Works and Government Services Canada. Northumberland Strait Crossing Project fact sheet, April 1996

² Ibid.

THE REALITY

- The federal government and SCDI are suppressing financial and economic information about the bridge presumably to prevent public outcry over the actual cost of the bridge and high profits that SCDI stands to gain from bridge tolls.
- The private consortium that built and is currently operating the bridge is 85% foreign-owned.
- Toll rates were initially meant to be set at a level approximating those of the former ferry. During negotiations the federal government allowed SCDI to raise bridge tolls by as much as \$8 per car in the bridge's first year of operation.
- The federal government has guaranteed SCDI a minimum of \$13.9 million (1996 dollars) per year in toll revenues. There is no limit to the amount of toll revenue that SCDI can earn from the bridge.
- The indirect financial arrangements of the PPP were meant to allow the government of Canada to avoid declaring its liability to the bondholders. This increased the cost to taxpayers of financing the bridge by at least \$45 million.
- According to the Auditor General of Canada, the estimate of the ferry subsidy which was used in the financial arrangements (\$41.9 million annually in 1992 dollars) was an inflated amount as compared to other estimates of the ferry subsidy.
- The project featured a substantial security package, however almost none of the guarantees in this package extend beyond a few years of the bridge's completion.
- Financial risk was borne by the federal government, construction and operating risks by SCDI.
- No evidence of improved service level.
- Union labour featured strongly in the project.

I INTRODUCTION

The Confederation Bridge linking Cape Jourimain, New Brunswick and Borden-Carleton, Prince Edward Island opened in June 1997. Spanning the Northumberland Strait at a length of 12.9 km it is the longest bridge of its kind in the world.³ In addition to its stature as a mega-project, the bridge is also notable for the method in which it was designed and built. While such large-scale projects are traditionally undertaken by the Federal Government, the Confederation bridge was the product of a public-private partnership (PPP) between an international consortium of private companies and the Canadian Government. The consortium, Strait Crossing Development Incorporated (SCDI), not only designed and built the bridge but will also operate and maintain it for 35 years before transferring it to the Federal Government.

The PPP approach to doing business is gaining acceptance by governments around the world because of claims that it can deliver infrastructure and services more efficiently and at a lower cost than traditional methods. The trend toward PPP's is also very much a reflection of the fiscal policies which prevail in today's conservative political climate. However, while the proponents of PPP's are growing in number and are increasingly outspoken⁴, this approach to the provision of public services and infrastructure is also attracting criticism from groups who feel that these projects fall far short of their stated claims and impose more costs than benefits.

This paper will evaluate the PPP arrangement behind the construction and maintenance of the Confederation Bridge. There is, however, another important issue surrounding the bridge

³ The Confederation Bridge is the world's longest bridge over ice-covered, salt water.

⁴ The Canadian Council of Public Private Partnerships is a major advocate for PPP's in Canada

which will not be considered here for reasons of scope and space. This is the century-old debate over whether or not a fixed link should have been built in the first place. While the latter debate has been the most contentious issue on Prince Edward Island, it has been given short shrift here because of the specific focus of this study. At times, however, it will be necessary to comment on issues related to the bridge itself rather than the PPP which built it.

This case study will evaluate the Confederation Bridge project in order to shed more light on the PPP approach used in its realization. Assessment of the PPP will be made on the basis of four criteria: 1) efficiency and cost savings; 2) risk transfer; 3) quality of service and accountability; and 4) the impact of the project on workers and the community. It should be noted, however, that the private sector partner, SCDI, has asserted its right as a private company to with-hold information related to its business interests. Consequently, it has been very difficult to obtain economic and financial information related to the construction and operation of the bridge. This has been problematic although where possible estimates have been attempted.⁵ Before presenting the Confederation Bridge case study, a brief outline describing the nature of PPP's will be presented below.

⁵ SCDI's reluctance to share information about the bridge will be addressed in section VII-3 below.

II THE GROWING TREND TOWARDS PUBLIC / PRIVATE PARTNERSHIPS

Facing tighter budgets, public authorities at all levels, from federal and provincial governments, through to civic governments and schools boards, are increasingly looking toward partnerships with the private sector for the provision of infrastructure and services. There are strong pressures from the political-right to do so as a means of reducing the scope of government and opening up the public sector to private profit.⁶

The growing popularity of PPPs is unlikely to be a passing fad. One can expect to see more of them, in greater variety, as pressures on public budgets persist and as the private sector begins to appreciate more fully the prospects of making profits through this type of cooperation. It is important, therefore, that they are subject to close scrutiny so that a proper analysis can be made of their likely impact.

III TYPES OF PUBLIC / PRIVATE PARTNERSHIPS

Conceptually, one can envisage a continuum of possibilities in terms of private / public sector cooperation in services delivery. <See Figure 1>. At one extreme, the public can be fully responsible for all aspects of service delivery or infrastructure provision, while at the other, the private sector could assume these responsibilities. In between, there are varying degrees to which the private sector can be allowed to contribute to services or infrastructure. Ideally, the main goal of PPPs should be to capitalize on the strengths of both parties while minimizing their

⁶ Earlier this year, the Canadian Council for Public Private Partnerships published an inventory of over 300 major PPPs in Canada which are being implemented or seriously considered for implementation. Of these, many were in the transportation and waste-water/environment area, the largest number-nearly one third-were in the broadly defined area of civic services/facilities; from arenas to museums, housing to schools, civic halls to casinos, fire fighting to police and correctional services. All levels of government and all provinces and Territories were represented.

weaknesses, so that the partnership is mutually beneficial. The wide range of possible types of PPP indicate the perceived different strengths and weaknesses of the two sectors in different parts of the country though, of course, these perceptions are deeply political.

Most archetypal PPP approaches have a number of variations which distinguish them. The Confederation Bridge PPP is an example of a **Design-Build-Operate-Transfer (D-B-O-T)**⁷ project. This is a variation of a more standard PPP approach referred to as “Finance-Design-Build-Own-Operate-Transfer” where the infrastructure is actually owned by the private partner who also provides the financing for the project. In the Case of the Confederation Bridge PPP, the bridge actually belongs to the federal government and is being operated by the private partner on the basis of a 35 year lease.⁸ The initial financing of the Confederation Bridge PPP was provided by the public sector.

In a D-B-O-T project, the private partner designs, builds and operates the facility for a prearranged number of years before it is turned over to the public partner. The public partner pays for this service and sometimes pays a predetermined fee upon transfer of the facility. This type of arrangement is appealing to governments because it frees the public sector from the need to borrow directly in order to construct the project. This allows governments to avoid declaring their liability for the project on their financial statements which, in turn, gives the impression that

⁷ Alternatively, Design, Build, Own Operate, Transfer (DBOOT) or Build, Own, Operate, Transfer (BOOT)

⁸ Interview with Bill Blight, Engineer, PWGSC, May 20, 1999

their financial position is better than it would have been had they undertaken the project themselves. However, this is merely a sleight-of-hand since the public is still liable for its financial commitments or for guaranteed returns to the private capital in the form of lease payments.

According to PPP advocates, another benefit of DBOTs is that they provide governments with a measure of convenience. In other words, they transfer to the private sector the responsibility and risks inherent in major infrastructural projects. PPP advocates also argue that the private sector operates more efficiently and can deliver infrastructural projects in less time than the public sector can. These arguments, however, need to be tested on a case by case basis in order to determine the extent of its validity in individual PPP projects.

IV BACKGROUND TO THE CONFEDERATION BRIDGE PROJECT

When Prince Edward Island joined Confederation in 1873 the Dominion of Canada assumed a constitutional obligation to provide Islanders with “continuous” and “efficient” steamship service to and from the mainland. However, this was not always possible as a result of the fierce winter weather and dangerous ice flows of the Northumberland Strait. Eventually a debate arose over whether or not a fixed link should be built to the mainland. This debate began in the 1880's and continued despite the introduction of ice-breaking ferries in 1917. In 1965 plans for a causeway across the strait were implemented but were scrapped four years later for economic reasons. As a consolation to PEI, the federal government signed an economic development agreement with the province and increased the annual subsidy to Marine Atlantic, the Crown Corporation in charge of operating the ferry service.⁹

⁹ Begley, Lorraine. “The Fix Is In: An Overview of the Fixed Link Fiasco” in Begley, Lorraine, ed.

The Confederation Bridge, which opened on June 1, 1997, revived this century-old debate. The project itself can be traced back to 1985 when the federal government received three unsolicited private sector bids for the design, finance and construction of a fixed crossing. Given government trends toward spending cuts, the bids must have appeared as a perfect opportunity to terminate the Marine Atlantic ferry subsidy in favour of a low maintenance, ostensibly fixed-cost link. The following chronology provides a brief outline of the events which led up to the PPP arrangement between the federal government and Strait Crossing Development Incorporated (SCDI) the successful private sector bidder which built the bridge:

- 1987 · The Federal Cabinet commissioned 10 studies from 15 consultants in order to determine the economic, structural and financial feasibility of a fixed link.
- The Department of Public Works and Government Services (PWGSC) issued a call for further expressions of interest. Twelve companies responded and seven passed the pre-qualifying tests
- 1988 · Debate over the fixed link began to reach a fever pitch in PEI. The main issues surround the potential environmental effects of the bridge, the pros and cons of increased tourism to PEI and labour issues over the possible closure of the ferry service.
- A plebiscite was held in which 59.46% voted in favour of a fixed link. 40.21% vote against.
- In March the seven pre-qualified companies were invited to submit proposals based on non-financial criteria such as engineering, environmental, and managerial proficiency.

