



The Digby-Saint John Ferry Service – Impacts and Options

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Table of Contents

EXECUTIVE SUMMARY	1
1. INTRODUCTION	1
1.1 The context	1
1.2 The approach	1
1.3 Structure of the report	2
2. ENVIRONMENT FOR THE FERRY SERVICE	3
2.1 Recent developments in southwestern Nova Scotia	3
2.2 Changes in transportation infrastructure	6
2.3 Economic development trends and transportation infrastructure	7
2.4 Provincial and federal government policy	8
2.5 Operating environment of ferry services	11
3. THE DIGBY-SAINT JOHN FERRY SERVICE	15
3.1 History of the service	15
3.2 Profile of the service	16
3.3 Role of the service	16
3.4 Recent trends in the service (2000-2005)	16
4. BUSINESS CIRCUMSTANCES	18
4.1 A revenue-cost squeeze	18
4.2 Limited flexibility for price and cost adjustment	18
4.3 A changing marketplace	19
4.4 A tired product	19
4.5 Heightened risk of equipment breakdown	20
4.6 Need for vessel replacement	20
5. IMPACTS OF FERRY SERVICE CESSATION	22
5.1 Introduction	22
5.2 The framework	22
5.3 Bay Ferry operations	22
5.4 User impacts	24
5.5 Tourism information centre employment	27
5.6 Summary of ferry service cessation economic impacts	27
5.7 Taxation impacts	27
5.8 Other impacts and externalities	28
6. OPTIONS	29
6.1 Findings	29
6.2 Options	30

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APPENDIX 1: TERMS OF REFERENCE, STATEMENT OF WORK

APPENDIX 2: HARBERGER'S OPPORTUNITY COST METHODOLOGY

Executive Summary

E.1 Context

On June 30, 2006, Bay Ferries Ltd. announced the permanent cessation of the year-round Digby, Nova Scotia to Saint John, New Brunswick ferry service, effective November 1, 2006. The company's decision to cease operations has been caused by financial challenges faced over the past several years.

There is a great deal of public concern about the cessation of the service. Users claim the loss of the ferry service will have a significant impact on their businesses, as do tourist operators. Nearby residents are concerned about the loss of a key transportation link and an economic generator.

This report identifies and forecasts the extent of the key impacts of service cessation and sets out four options for dealing with the situation.

E.2 Findings

1. *The service is part of the transportation, economic, social, and psychological fabric of southwestern Nova Scotia and is an important transportation link for southern New Brunswick.*

- The service has been operating since 1826, a period of 180 years.
- Substantial amounts of primary product (fish and wood) as well as general cargo, passengers and tourists continue to use the service.

2. *The basic value proposition of the service has changed fundamentally over the last five to ten years – as a result of a persistent decline in revenues and rapid cost increases.*

- Demand grew after privatization in 1997, but has been in decline for several years. From 2000 to 2005, total vehicular traffic declined by 29%, the number of passengers decreased by 21%, and the number of visitors (i.e. tourists) entering at Digby dropped by 27%.
- Over the past three years, the costs of running the service (exclusive of drydocking) have increased by 34%; much of the increase is due to the rapid rise in fuel costs (88%, an annual compound rate of just under 24%).

3. *The current operators, in our view, provide a cost effective and efficient service.*

- However, the product is tired, drawing fewer and fewer users, and is approaching the end of its useful life, which likely will come no later than in 2012.

4. *Discontinuance of the service would have a net annual economic impact of over \$20 million:*

- A direct loss of approximately 145 jobs in Saint John and Digby (about 110 employed by the company and 35 contracted through concessions).
- A direct annual impact of \$2.3 million from these job losses and from Company purchases in Nova Scotia and New Brunswick.

- Annual losses to ferry service users (particularly in the fishery and forestry sectors) of approximately \$12.5 million.
- A substantial negative impact on tourism in southwestern Nova Scotia and southern New Brunswick.
- Annual tax losses of approximately \$0.4 million to Nova Scotia, \$1.3 million to New Brunswick and \$4.4 million to Canada.