- In September, three bridge designs submitted by Strait Crossing Inc., PEI Bridge Limited and Borden Bridge Company Ltd. were selected.
- 1989 · Public concern about the environmental effects of the project lead to the appointment of an Environmental Assessment and Review Panel (EARP) to examine the project.
- 1990 · In August the EARP reported that the bridge would pose a serious environmental risk to the Northumberland Strait and that ice retention caused by the bridge might also damage the lucrative fishing industry. The EARP recommends that the project not proceed.
- 1991 · Determined to realize the project, the federal government appointed a new committee of ice experts who passed the generic bridge design on the basis of certain design changes. The three qualified developers were then invited to submit their environmental and financial proposals for evaluation.
- 1992 · By January, all three developers had met the environmental criteria.
- In April all three developers submitted financial plans in response to the government's bid requirements for a financial security package and for the construction cost of the bridge. Bids for the latter took the form of a figure representing the average annual payment required over a period of 35 years to retire the bonds issued to finance the construction of the bridge.
- During the next month, the pricing bids were opened in public. SCI bid \$40.6 million per annum while the other two consortia bid \$46.2 million and \$64.2 million respectively. However, according to the Auditor General, none fully complied with the proposal call.
- In July the Minister of PWGSC announced that discussions would be initiated with the lowest bidder, Strait Crossing Inc.
- In December the Minister of Finance announced the government's intention to enter into negotiations with Strait Crossing.
- An anti-bridge group, the Friends of the Island, launch a court challenge against the governments's response to the EARP.
- 1993 · In March, Madame Justice Reed ruled in favour of the friends of the Island. She declared that any disruption of the present ferry service would contravene the wording of the Canadian Constitution. This led to the commissioning of a more specific environmental assessment and an amendment of the terms of union with PEI (Bill C-110: the Northumberland Strait Crossing Act).

- In March, Justice Cullen ruled that the government had “more than adequately responded to madame Justice Reed’s decision in respect of a specific environmental assessment of the developer’s proposed structure”. This ruling paved the way for the signing of an agreement between the developer and the government.
- In October SCI and the federal government signed the final bridge agreements.
- In November SCDI started construction of the fabrication yard in Borden, PEI
- 1997 · On June 1 the Confederation Bridge was officially opened. The occasion was marked by a \$1.4 million “Bridgefest” complete with concerts, fireworks and a foot race across the bridge.¹⁰

V THE STAKEHOLDERS TO THE AGREEMENT

1. PRIVATE PARTNERS

Strait Crossing Development Inc (SCDI) is the name of the private consortium in charge of developing the Confederation Bridge. SCDI consists of **Strait Crossing Inc (SCI)** of Calgary, the consortium’s sponsor, **GTMI (Canada) Inc.** and **Ballast Nedam Canada Limited.**

For the purposes of building, operating and maintaining the bridge, SCDI set up two separate companies. The first, **Strait Crossing Joint Venture (SCJV)**, was formed to construct the bridge while the second, **Strait Crossing Bridge Limited (SCBL)** was set up to operate and maintain it.

Strait Crossing Inc. is the successor of SCI Engineers and Constructors Inc., a Canadian construction group headquartered in Calgary with offices in Vancouver, Toronto, Halifax, Seattle and Honolulu.¹¹ SCI Company literature presents the firm as having significant experience in

¹⁰ Bergman, Brian. “The Island’s New Link”, *Macleans*, June 2, 1997.

¹¹ The group also includes the companies W.A. Stephenson Construction (Western) Limited, Pigott

Build Own Operate and Transfer PPP projects.

GTMI (Canada) is the successor company of Janin Inc, a Canadian engineering and construction company with 30 years of experience. GTMI (Canada) is a wholly owned subsidiary of **GTM Entrepose (GTM)**, a major world-wide engineering construction group with annual sales of \$6 Billion (US). GTM's headquarters are located in Nanterre, France.¹²

Ballast Nedam Canada Limited is directly owned by **Ballast Nedam**, one of the world's largest construction groups. Headquartered in the Netherlands, Ballast Nedam ranks number one in profits and number two in size in that country. The company presents itself as specialists in DBOT projects with considerable experience in project development, financing and maintenance¹³

J. Muller International of San Diego were the consulting engineers who designed the bridge in conjunction with a Calgary firm called **SLG Stanley**.

Buckland and Taylor Ltd of North Vancouver were selected as the independent engineers for the project. The latter firm was in charge of advising the federal government, the developer and the contractor on whether the bridge was being built to agreed-upon specifications.¹⁴

Contractors Inc and Fraser-Brace. Recent projects of the group include: the Cambie Street Bridge (Vancouver); LRT Transit System (Calgary and Edmonton); Olympic Oval (Calgary); Oldman River Dam (Alberta) and Burlington Bay Skyway (Hamilton)

¹² Recent GTM projects include the Ayer Rajah Viaduct (Singapore); Mass Transit Elevated guide way (Singapore); and the Second Severn River Crossing (UK).

¹³ Recent projects include a 25 km causeway between Saudi Arabia and Bahrein, the 7km Storebaelt bridge in Denmark and major infrastructural works in the Netherlands including the Schipol expansion scheme and various tunnels and viaducts.

¹⁴ Public Works and Government Services Canada. Northumberland Strait Crossing Project fact sheet, April 1996. P. 3-6.

Northern Construction is another Canadian subsidiary of a much larger American firm called **Morrison Knudsen Corporation (MKC)**. Based in Boise, Idaho, MKC is a world-wide engineering construction group with annual sales exceeding \$2.5 billion (US) and a current file of orders in excess of \$4 billion (US). While MKC initially owned a 36% share in the consortium, financial difficulties forced it to pull out of the project leaving the remaining partners in a serious financial situation. Eventually Ballast Nedam replaced MKC, picking up 97.5% of its stake in the consortium. The remaining 2.5% went to GTM Entrepouse.¹⁵

Montreal Trust is the name of the Bond Trustee entrusted with receiving and distributing the amount of the annual ferry subsidy to the bond holders who provided the up-front financing to build the bridge.

While official literature refers to the consortium as 100% Canadian, GTMI (Canada) and Ballast Nedam (Canada) Limited are merely subsidiaries of much larger international companies. Underscoring this point is the fact that the only “Canadian” company in the consortium, SCI, has a mere 15% share in SCDI. Ballast Nedam, through its subsidiary, owns 35.1% while GTM Entrepouse owns 49.9%. In other words, 85% of this “Canadian” consortium is ultimately owned by two foreign companies- one Dutch and the other French.

¹⁵ Ibid., P. 3-6.

2. PUBLIC PARTNERS

The Government of Canada

Public Works and Government Services Canada (PWGSC) took on a major role as initiator and sponsor of the project. It monitored the delivery of the project and was involved in the financial, engineering, technical and environmental aspects of the project.

Other government agencies involved in the project were Transport Canada, Environment Canada, Fisheries and Oceans Canada, Human Resources Development Canada and the Atlantic Canada Opportunities Agency all of which served in their own capacities as advisors and regulators.¹⁶

Provincial Partners

The Province of **New Brunswick** established **Strait Crossing Finance Inc. (SCFI)** in conjunction with SCDI. A New Brunswick crown corporation, SCFI served as a surrogate for the federal government by issuing bonds to raise capital for the building of the bridge.

Given that the project was being built on provincial land, **Prince Edward Island**, New Brunswick and to a lesser extent, **Nova Scotia** and **Newfoundland** participated in project committees. PEI and New Brunswick also served to regulate particular provincial environmental, labour and transportation legislation.

¹⁶ PWGSC, 1996, p. 1

VI THE TRADITIONAL APPROACH

Traditional approaches to the delivery of major infrastructural projects often involve the private sector in a contractual capacity. Upon seeing the need for a particular project and performing the appropriate feasibility studies the government normally issues a call for submissions from the private sector. These submissions would generally cover all aspects of the projects, from design to construction. More often than not, the government would develop a contractual relationship with a number of firms each performing a separate function rather than with single firm which might assume a number of roles in the construction of a project. This, however, is not always the case. In both scenarios the government would work closely with the chosen firms through Public Works and Government Services Canada as well as through other federal and provincial ministries and departments.

After evaluating the proposals, the government would draw up a contract between itself and the successful bidder(s) and arrange payment for services through financing it has secured through loans or by issuing bonds. Such financing would take the form of a debt which would have to be declared as such in the government's books. Whether the structure is a school, a highway or another type of infrastructural project, the government, as owner, takes possession of the structure and maintains it throughout its useful life. In turn, such a structure would be accounted for as an asset in the government's books while the funds borrowed to build the structure would be declared as a government liability.

VII THE CONFEDERATION BRIDGE PPP AGREEMENT

Overview

SCDI was contracted to design, construct, maintain and operate the bridge for 35 years under an approved environmental plan. In accordance with an elaborate security package required by the government, SCDI agreed to subsidize the Borden-Cape Tormentine ferry service for up to three years in the event that it was unable to complete the bridge by May 31, 1997. In return for assuming various project risks, and possibly to compensate for its low construction bid, SCDI was given entitlement to all toll revenue from the bridge for 35 years. The Government of Canada will retain ownership of the bridge throughout this period. The key to the project, however, was a bond issue which covered the cost of the bridge as well as an elaborate financing agreement which resulted in the transfer of the former ferry subsidy to the bondholders for 35 years in order to retire the bonds. After this period, the annual subsidy payments will be terminated and the bridge will be transferred to the government of Canada. (See figures 2 & 3.)

Project Finance

The Government of Canada claims that the project was “carried out at no additional cost to taxpayers”.¹⁷ The initial cost of the bridge was approximately \$840 million¹⁸. Financing was secured by the public sector through a New Brunswick Crown Corporation called Strait Crossing Finance Inc. (SCFI). To cover the cost of the bridge SCFI issued \$661 million in real rate bonds¹⁹ at a rate of return to bondholders of 4.5%. The \$661 million was held in trust over the

¹⁷ Public Works and Government Services Canada. Northumberland Strait Crossing Project fact sheet, April 1996

¹⁸ Kevin Cox “The bridge that almost was wasn’t built” *The Globe and Mail*, Toronto, B4, June 11, 1997.

¹⁹ Real rate bonds are bonds upon which interest and principal payments are adjusted annually by the

four year bridge construction period, during which time it accumulated enough interest to cover the remaining difference of \$179 million. There are also unsubstantiated reports that a percentage of this outstanding amount was raised by the consortium sponsor, SCI, through the sale of partnership shares to the other consortium partners.²⁰ Payment to the bridge contractor, SCJV, was released from the trust account in a piecemeal fashion on the basis of the independent engineer's estimate of the value of the work completed. Principal and interest payments on the bond issue were scheduled to begin on May 31, 1997, the completion date for the bridge.

The financing arrangements were secured by the Government of Canada's decision to unconditionally transfer to SCFI an annual payment representing the estimated value of the former ferry subsidy.²¹ The value of this annual payment was set at \$41.9 million (1992 dollars) over 35 years after which time the bonds will have been retired and the bridge will be transferred to the Government of Canada. The annual payment was indexed to the Consumer Price Index thereby ensuring that SCFI is also protected from exposure to future inflation rates. To further reassure prospective bond holders, Ottawa pledged that these payments would be made regardless of whether or not the bridge had been completed.

The passing of Bill C-110 formalized this federal commitment without which it is

Consumer Price Index. While real interest bonds usually have a lower yield than normal Government of Canada long term bonds, the advantage they hold is that the purchasing power of interest and principle is always maintained. Such bonds are beneficial in times of growing inflation when the value of standard bonds is negatively effected. However, in times of low inflation these bonds compare unfavourably to regular bonds by virtue of their low interest rates- in this case, 4.5%

²⁰ Deacon, 1992, p. 51.

²¹ It should be noted however that while the bond issuers attempted to achieve a similar result to what would have been the case had the Government of Canada issued debt, in strictly legal terms, the bonds are not "guaranteed" by the Government of Canada. (Auditor General of Canada, 1995, p. 8) The only purpose served by this legal differentiation is that it allows the government to avoid declaring additional debt on its books. Furthermore, letting SCFI serve as a conduit through which the re-directed ferry subsidy would pass, would protect the subsidy from credit or litigation risk. Macdonald, Copthorne. *Bridging the Strait: The story of the Confederation Bridge Project* Dundurn Press, Toronto, 1997. p. 53.

unlikely that the consortium would have been able to raise the capital to finance the project.²²

An amendment of the Constitution of Canada was made in order to account for the fact that the bridge would be replacing ferry service as the means of “efficient communication” between PEI and the mainland. In addition to the annual payments, the federal government also assumed responsibility for upgrading highways and approach roads in PEI and New Brunswick as well as providing a \$15 million redevelopment package for the region,²³ notably for the towns that formerly benefited from the ferry service and its spin-off industries. A \$40 million compensation package was also worked out for the nearly 650 workers who lost their jobs when the ferry service was terminated²⁴.

Toll Revenues

During the bridge’s first 35 years, the consortium is entitled to all toll revenues which, in the first year of operation, were to have been set at a level approximating ferry crossing charges (see page 25 Below). Toll revenues are to be deposited in a trust account and reported “periodically” to the government. Operations and maintenance costs will be covered through this account in addition to costs related to the leasing of public land on which the bridge was built. The consortium will be entitled to the remainder of the funds “provided that all provisions in the agreement have been satisfied”.²⁵

Toll increases are limited to a rate of no more than 75% of the rate of inflation except if

²² Bill C-110 authorized the Minister of Public Works to “enter into agreements with the private sector builder and operator respecting the...fixed link, including providing for the annual subsidy and a mechanism for establishing tolls for the first 35 years, as well as authorizing the regulation of toll charges after the ownership of the bridge reverted to the Crown”. Dunsmuir, p. 1

²³ The governments of Canada and New Brunswick have recently announced a development plan for Cape Jourimain which will make it a centre for environmental tourism.

²⁴ Interview with Gary Murray, National Representative, Canadian Autoworkers Union

²⁵ Follow-up Report of Auditor General of Canada, 1998.- actual agreement is not available to the public.

the government needs to raise more revenue to cover the cost of additional insurance for the bridge. Should toll revenues drop below the \$13.9 million in revenues gained by the Marine Atlantic Ferry service in 1992 (indexed to 1996 dollars),²⁶ the government of Canada will compensate SCDI for the difference.²⁷ There is no upper limit to the revenues that SCDI can collect through operation of the bridge.

VIII EVALUATING THE CONFEDERATION BRIDGE PPP

1. EFFICIENCY AND COST SAVINGS

There is a general perception today that the private sector operates more efficiently than the public sector. It is this perception, true in some cases, erroneous in others, that forms the basis of a lot of pro-PPP propaganda about the Confederation Bridge. In fact, it does not necessarily follow that the PPP arrangement to build and maintain the bridge was, per se, the best deal for Canadian taxpayers simply because the private sector was involved. Indeed, the federal government argued that the project would be “carried out at no additional cost to taxpayers”.²⁸ This is normally taken to mean that the bridge would cost no more than the cost of the former ferry subsidy. It can also be interpreted as meaning that the PPP approach to building and maintaining the bridge would cost no more than the traditional approach to delivering infrastructure. In this latter case, pro PPP advocates would argue that the benefits of the PPP would lie in decreased construction times, increased convenience and the ability to transfer risks.

In fact, there is reason to believe that the PPP agreement was only achieved at considerable extra cost in both senses.

²⁶ Auditor General of Canada, 1998, section 28.74.

²⁷ It is likely that this compensation package will involve some sort of government authorization to charge higher tolls to bridge users.

²⁸ Public Works and Government Services Canada. Northumberland Strait Crossing Project fact sheet, April 1996

This section will compare available cost information on the Confederation Bridge PPP with that of the traditional public sector approach to infrastructure delivery. It will examine a number of aspects of the Confederation Bridge project focussing primarily but not exclusively on issues related to construction, maintenance and finance. It should be noted that as a private entity, SCDI is under no obligation to release information about its business dealings (this point will be considered at greater length in section VII-3). Not surprisingly, the consortium has been very secretive about financial matters related to the bridge. Alternative cost estimates have also been difficult to obtain because of the precedent-setting nature of the project. As a result there is a disturbing lack of accurate cost-related information on the bridge. Where necessary, estimates will be provided.

A) CAPITAL COSTS

Design

In seeking a bridge design, SCI, as consortium sponsor, would have likely commissioned designs from a number of engineering firms before selecting one on the basis of performance and / or price. There is no financial information related to SCI's selection of American Consulting Engineering firm, J. Muller International (JMI) to develop a bridge design. It can be assumed that JMI worked very closely with SCI to develop a bridge design that would allow SCI to submit as low a bid as possible during the procurement process.

There is no reason to believe that the federal government would not have conducted a similar bidding process in order to select a bridge design under the traditional approach. There is also no reason to assume that the federal government would not have worked closely with the bridge designer throughout the construction period in order to minimize costs and ensure an efficient implementation of the bridge design. Despite the lack of available information, it may be reasonable to assume that design costs incurred through the traditional approach would have

been similar to those incurred through the PPP. On the other hand, it is difficult to say whether or not the federal government would have been more inclined to hire a Canadian firm rather than an American firm, as was the case with SCDI.²⁹

Land

As part of the PPP arrangement, the government of Canada leased portions of government land to SCDI for use in the bridge project. This land will revert back to the Canadian Government after SCDI's 35-year lease hold of the bridge is up. Unfortunately, there is no publicly available information pertaining to the amount of lease and tax revenue that the government will gain from this arrangement. It can be assumed that this revenue would not have been forthcoming had the government followed the traditional approach.

Construction

The cost of constructing the bridge through the PPP arrangement was estimated at \$840 million before work began. This amount was said to include a 10% contingency fee as well as the developer's total material, equipment and labour costs in addition to its profit margin. The developer's refusal to release information relating to the bridge means that there is no reliable breakdown of these costs. There may have been little difference between labour costs under the PPP agreement and those under the traditional approach as the bridge was built under a project-specific collective agreement with the International Brotherhood of Electrical Workers, the Carpenter's Union, as well as unions representing Iron Workers, Labourers and Operating Engineers. According to Human Resources personnel at SCI, the local unions provided an experienced and accessible source of workers with a level of expertise that would have been difficult to match by bringing in non-unionized labour. The PPP arrangement itself may have even been a bit more costly as SCJV was forced to incur cost overruns due to the need to hire

²⁹ To its credit, JMI was awarded the 1998 Consulting Engineers and Land Surveyors of California Engineering Excellence Honour Award for its design. Peer recognition aside, it is quite likely that this award did

more workers in order to complete the bridge on time (see below).

nothing to allay the environmental concerns held by the Friends of the Island.

With respect to equipment, it is known that the SCFI bond issue provided SCDI with enough up-front capital to purchase major construction equipment needed to build the bridge. According to the Auditor General of Canada, however, “despite the fact that the private sector consortium did not initially invest any funds to acquire a stake in the project³⁰, it can keep all proceeds from the sale of the equipment”- certainly a good deal for the developer.³¹ Other construction costs include \$41 million which was spent by the federal government for highway upgrading in PEI and New Brunswick. A further \$46 million was spent by Ottawa for project management. These costs would likely have been the same whether the bridge was built through a PPP or not.

SCDI’s estimated construction profit is being held in strict secrecy although an SCI financial manager has suggested that most developers of large-scale infrastructural projects generally expect to receive as much as a 20% return on their investment. In the case of the Confederation Bridge PPP, SCDI can expect to realize both short term and long term returns through construction profits as well as through its access to 35 years of toll revenues. This dual source of profit gave the consortium the flexibility to submit a winning construction bid, accepting a lower profit margin in the short term while holding out for much larger profits in the long term.

Had the project followed a more traditional approach it is very likely that the federal government would have initiated a bidding process similar to that of the PPP arrangement and hired a private contractor to build the bridge as well. As there have been no comparative studies performed (or released) by the government it is difficult to say with accuracy what the

³⁰ SCDI did not have to utilize or raise any of its own financing to construct the bridge although in bidding for the project SCI President, Paul Giannelia claims to have spent nearly \$20 million. This sum includes the cost of numerous studies, project design and the salaries of the specialists involved in the finance, design and selling of SCI’s bid. MacDonald, 1997.

³¹ Auditor General of Canada, 1995, section 15.16.

government's construction costs would have been had it followed a traditional approach.

According to officials at SCI, the government of Canada would have incurred a much higher cost than \$840 million had it built the bridge outside of a PPP arrangement even though it, too, would have hired a private sector developer to build the bridge. This is so because traditional capital projects do not normally give the developer access to any other revenue apart from that gained through the actual construction of the project. For this reason, the official argued that SCI would have demanded a much higher profit margin if it had been commissioned to construct the bridge in a more traditional deal.