Summary of Annual Economic Impacts From Ferry Service Cessation (\$ million)

	Net Impacts
Ferry service employment	\$ 1.5
Other service expenditures	0.8
User impacts – Commercial	18.1
Tourism Information Centre	0.03
Highway impacts	N/A
Total	\$ 20.4

- The schedule for discontinuance does not provide adequate time for transition adjustment and for the orderly development of potentially viable options.***
- It is unlikely that a Saint John-Digby ferry service can operate in the longer term without public support, if the service is expected to cover its full capital and operating costs.***
 - The service is presently operated with a vessel that is chartered for \$1.00 per year and terminals that are leased for \$500 per year each.
- Finally, it is unclear whether the recent negative trends in private vehicle, passenger, and tourism traffic are long term.***

E.3 Options

Four options have been identified. Each could have a number of variations – depending on further development and specification. The options¹ are:

- Option 1: Allow the service to terminate on October 31, 2006;**
- Option 2: Refine the service;**
- Option 3: Revitalize the service; and**
- Option 4: Specialize the service.**

Options 2 through 4 all call for a transition period where the current service is operated, under contract, while new approaches are developed, assessed and then implemented, if feasible. These options need to be subjected to extensive market and financial scrutiny.

In our view, *all* options will require some public sector intervention and support.

E.3.1 Option 1: Allow the service to terminate on October 31, 2006

This option would allow for the cessation of the service, thereby implicitly accepting the argument that the transportation system has changed to such an extent that the basic business parameters of this type of service are no longer sustainable without public support.

¹ A seasonal service is not identified as an Option. Seasonal service would be difficult to implement as: (1) the current operator has labour commitments and other agreements; and (2) the supply chain for shippers of seafood and other commodities would be disrupted (they would have to make alternative arrangements for the balance of the year).

Option 1: Allow the Service to Terminate on October 31, 2006

Features	Cessation of the service Disposal of assets Dismantle and remove terminals
Relative Cost	Annual economic impacts of over \$20 million Direct job losses in the Saint John and Digby areas Loss of multiplier effects Additional costs to southwestern Nova Scotia producers for the export of their products
Advantages	Removes uncertainty Allows the adjustment process to begin immediately
Disadvantages	The economic and social costs – in both Nova Scotia and New Brunswick, and particularly on southwestern Nova Scotia and southern New Brunswick Inadequate and inequitable transition period Considered another “body blow” to southwestern Nova Scotia and a potential disincentive for investment

E.3.2 Option 2: Refine the service

This option is essentially a stop-gap measure – buying time while assessing longer term options.

Option 2: Refine the Service

Features	(1) Transition period for continuation of the current service under contract with an adjusted business plan (to possibly include reduced sailings, increased rates, and yield management measures) plus demonstrated commitment of users. (2) Development, assessment, packaging and decision-making on refinement package, to include: <ul style="list-style-type: none"> • Refurbishment of vessel • Enhanced marketing by the company and government • Potential for re-tendering • Determination of level and type of public support • Resolution of terminal ownership and maintenance issues, i.e. operator responsible for terminal maintenance but does not own facilities
Relative Cost	Public capital and operating support Development and assessment of packages
Advantages	More equitable for users/the community to have more adjustment time A concerted, coordinated public, community and corporate effort Provides an interim solution
Disadvantages	Prolongs the uncertainty The vessel is close to the end of its useful life and refurbishment is stop-gap Not likely to significantly alter the core business parameters

E.3.3 Option 3: Revitalize the service

This class of options represents a continuation of the current service with a “new” vessel.

Option 3: Revitalize the Service

Features	<p>(1) Transition period for continuation of the current service under contract with an adjusted business plan (to possibly include reduced sailings, increased rates, and yield management measures) plus demonstrated commitment of users.</p> <p>(2) Development, assessment, packaging and decision-making on revitalization package, to include:</p> <ul style="list-style-type: none"> • A new, used or chartered (conventional) vessel • Enhanced marketing by the company and government • Potential for re-tendering • Determination of level and type of public support • Resolution of terminal ownership and maintenance issues
Relative Cost	<p>Capital cost (roughly \$15-40 M for a used vessel and \$80+ M for a new vessel) More fuel efficient, lower maintenance costs, perhaps slightly more crew Potential terminal reconfiguration costs</p>
Advantages	<p>More equitable for users/the community to have more adjustment time Will increase traffic and revenues thereby providing greater chance of profitability A positive impact on southwestern Nova Scotia and southern New Brunswick, including maintaining or increasing employment in Saint John and Digby</p>
Disadvantages	<p>Prolongs the uncertainty Higher cost May not be appropriate to the marketplace</p>