However, while a traditional project may have carried a higher up-front price tag, one needs to remember that by engaging in a PPP arrangement the federal government is also foregoing 35 years of toll revenue. The loss of this revenue also carries a price. While these toll revenues are now compensating SCDI for its incurred risks (see section VII-3), its "low" construction bid as well as its operating fees, it must be noted that the federal government could have also used this money to finance the cost of the bridge. If SCI's argument is that the PPP arrangement allowed it to submit a low bid for the bridge and then recoup a greater profit margin through future toll revenues, there is no reason why the government of Canada could not have done the same thing thereby incurring similar construction costs.

In this vein, it is now known that cost overruns of up to \$300 million had been incurred by the time the bridge was completed.³² According to officials at SCI, this was a function of the lengthy negotiation process and legal challenges which delayed the project until October 1993. The result was that SCJV lost a season of work due to the construction-inhibiting winter weather of the Northumberland Strait. Consequently, it had to "intensify the construction process", thereby driving up costs. According to an official at SCI, SCDI made up for these cost overruns by issuing bonds against future toll revenues. It is not known whether the long negotiation

³² Interview with Gordon Church, March, 1999.

process was the sole cause of the cost overruns, however, this additional bond issue opens the door to speculation about further, undisclosed, costs which may be met through future toll revenue.

With regard to construction times, advocates of PPP's generally argue that the private sector is able to realize greater cost savings because it is able to complete projects faster than the public sector. Notwithstanding the aforementioned construction delay and cost over-runs, the Confederation Bridge was completed in only four years, thus making good on SCDI's promise to finish the bridge on a fast track schedule. SCDI had significant incentive to make good on this promise given that it would have been responsible for subsidizing the PEI ferry service had it not completed the bridge on time. Nevertheless, while the speed at which the construction was completed was remarkable, one must ask why the government of Canada couldn't have achieved a similar result had it followed a traditional construction process- especially if the government had hired its own private contractor. One might also ask to what extent the PPP approach actually lengthened the preliminary procurement process, thus leading to SCDI's considerable cost over-runs.

B) OPERATIONS AND MAINTENANCE

Given the precedent-setting nature of the project as well as the fact that financial and economic information on the bridge is being withheld from the public, it is difficult to make an informed comparison between SCDI's operations / maintenance costs and those that the government of Canada might have incurred had it built the bridge following a more traditional approach. Nevertheless, there is little to suggest that the PPP arrangement is delivering any better value in the area of bridge operations and maintenance than the government could have delivered itself.

While there are no published figures on what it will cost SCDI to maintain and operate

the Confederation Bridge, a financial manager at SCI has suggested that it might be in the range of \$5-6 million per year. These costs will be paid for through the collection of tolls, the level of which will increase by 75% of the rate of inflation (see below for a discussion of toll revenues). According to the bridge Engineer, Arnold Wood, the above figure represents technical costs related to the bridge's structure as well as more general repair and maintenance costs including equipment, snow clearing, building maintenance and salaries.

The Confederation Bridge PPP has actively used unionized labour in bridge operations. Whereas the modus operandi of many PPP's is to eliminate as many union jobs as possible it would appear that the Confederation Bridge PPP has not followed this path. SCBL employs about 30 workers, all of whom, according to officials at SCI, are unionized. Larger scale maintenance is likely performed by crews that are assembled on an ad hoc basis. While salary rates have not been publicized, it is very likely that SCDI's labour costs are quite similar to what they would have been in had the bridge been completed using the traditional approach.

From year to year the operations and maintenance budget will inevitably increase in order to cover larger repairs such as the re-paving of the road surface, a \$7 million operation. Unanticipated costs may also make serious demands on the operations and maintenance budget of the bridge. Indeed, SCDI has already had to spend a considerable amount of money to shore up bridge supports that were unexpectedly damaged when a winter storm eroded the sea bed under the bridge.³³ It was reported that repair costs were of the level of a "six figure sum".³⁴ Another source estimated that the total repair cost was closer to one million dollars.³⁵ Given that some reports put the frequency of such storms at one every three years, there is every likelihood that maintenance costs could increase beyond the consortium's predictions.

³³ Reid, Mark "Bridge Over Eroding Piers". *Telegraph Journal*, April 30, 1999.

³⁴ Reid, Mark "Bridge Over Eroding Piers". *Telegraph Journal*, April 30, 1999.

³⁵ News report on The Weather Network, May 3, 1999.

This raises an interesting point about private sector management of public infrastructure. Given SCDI's status as a private, profit-making company, it will constantly be faced with the trade-off between maintaining profits and maintaining operations standards. Its natural incentive, of course, will be to minimize its operations and maintenance outlay. However, this may be difficult to do if the fierce conditions of the Northumberland Strait necessitate more frequent and costly repairs to the bridge than were initially anticipated. In order to fulfill its obligation to hand the bridge over to the Canadian Government in good repair, SCDI may have to raise tolls at a rate higher than that agreed-upon in the PPP arrangement. Alternatively the consortium could lower maintenance standards or accept a lower profit margin. There is also the chance that fierce weather might damage the bridge to such an extent that the consortium would have to ask the federal government for financial assistance.

Toll Revenue

As mentioned above, SCDI's payoff in the PPP arrangement is that it gets to keep the total value of all tolls collected from the Confederation Bridge for 35 years. Not only are there no limits on the amount of toll revenue that SCDI can collect (apart from the restriction to raise tolls at 75% of inflation) but the government of Canada has agreed to compensate SCDI should toll revenues dip below the \$13.9 million (1996 dollars) in revenue gained by the Marine Atlantic ferry service in 1992.³⁶

This \$13.9 million figure was set as the benchmark for toll revenues in the first year of operation of the bridge. In other words, bridge tolls were supposed to remain, in the federal government's words, "substantially the same as" 1992 ferry revenue indexed to December 31, 1996. However, during negotiations, the government and SCDI disagreed about the level at which tolls would be set in the first year of operation. In the end, SCDI was actually allowed to increase toll levels in the first year provided that the level of increase remained within a 10%

³⁶ Auditor General of Canada, 1998.

margin. This was deemed by the federal government to be “within the discretion implied in the agreement by the phrase “substantially the same as”.³⁷ Through this creative interpretation of the PPP agreement, bridge users were made to pay higher toll rates- \$8 more per passenger car- than they had for the ferry service.

SCDI has refused to release estimates of present and future toll revenues. This, according to an official from the Office of the Auditor General of Canada, is likely due to the fact that SCDI expects a windfall in toll revenues and is likely trying to avoid negative publicity stemming from this fact. These revenues obviously depend on the volume of traffic across the bridge. Prior to completion of the project it was estimated that the volume of traffic would increase by 25%. In reality, traffic has increased by roughly 60% greatly boosting SCDI’s revenue. A report in the PEI Guardian estimated that 270,000 passenger automobiles crossed the bridge in the three summer months of 1997 compared with 155,000 cars on the ferries in 1996, a 57% increase. There are no other figures available which might give an indication of the level of year-round passenger and commercial traffic using the bridge. Not surprisingly, SCDI and the government of Canada are not disclosing information relating to the number of vehicles crossing the bridge.

However, an official at SCBL, the company in charge of operating and maintaining the bridge, declared that these higher-than-expected traffic volumes would help SCDI to cover the costs of its investments well within 25 years. After this time, he said, “everything would be gravy” indicating that apart from operations and maintenance costs, SCDI would be making a pure profit.

This comment is probably not far from the truth although much will depend on how the bridge stands up to the rigours of the Northumberland Strait. Either way, it is important to realize that given the distribution of partnership shares, up to 85% of any profits accruing from the operation

³⁷ Ibid., 1998

of the bridge will be going to the two main partners in the consortium, namely GTM Entrepouse of France and Ballast Nedam of Holland. There is no way of knowing what percentage of these profits will actually remain in Canada, although it would be safe to say that this amount will be minimal indeed.

C) FINANCE

This section will argue that the financing arrangements of the Confederation Bridge PPP were more costly than they would have been under the traditional approach to infrastructure provision. In most traditional infrastructure projects at the federal level the government uses its favourable credit rating to obtain direct loans or issue bonds in order to raise the necessary financial capital.³⁸ Proper accounting procedures require the government to declare the amount as a debt on its financial statements and in turn, the newly acquired project is declared as an asset. In most PPP arrangements, however, financing is of a more complicated and indirect nature with the private sector usually providing the project financing. This approach is attractive because it allows governments to avoid taking out additional loans or issuing bonds which they would have to declare as additional debt. Such debt is seen as carrying a high political price for governments who are increasingly preoccupied by debt, credit ratings and the pressure to implement balanced budgets.

According to the Auditor General of Canada, the financial arrangements of the Confederation Bridge PPP were also “a departure from the practise of direct borrowing for the acquisition of infrastructure”.³⁹ However, while the financing was of an “indirect”, “off-balance-sheet” nature, it was not of the type that is the hallmark of a lot of other PPP’s. In this case, the public sector actually provided the project financing in its entirety through its surrogate, SCFI. (See summary in Section VI).

In order to shed further light on the financing arrangements of the PPP it is necessary to touch briefly on the cost of the bridge itself- roughly \$840 million prior to construction. From

³⁸ As a national government, Canada’s cost of borrowing is much lower than those of the provinces and major companies.

³⁹ Auditor General of Canada, 1995, p. 9

the project's inception, the government of Canada promised that the project would be "carried out at no additional cost to taxpayers". Before the selection of SCDI as the bridge developer, the Ottawa also made it clear to the competing consortia that it would spend no more to build the bridge than it could finance through the transfer of the former ferry subsidy over 35 years. The government's working estimate of this figure was roughly \$42 million (1992 dollars) indexed to inflation (or \$35.3 million in 1988 dollars). Given that the lowest bid came to \$40.6 million- later revised to a final \$41.9 million- it might be ventured that the cost of the bridge was a function of the maximum amount of funding available to build the bridge rather than simply a function of SCDI's building costs and profit margin.

Given the lack of information on the project, it would be difficult to suggest that the bridge could have been build for less than the amount specified above. However, it can be said that the "re-directed" ferry subsidy, from which the cost of the bridge was derived, was not a pre-established annual payment which was simply transferred but a contrived figure that was higher than it should have been. For example, Officials at Marine Atlantic, the crown corporation that operated the now defunct ferry service, argue that Ottawa's ferry subsidy estimate of roughly \$42 million (1992 dollars) does not reflect the fact that the ferry subsidy was actually decreasing each year. These reductions were due to Marine Atlantic's realization of higher revenues through increased operating efficiency.

Furthermore, while it is presented as such, the amount in question is not the *actual* amount of the ferry subsidy in 1992 but is merely one of a number of annualized estimates of the total ferry subsidy over 35 years. Each of these estimates was influenced by certain assumptions made about future tolls, productivity gains, wage levels, ship maintenance, acquisition plans, changes in technology and safety requirements.⁴⁰ Of these estimates, the one used in the PPP arrangement was deemed by the Auditor General of Canada to be particularly high vis a vis other

⁴⁰ Auditor General of Canada, 1995

estimates which had been carried out. For example, Marine Atlantic's annualized estimate of the ferry subsidy was \$26.7 million (1988 dollars) while a 1992 estimate by Transport Canada came to \$32 million (1988 dollars).⁴¹ (See table 1) Curiously enough, Transport Canada also provided the \$35.3 million (1988 dollars) figure which was used in the PPP arrangement. This would indicate that accuracy was not a major factor in the federal government's financial calculations.⁴²

By asserting that it would spend no more on the bridge than the value of the former ferry subsidy, the federal government may have been trying to give the impression that it was setting strict financial parameters for the project. As shown above, however, these parameters are not nearly as strict or accurate as they are portrayed. Indeed, if the government has over-inflated the value of the former ferry, it would be fair to say that it is spending more than it agreed to spend according to its own parameters.

Had the government used a lower ferry subsidy estimate in its calculations, the result would have been either a longer financing term (more than 35 years) or less money to build the bridge- i.e. a lower up-front bond issue, stemming from the smaller capacity to finance it. As mentioned above, it cannot be said whether or not the bridge could have been built for less than the pre-construction figure of \$840 million. However, based on the sparse financial information that is available on the project, it can be argued that a traditional financing approach could have raised the initial \$661 million and retired this debt for less than the current amount of \$41.9 million (1992 dollars) per year for 35 years.

Indeed, at 4.5% per annum, the interest rate attached to the SCFI bond issue was considerably higher than that of the federal government. This point was also raised by the

⁴¹ An estimate submitted by a private sector company came to \$36.9 million per annum in 1988 dollars. Ibid., p. 7

⁴² Indeed, in most descriptions of the project the estimated ferry subsidy is expressed in 1992 dollars without explanation that this is a figure derived from a 1988 estimate. Using a more recent date no doubt gives the impression that the estimate is more current and accurate than it actually is.

Auditor General of Canada who argued that this decision may have increased financing costs for the PPP arrangement by at least \$45 million. In the words of the Auditor General

At the time of the issue of the fully indexed amortizing bonds, Canada's marketable real rate bonds were being traded on a 4.10 percent yield basis- 40 basis points below the yield available on the Strait Crossing Finance Inc. bonds. This represents about \$38 million in additional costs. Furthermore, regular commissions on marketable issues of the Government of Canada's real rate bond issues were 0.6 percent compared with the 1.75 percent paid for the Strait Crossing Finance Inc. issue, with the incremental commission cost approximating \$7 million.⁴³

Had the federal government actually issued the bonds at its rate of 4.1%, it could have spread this saving through to the annual bond payments thus reducing this annual obligation by \$2.67 million each year over the 35 year term. According to the Auditor General, this was not done because the federal government did not want to declare this additional liability on its books. Using SCFI as a surrogate allowed it to avoid this accounting obligation but given the federal government's unconditional obligation to transfer the former ferry subsidy to the bondholders, this was clearly a superficial manoeuvre which does not stand up to scrutiny. While the national debt is an important issue which needs to be addressed, one has to question the sincerity of a government that is willing to spend \$45 million to give a false impression that it has not taken on any further debt.

While taxpayers ultimately bore the brunt of the extra \$45 million in finance costs, the federal government was much kinder to the private sector consortium. Indeed, the fact that the bonds were issued by the public sector was of substantial benefit to SCDI. This is the case because public sector credit ratings are generally much better than those of private companies.

⁴³ Ibid., p. 9

The public issue also saved SCDI from the financial risk inherent in any bond issue of that size.

Had SCDI been obligated to raise its own financing, its lower credit worthiness would have required it to offer a much higher rate of return to compensate for a higher risk element in the eyes of the bondholders. This would have reduced the amount of funds that could be raised through the bond issue given the value of the annual subsidy and the 35 year financing term. In fact, a mere 1% increase in the rate of return to bondholders would result in a \$90 million reduction in the up-front capital raised by the bond issue. Given the government's professed adamance not to spend more than the annual subsidy, such a shortfall would have required the private sector to invest some of its own funds in the bridge at the outset of the project, something that it did not have to do as a result of the SCFI bond issue. The above case illustrates the pivotal role of the public sector in the financial arrangements of the bridge deal.

2. RISK TRANSFER

Risk, in the context of a capital project, is a situation of potential loss of investment resulting from operating in an uncertain business environment.⁴⁴ Risk transfer is touted as one of the principal benefits of most PPPs because it allows one party to concentrate on those risks that it is better equipped to manage while passing off to another party those risks that it might not handle as well. In theory, the end result is supposed to be an increase in specialization and efficiency although this doesn't always follow.

There are many types of risks involved in a mega project such as the Confederation Bridge. Some of these include :

A) DESIGN RISK

This type of risk entails the costs and responsibilities that would accompany the design of

⁴⁴ The Harper Collins Dictionary of Economics, 1991.

a particular capital project. A faulty design can also complicate or delay construction and this usually has financial implications- particularly with a project of the magnitude of the Confederation Bridge.

B) CONSTRUCTION / IMPLEMENTATION RISKS

This category of risk generally involves additional costs related to the building and operating of a capital project such as equipment, labour, time delays and maintenance costs.

C) FINANCING RISKS

Financing risks can involve interest rate fluctuations, ownership liabilities as well as property and operating risks associated with inflation and / or maintenance.⁴⁵

With respect to the Confederation Bridge PPP, the federal government claims that it bought peace of mind by entering into the PPP because it did not have to worry about constructing the bridge and operating it for 35 years. The 1995 Auditor General's Report also stated that "it was the [federal] government's intention to obtain adequate security from the contractor to manage all or most of the significant risks in this project such as cost overruns, bankruptcy, abandonment, claims by third parties, labour strikes or disruptions, material defects and project delays". The extent to which this intention has been realized will be explored below.

A) DESIGN RISK

In the case of the Confederation Bridge, the private consortium assumed full responsibility for design risk. As mentioned above, SCDI engaged J. Muller International (JMI)

⁴⁵ Government of New Brunswick, Department of Finance. Public-Private Partnerships: Guidelines and Protocols, Fredericton, 1999. P. 5.

to design the bridge for which JMI was presented with a 1998 Consulting Engineers and Land Surveyors of California Engineering Excellence Honour Award. Nevertheless, despite its award winning design, the bridge is meant to have a 100 year life-span which is a considerably long time for any structure to have to withstand the fierce conditions of the Northumberland Strait. While this last point is also related to operations and maintenance, it is fair to say that the true measure of the design will be seen over time. Furthermore, once the bridge becomes the property of the Canadian Government it is unclear to what extent the developer or design engineers would be liable for any problems arising from design flaws.

B) CONSTRUCTION / IMPLEMENTATION RISKS

In most infrastructural projects it is common practise for the party commissioning the project to try to minimize its exposure to construction / implementation risk. Therefore, it is no surprise that in the case of the Confederation Bridge PPP, the Canadian Government took considerable precautions to ensure that a significant portion of the risk relating to construction was passed on to the private consortium. This took the form of a rigid security package, the details of which will be outlined below.

A large proportion of the risk transferred by the government to SCDI comprised responsibility for cost over-runs. This was enforced by virtue of an agreement whereby SCDI would have to assume the costs of operating the Borden-Tormentine ferry service if it hadn't completed the bridge by May 31, 1997. Given that the bridge was completed on time- a significant achievement for such a large scale and complex project- this incentive would appear to have worked.

Another central part of this security package involved the federal government's insistence that the \$841 million in financing raised for the construction of the bridge be held in trust for the developer and only released on a "cost-to-complete" basis of a system. This approach to

handling the construction costs meant that an independent engineer was engaged to evaluate work break-downs submitted by the developer and would release funds based on the work which was properly completed. This way, the developer could not be paid more than the original proposed price for the work completed.⁴⁶

Other items included in the federal government's security package include a \$200 million performance bond which provided some security with regard to the project's completion. This was to have remained in place until the date of "substantial completion" of the bridge- it is unclear at what point the bridge was deemed to be "substantially completed" although it was officially opened on June 1, 1997. The federal government also secured a \$73.9 million letter of credit from the consortium which could have been drawn on in the event that performance defaults exceeded the \$200 million amount of the performance bond. It also secured a \$20 million labour and materials payment bond which was meant to protect the federal government from potential claims made by materials suppliers and subcontractors up to two years after "substantial completion" of the bridge.⁴⁷

Several guarantees were also secured between the federal government and the parent companies of the consortium partners. The first was a \$5 million bond to provide assurance that the terms of the regional benefit agreement and other project agreements had been respected. The second was a \$35 million compliance bond which covered defects in bridge construction and would replace the performance bond up to two years after the date of "substantial completion". The third bond secured was an "interim maintenance assurance provision obligation" which will cover any maintenance that is required up to three years after "substantial completion". This guarantee was recently put to the test when a fierce winter storm eroded the ocean floor beneath

⁴⁶ Auditor General of Canada, 1995. P. 10. Furthermore, "if the independent engineer determines, through his monthly monitoring and estimate of cost to complete that his estimate of cost to complete the major work items exceeds the available funds in the trust account, a withholding amount must be left in the trust account" (Ibid., p. 10)

⁴⁷ Ibid., p. 10.

one of the bridge's support piers. A fourth \$10 million bond was also secured to cover the cost of "damage, disturbance or disruption to the fisheries in the Northumberland Strait arising from the construction of the project".⁴⁸

In addition to several other agreements regarding "fixed and specific security interests in critical project assets"⁴⁹ a ten year general bridge defect warranty was secured to protect the government from direct defects relating to the bridge. A comprehensive insurance package monitored by an outside insurance consultant provides additional security to the federal government. It should also be noted that the PPP agreement does not hold SCDI responsible for "project risk events" beyond the \$200 million covered by insurance. According to the Auditor General's report, these are defined as, "act's of the Queen's enemies, nuclear events, government action, environmental injunction, and sabotage / terrorism for which the government will bear the risks".⁵⁰ With regard to what are termed "project delay events", the consortium was not responsible for "catastrophic events, third party strikes and labour disputes", an interesting juxtaposition!