E.3.4 Option 4: Specialize the service

Service specialization implies a two-vessel service (one primarily for freight, the other for passengers). This approach results from a broader look at marketplace changes. It assumes that the service configuration needs adjustment in order to make it competitive with improved highway travel.

Option 4: Specialize the Service

Features	<p>(1) Transition period for continuation of the current service under contract with an adjusted business plan (to include reduced sailings, increased rates, and yield management measures) plus demonstrated commitment of users.</p> <p>(2) Development, specification, assessment, packaging and decision-making on a multi-faceted package, to include:</p> <ul style="list-style-type: none"> • A specialized two vessel service (one primarily for freight and one for passengers) with routes to be determined • Enhanced marketing by the company and government • Potential for re-tendering • Determination of level and type of public support • Resolution of terminal ownership and maintenance issues
Relative Cost	<p>Public capital and operating support (perhaps similar to that for Option 3)</p> <p>Likely terminal re-configuration costs (in two locations)</p> <p>Some economic adjustment costs in southwestern NS and nearby Saint John</p> <p>Additional costs for port and terminal infrastructure</p>
Advantages	<p>More equitable for users/the community to have more adjustment time</p> <p>Could have greater market appeal as crossing times might improve</p> <p>Local exports could be delivered closer to US market</p> <p>Potentially better fit with southwestern Nova Scotia exporters' needs</p>
Disadvantages	<p>Prolongs the uncertainty</p> <p>Public investment and support required</p> <p>Potentially negative impact on existing Yarmouth-New England ferry service</p> <p>Some current traffic elements potentially not covered</p>

1. Introduction

1.1 The context

Bay Ferries Ltd. operates a year-round service from Digby, Nova Scotia to Saint John, New Brunswick. On June 30, 2006, Bay Ferries announced the permanent cessation of the service effective November 1, 2006.

The company's decision to cease operations has been caused by financial challenges faced over the past several years. Decreases in revenues due to reduced passenger and freight loads and increases in costs, particularly fuel and insurance, have created a "profit squeeze" on the service.

There is a great deal of public concern about the cessation of the service. Users claim the loss of the ferry service will have a significant impact on their businesses, as do tourist operators. Nearby residents are concerned about the loss of a key transportation link and the end of the area as a "destination". All fear the impact on the southwestern Nova Scotia² economy and its further development potential.

The Governments of Canada, Nova Scotia, New Brunswick, the City of Saint John and municipalities in southwestern Nova Scotia are concerned about the impact of the loss of the ferry service to the region and are interested in looking at long-term, broad-based transportation solutions. The governments have formed a Committee led by the Nova Scotia Office of Economic Development and ACOA to study the broader economic implications and report back to the Committee with an assessment.

This report is intended to provide that objective, technical assessment.

1.2 The approach

With the announced cessation of the service, a very short time frame was necessary for the production of this report. We appreciate that time is of the essence as options for action have to be identified and evaluated as much before October 31 as possible. Also, with an "imminent" cessation, users will have to begin making other plans and the service could start to lose current customers, creating a downward spiral.

Our approach is to conduct the analysis with a focus on developing realistic options. We appreciate that there will not be time to assess the options in detail but by setting out options that are realistic and implementable, those who might pursue an option will have some focus to their efforts.

While our analysis has devoted more attention to the situation in Nova Scotia, as the overall impacts will be more pronounced in that province, we have noted impacts in New Brunswick, as Saint John essentially serves as the service's "headquarters" and would experience the largest direct job and expenditure losses.