From the above outline the PPP security package seems formidable. It also seems to provide the federal government with the "peace of mind" it claims to have sought by following the PPP approach. Indeed, in his report on the Confederation Bridge PPP, the Auditor General of Canada noted that "the security package, in its entirety, appears comprehensive and should provide adequate protection to the Crown."⁵¹ By comparison, many PPP's have not managed or even attempted to actualize a similar degree of risk transfer. In this vein, the Confederation Bridge PPP should be commended. However, it is not out of the ordinary for traditional

⁴⁸ Auditor General of Canada, 1995. Exhibit 15.6.

⁴⁹ See 1995 report of Auditor General of Canada, section 15.64 - 15.70.

⁵⁰ Ibid., p. 9.

infrastructure projects of this magnitude to carry such extensive risk-management guidelines. Furthermore, it is clear that most transfers of risk come at a price- in this case the sum total of all toll revenues for 35 year as well as the costs associated with the indirect financing approach taken by the federal government. Critics argue that the PPP agreement is riddled with further undisclosed costs that the government has already incurred or will do in the future. It should also be noted that a lot of the guarantees, bonds and security agreements are limited with respect to time. In other words, very few of them provide coverage beyond a few years after “substantial completion” of the bridge. Furthermore, since the bridge may have been “substantially completed” well before it was officially opened in June, 1997, the expiration dates of many of the above security agreements may be looming even closer. Indeed, given the amount of money that has already been spent to shore up the eroding sea bed beneath the bridge’s support piers, it is alarming that the aforementioned “interim maintenance assurance provision obligation” will be expiring in June 2000 at the latest. What is even more alarming is that storms of the kind that recently damaged the sea bed beneath the bridge are anticipated every three years. This would appear to foreshadow a future of expensive bridge repairs the cost of which will have to be borne by taxpayers. Without any long-term public sector- private sector agreements covering the bridge the possibility exists that in 35 years the Canadian Government will inherit a structure which may require millions of dollars in repairs. This is a key project risk which has not been addressed by the PPP agreement.

C) FINANCING RISKS

Financing risks are very salient in all large capital projects. In the Confederation Bridge

⁵¹ Auditor General of Canada, 1995, section 15.70.

Project the public sector played a pivotal financial role by securing the \$661 million bond issue⁵² and arranging for its retirement by authorizing the transfer of the former ferry subsidy through Bill C-110. This essentially absolved the private sector of most, if not all of its exposure to financial risk- especially since both the subsidy and the bond issue are indexed for inflation

With respect to ownership risks, the risks to which the private sector will be exposed are much lower than those to which the federal government will be exposed once it takes ownership of the bridge in 35 years. As mentioned above, 35 years may be enough time for the bridge to require very costly repairs at taxpayers' expense. Furthermore, very little information about the terms of the maintenance agreement are available to the public and it is therefore difficult to comment on this issue.

One of the most significant risks of ownership surrounds the question of decommissioning the bridge once it has reached the end of its useful life. The cost of dismantling the bridge- whether or not lasts 100 years- will be enormous. The environmental costs of leaving a derelict bridge to the elements could be even greater! To date it is not known what preparations have been made for this eventuality. One thing is certain, it will not be an inexpensive project and the associated financial costs will rest squarely on the public sector given what is known about the PPP agreement. By not addressing this issue, the parties to the PPP agreement may well be hoping to transfer this significant cost to future generations.⁵³

3. QUALITY OF SERVICE AND ACCOUNTABILITY

In assessing the quality of service being provided by the Confederation Bridge PPP, one

⁵² In recent years the real-rate bonds issued by SCFI have only been a liability to the bondholders. At 4.5%, these bonds carry a less favourable rate than most regular bonds because they are indexed to inflation. Given that inflation has been minimal in the last few years, bondholders are enjoying lower returns than they would have had they bought regular bonds which might be susceptible to inflation but carry a higher rate of return.

⁵³ See the article by Joseph H. O'Grady in Begley, Lorraine, Crossing That Bridge, page 55.

must first distinguish this exercise from that of assessing the quality of service being provided by the bridge itself. As far as bridge-users are concerned, the quality of service provided by the PPP arrangement is primarily a function of the customer service provided by bridge personnel such as toll booth operators and shuttle bus drivers. By most accounts this has been satisfactory and there is no reason to believe that the level of service would be any different if the bridge were being operated by the public sector.⁵⁴

Another aspect of service, albeit less obvious to bridge users, is the extent to which the private consortium is maintaining the bridge and managing its less visible operations.⁵⁵ Bearing in mind the bridge's recent opening, there is very little information available about SCDI's progress in this area apart from the aforementioned report about repairs due to a winter storm. SCDI has not made public any details about its maintenance plan although it has publicized the fact that it is collaborating with PWGSC to sponsor the Confederation Bridge Monitoring Project. According to PWGSC literature, the monitoring project will gather data using "sophisticated monitoring equipment"⁵⁶ in order to help "guide" operations and maintenance in the years to come. However, without knowing what SCDI's operations and maintenance plan is, these statements are not of much use. All that is known is that SCDI has agreed to transfer the bridge in sound condition to the Federal government after 35 years. This, however, does not speak to the quality of day-to-day service provided and is hardly satisfying from a public

⁵⁴ According to some bridge users, it is not immediately evident upon crossing whether the bridge is run by the private sector or the public sector.

⁵⁵ These operations include toll booths, road surface, traffic signs and lighting. With regard to toll booths, SCBL is currently using two employees to collect tolls during the winter and four during the summer. An engineer at SCDI felt that this was an appropriate number for the provision of efficient service to bridge users. (Tolls are collected from the PEI side of the bridge.)

⁵⁶ Some of the monitoring instruments were installed during construction and include 500 strain measuring devices, 450 thermal sensors, 28 ice load panels, underwater sonar equipment and 76 vibration sensors (PWGSC web page)

knowledge point of view.

With respect to the quality of service provided by the bridge itself, it would appear that Maritimers and tourists generally seem to be happy with the added convenience and shorter crossing times afforded by the bridge. On the other hand, there has been much concern about the effects of high winds and weather on traffic using the bridge. Prior to the completion of the bridge and as part of a pro-bridge public relations campaign, SCI President, Paul Giannelia, promised Islanders that the bridge would never close due to inclement weather. However, between October 1997 and May 1998, full or limited restrictions were placed on traffic 53 times.⁵⁷ This has been particularly disruptive for truckers whose rigs are highly susceptible to the dangerous winds that can gust up to 125 kilometres per hour.

While it is beyond the scope of this paper to delve any deeper into these issues, Paul Giannelia's misleading promises about the reliability of the bridge call into question SCDI's integrity as well as the degree of accountability of both partners to the PPP arrangement. Indeed, with respect to the issue of accountability, it has been emphasized throughout this paper that the PPP arrangement has been anything but transparent. According to a reporter from the *Globe and Mail*, "the bridge is a public-private operation but the emphasis seems to be on private".⁵⁸ As mentioned above, SCDI is under no obligation to share any financial or economic information related to the bridge. Recent attempts at gaining information about current toll revenues and traffic volumes have been unsuccessful primarily because the federal government is also suppressing this information. It would appear that SCDI feels that it has the potential to make a considerable amount of money on the deal and is with-holding this information to avoid any negative backlash from taxpayers.

⁵⁷ Murray Campbell "High Winds plague bridge to PEI" in the *Globe and Mail*, May 18, 1998.

⁵⁸ Murray Campbell "Islanders struggle to preserve way of life", *The Globe and Mail*, May 18, 1998.

The secretive nature of the PPP arrangement does not bode well for those members of the public who are concerned about how their tax dollars are spent. If it weren't for reports such as that of the Auditor General of Canada it is likely that a majority of the financial information included in this report would not have been available. Given the amount of taxpayer's dollars involved, one would expect more openness from the federal government.

This disturbing lack of openness is also bad from an environmental perspective. While the environmental impact of the bridge is not directly related to the PPP arrangement, it may carry some indirect implications particularly with respect to issues of accountability. According to the terms of the agreement, SCDI is in charge of implementing an Environmental Management Plan (EMP) for the duration of its 35 year leasehold over the bridge. The Auditor General of Canada described the EMP- which, incidentally, is not available to the public- as "a dynamic, life-of-project document that can and, if necessary, will be amended as the project proceeds, using an approved process involving a full environmental impact assessment if required, with public consultation".⁵⁹ This would appear to inspire some confidence. However, like other aspects of the project, the environmental issue is one which needs to be closely observed over time.

Moreover, the very closed and secretive nature of the PPP arrangement does not inspire confidence about how the consortium might respond to environmental problems stemming from the bridge. Indeed, given the way in which PWGSC swept aside the legitimate concerns of environmentalists as well as a negative billing from the Environmental Assessment Review Panel, one wonders how the parties to the PPP agreement will contend with any future criticism regarding their operations. Considering the federal government's central role in suppressing financial and economic information relating to the bridge on behalf of SCDI, one also wonders to

⁵⁹ Auditor General of Canada, 1995, p. 12

what extent this behaviour might extend to the enforcement- or non-enforcement- of certain environmental regulations.

It should also be noted that although the PPP agreement stipulates that the private partner is “accountable for the environmental health of the project during its 35-year period of the operation of the bridge” it has posted no compliance bonds which might cover environmental contingencies during this period save for a \$10 million compensation obligation for any interference with the Northumberland Strait fishery. This obligation will expire in June 1999. No similar or more specific provisions are in place for the remainder of SCDI’s term as steward of the bridge and this heightens suspicions that the burden of reversing any environmental damage- if this is at all possible- will fall on the taxpayer.

Finally, with respect to financial accountability, the Auditor General of Canada argued in his 1995 report that even prior to its completion, ongoing information relating to the bridge was not even reported to members of Parliament in a satisfactory way.⁶⁰ In the same report he also criticized the government of Canada for failing to record the \$661 million bond issue in its summary financial statements. In his words, “these financing arrangements were structured , at least in part, to avoid having the transaction seen as the acquisition of a bridge and thus included in the deficit”.⁶¹

Following the Auditor General’s advice, the federal government went on to record a \$726 million liability in its financial statements. This figure represents the estimated present value of the re-directed subsidy payments, presumably indexed to 1995 dollars. Given that the project’s financial arrangements were geared to allow the federal government to avoid recording its liability in the project, one wonders whether or not the additional \$45 million that it cost to

⁶⁰ Auditor General of Canada, 1995, section 15.116.

⁶¹ Government of Canada. Financial Statements of the Government of Canada and Opinions of the Auditor General, 1994/95, p. 1.25

issue the bonds through SCFI was a complete waste of money.

4. IMPACT FOR WORKERS AND THE COMMUNITY

As in the previous section, a distinction must be made between the impact of the bridge itself and that of the PPP approach that was taken to complete the bridge. The former issue, albeit much more contentious in the political affairs of the Maritimes, is beyond the scope of this paper. It must be said, however, that the regional impact of the Confederation Bridge itself has been considerable. Construction of the bridge provided more than 1000 jobs over four years while its official opening marked the termination of a ferry service which had been in operation for over 100 years. This resulted in the mass layoff of about 650 ferry workers and support staff. It also directly affected many of the positive economic “spin-offs” resulting from the ferry service. While the bridge has spurred an increase in tourism to the island, the ease of travelling to the island means that this tourism is of a more short-term and therefore less lucrative nature. Some Islanders also feel that the increase in tourism will spoil PEI’s tranquil beauty, turning it into another “Coney Island”.⁶² An in-depth examination of the above issues can be found in a report entitled “the Economic Impact of the Withdrawal of the Marine Atlantic Ferry Service from Prince Edward Island” commissioned by the Canadian Labour Congress.⁶³

The fact that the bridge was built through a PPP agreement also had an impact on workers and the community. Firstly, the federal government stipulated that about 90% of the project’s labour force and materials had to come from the Maritimes region. By all accounts this was achieved. More interesting, perhaps is the fact that the bridge was built with unionized labour. Whereas PPP’s normally try to cut costs by utilizing non-unionized workers, the consortium entered into a “project-specific” collective agreement with five trade unions; the International

⁶² Hopkins, John, “A Critique of the Confederation Bridge”, John Hopkins’ Website (www.fixedlink.com)

⁶³ The full report is available through the Library of Parliament while an abridged copy is printed in Lorraine Begley’s edited book, Crossing That Bridge: A Critical Look at the PEI Fixed Link.

Brotherhood of Electrical Workers, the Carpenter's Union, as well as unions representing Iron Workers, Labourers and Operating Engineers. According to Human Resources personnel at SCI, this approach was taken because it provided the consortium with a highly skilled, highly qualified, readily available workforce which would have been harder to find in the private sector. This arrangement was beneficial for the trade unions selected to work on the bridge as 85% of this workforce was unemployed prior to the start of bridge construction.⁶⁴

SCDI's selection of specific trade unions to work on the bridge did leave out a number of other trade unions, to their dissatisfaction. Nevertheless, the developer and the selected unions formed a committee which finalized a project-specific collective agreement that was adhered to throughout the construction process. The committee also met with the developer on a monthly basis to deal with any labour or project related issues. This approach to labour relations allowed SCDI to simplify its negotiations with bridge workers. On the other hand, it also allowed the consortium to exert maximum control over the construction process.

Despite this, Lloyd French, a member of the International Brotherhood of Electrical Workers and co-Chair of the committee, conceded that the collective agreement was a good one in which "everyone was a winner". While he noted that he had negotiated better agreements for workers over his 30 year career he did stress that wage levels were fair if somewhat lower than what most workers expected. French portrayed SCDI management as tough but fair although very quick to quell disputes by making reference to the project's "tight" financial bottom line. His impression of the consortium's labour relations record for the project was positive relative to

⁶⁴ Interview with Lloyd French, International Brotherhood of Electrical Workers, May 19, 1999

other projects he had been involved with.

It is clear that the Confederation Bridge was good for the Maritimes construction industry, although like most construction jobs, the benefits were of a more short-term nature. As for the operation of the bridge, SCDI gave former Marine Atlantic workers first priority on all available jobs. According to officials at SCI, 235 former Marine Atlantic workers were interviewed for what was supposed to have amounted to roughly 60 positions. However, contrary to this well publicized figure, the current number of jobs provided by the bridge is just half this amount. This is a striking figure when compared to the over 650 jobs that were lost when the ferry service was terminated.

IX SUMMARY AND CONCLUSIONS

The Confederation Bridge project was a particularly complex design-build-operate-transfer PPP. It was characterized by elaborate financial arrangements, complicated multi-level agreements and an amendment to the Constitution of Canada. Given the magnitude of the bridge project itself, the magnitude of the PPP arrangement should not be that much of a surprise. What is surprising about the Confederation Bridge PPP arrangement is the sheer magnitude of its shortcomings.

The most striking aspect of the PPP was the general lack of information provided to the public about the bridge. The suppression of financial and economic information relating to the bridge seriously calls into question the integrity and accountability of SCDI as well as the federal government. Indeed, Canadians were not only denied the above information but they were fed misleading information about the project from its very inception. At 85% foreign ownership one could hardly call SCDI a Canadian Consortium as it is referred to in all official publications. Furthermore, the public was misled about toll rates on the bridge which were supposed to be set at the same level as those of the former ferry. The public was also misled with respect to the

accessibility of the bridge. Contrary to the promises of SCI President, Paul Giannelia, SCDI did not, in fact, build a bridge that would never close due to inclement weather. Fifty-three closures between October 1997 and May 1998 is a serious departure from Giannelia's promises.

The federal government promised that the project would not result in additional cost to taxpayers. However, had it not been for the availability of the Auditor General of Canada's report, it might not have been learned that the financing arrangements of the bridge cost taxpayers at least \$45 million more than they should have. Nor would it have been apparent that the estimate of the ferry subsidy used in the financial arrangements of the PPP was over-inflated. In short, without the insight into the project provided by the Auditor General of Canada, it might never have come to light that the Confederation Bridge PPP did, in fact, result in an additional cost to taxpayers.

Furthermore, the PPP threatens to impose further costs on the public which, given the misleading information about the bridge's security package, might not have been appreciated. As mentioned above, the security / risk transfer stipulations of the bridge have a distinctly short-term, superficial nature which does not appear to provide the kind of protection for taxpayers that such a project would seem to necessitate. The question is: when things start going wrong, who will foot the bill?

TABLES AND FIGURES

FIGURE 1
Public-Private Partnership Spectrum

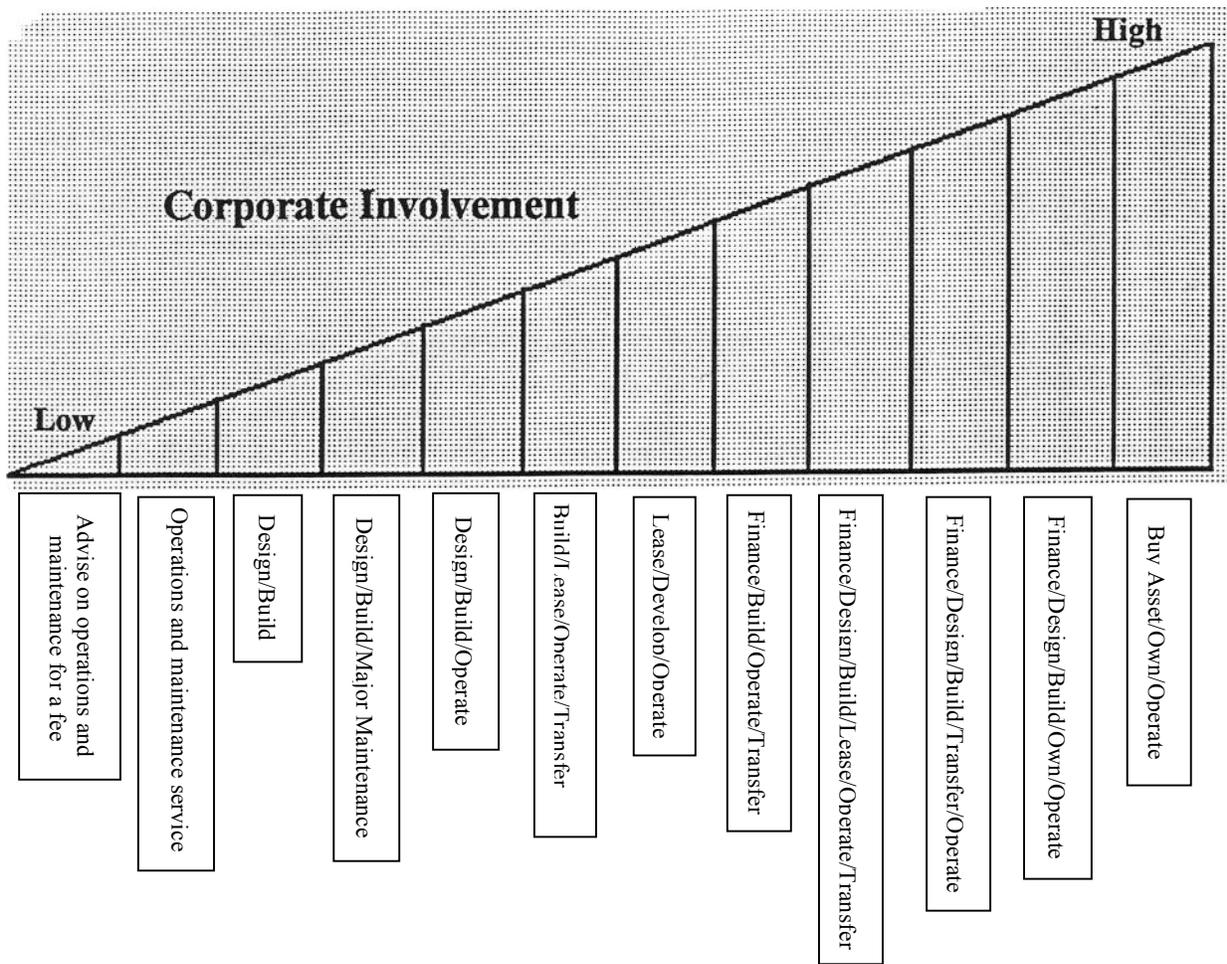


FIGURE 2

Deal Structure

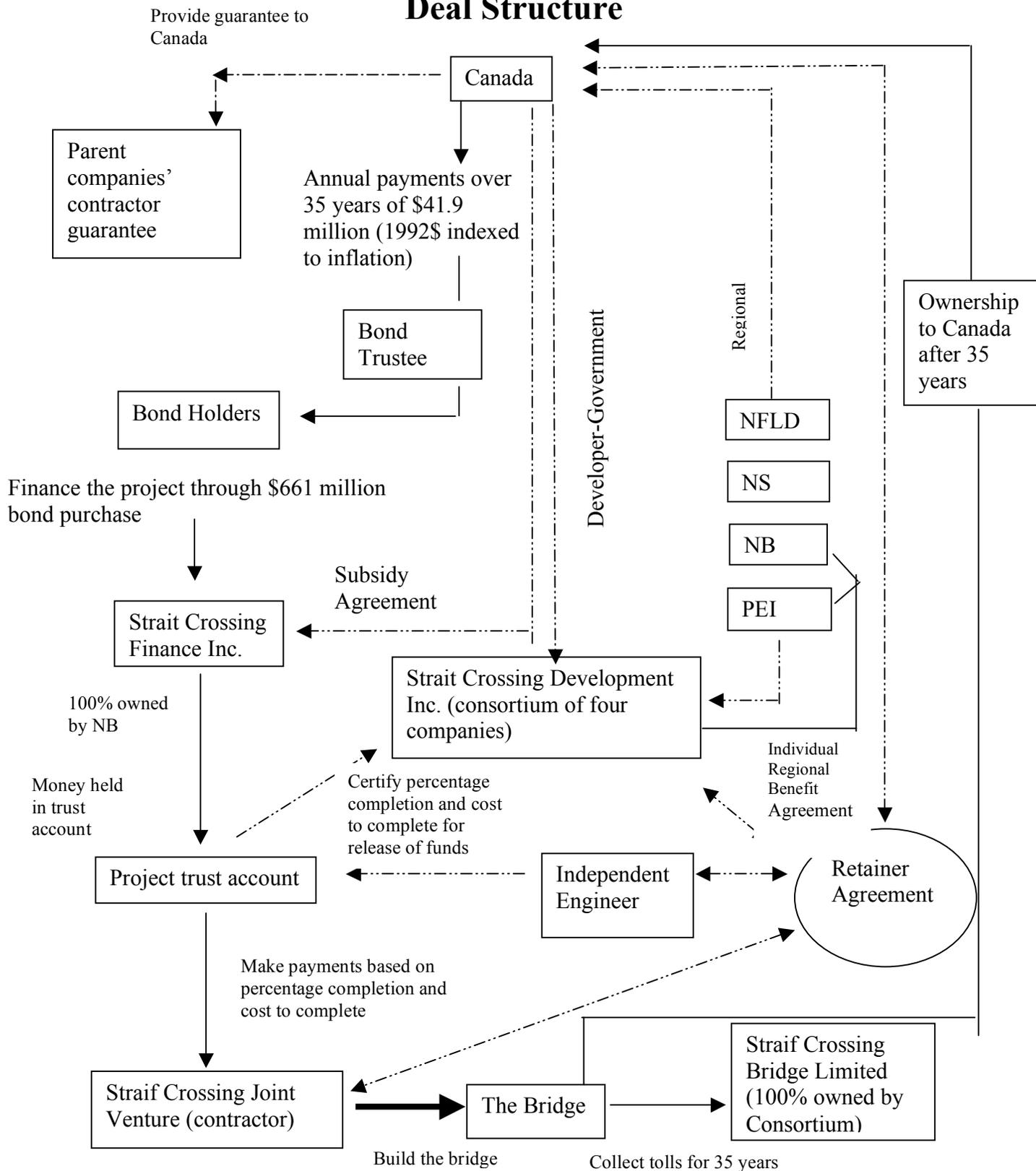
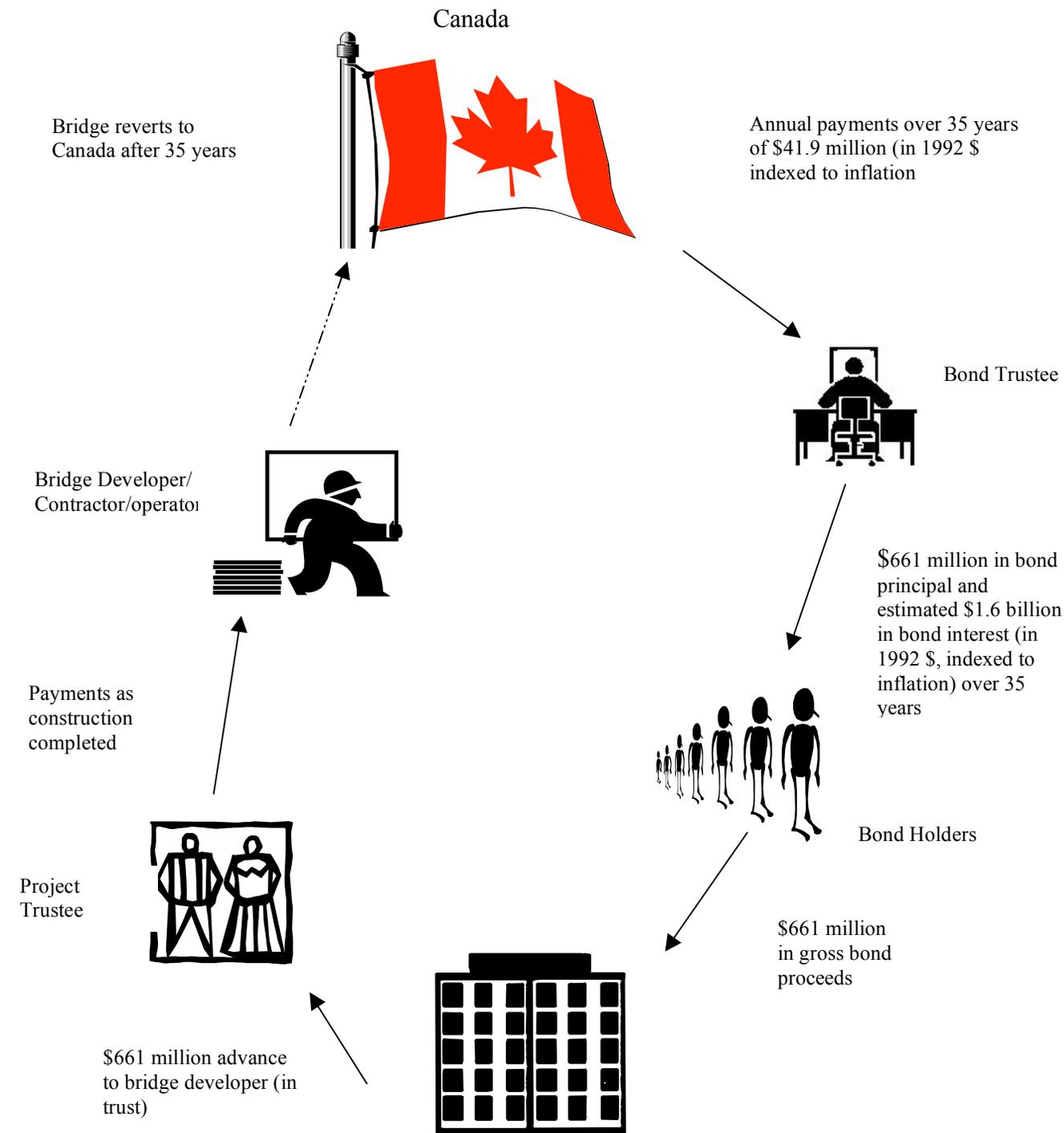


FIGURE 3
Flow of Funds



Note: exhibit excludes operating cash flows

Strait Crossing Finance Inc.
(owned 100% by province of NB)

TABLE 1
The Transportation Subsidy

Estimated Annual Cost of the Ferry Service In millions of \$ (1988 dollars)			
Description	Cash Flow Over 35 years	Net Present Value (5% end of period)	Annualized Amount
a) Direct operating and maintenance cost	1,510.6	673.7	41.1
b) 50% of estimated allocated overhead cost	77.1	36.0	2.2
c) Minor and major capital expenditures	310.2	163.8	10.0
Subtotal	1,897.8	873.5	53.3
d) Less: tolls and other revenue	(700.2)	(294.7)	(18.0)
Net Amount	1,197.6	578.8	35.3

Source: Department of Transport 1988 estimate

Summary of the Estimates of the Annual Cost of the Ferry Service Prepared by the Government and Third Parties in millions of \$ (1988 dollars)					
Description	Government			Marine Atlantic Inc.	Private Sector
<u>Year Prepared</u>	<u>1988</u>	<u>1992</u>	<u>1993</u>	<u>1990</u>	<u>1991</u>
a) Direct operating and maintenance cost	41.1	37.9	39.2	36.4	40.5
b) 50% of estimated allocated overhead cost	2.2	1.8	2.4	(1) 2.2	2.2
c) Minor and major capital expenditures	10.0	14.6	13.9	7.0	12.6
Subtotal	53.3	54.3	55.5	43.4	55.3
d) Less: tolls and other revenues	(18.0)	(22.3)	(22.0)	(18.9)	(18.4)
Net Amount	35.3	32.0	33.5	26.7	36.9

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