In conducting our work, we used data readily available from published sources, data provided by Bay Ferries Ltd, data from a large number of submissions transmitted to us via the Municipality of Digby and the Nova Scotia Fish Packers Association, and information from a number of direct interviews. In

² For purposes of this report, we define southwestern Nova Scotia to include Yarmouth, Shelburne and Digby counties.

addition, one member of the consulting team was provided with access to commercially confidential Company information, which cannot be revealed but which is reflected in the analysis.

Finally, we have tried to satisfy all items in our Terms of Reference (Appendix 1), and believe that all elements are appropriately covered. Any deviation from these Terms is, we believe, more a matter of emphasis, than of disregard. One exception, however, is that we have not conducted a broad “transportation gaps analysis” as there are at least three major initiatives currently underway with reports expected over the next two to 15 months. These include: 1) the Northeast CanAm Connections Study; 2) the Nova Scotia Gateway Strategy; and 3) a proposed Atlantic Provinces Economic Council (APEC) transportation study.

Three of the four options we present for consideration assume there might be a continued role for the service as part of the regional transportation context.

1.3 Structure of the report

Subsequent to this Introduction, the report contains five sections:

- **Section 2 – Environment for the Ferry Service** – sets out the broad context in which the service operates. It includes a brief overview of recent developments in southwestern Nova Scotia, a discussion of economic development trends and transportation infrastructure, a description of relevant federal and provincial government policy, and the operating environment for ferry services, as well as government support offered elsewhere;
- **Section 3 – The Digby-Saint John Ferry Service** – provides a brief profile of the service including its history, role, status, and recent trends;
- **Section 4 – Business Circumstances** – contains a list of those factors which have precipitated the current situation and which provide the major factors to deal with;
- **Section 5 – Impacts of Ferry Service Cessation** – identifies and forecasts the economic impacts of service discontinuation and discusses several other potential social and environmental effects; and
- **Section 6 – Options** – presents a summary of the consulting team’s findings and sets out four options which need to be considered.

The report also contains two appendices; the first reproduces the **Terms of Reference, Statement of Work** addressed in this report, and the second elaborates on the economic analysis methodology.

2. Environment for the Ferry Service

This section examines the overall environment in which the Digby-Saint John ferry service operates. It broadly corresponds to the scope of work set out in Phase II and deals with:

- 1) recent developments in southwestern Nova Scotia;
- 2) changes in transportation infrastructure;
- 3) economic development trends and transportation infrastructure;
- 4) provincial and federal government policy; and
- 5) the operating environment of ferry services.

2.1 Recent developments in southwestern Nova Scotia

2.1.1 Overview

As most residents of southwestern Nova Scotia know, the area has been hit by a series of economic blows over the past ten to 15 years. The list below, although not exhaustive, is indicative of the situation:

- loss of CN Rail service;
- closure of the Domtex Mill;
- closure of the Rio Algom Tin Mine;
- cessation of regular air service to Yarmouth Airport;
- closure of the Lewis Lumber Mill;
- loss of year-round ferry service from Yarmouth to Bar Harbor;
- loss of the *Scotia Prince* Yarmouth-Portland service;
- restructuring of the fishing industry, especially the groundfishery; and
- closure of the Shaw Wood Industries furniture plant.

Census and employment data certainly support the idea of a stagnant economy. The whole southwest region lost population from 1991-2001, with the loss accelerating in the 1996-2001 period.

The rate of unemployment in May 2006 was 11.1% in southwestern Nova Scotia, compared with 8.6% for the Province and 5.6% in Halifax.

County	Census Population Data		
	1991	1996	2001
Yarmouth	27,891	27,951	26,843
Shelburne	17,343	17,404	16,231
Digby	21,250	20,981	19,548
Southwestern NS	66,484	66,336	62,622
Province	915,102	909,282	908,007

Primary industries and manufacturing are relatively much more important to southwestern Nova Scotia, accounting for about 36% of employment, as compared with the Province, which has just over 15% employment in these sectors.

In contrast to some of the negative indicators, there are a number of positive developments that have taken place in southwestern Nova Scotia in the past five to ten years. These include:

- redevelopment of the Yarmouth Domtex plant into an industrial park;
- redevelopment of the Yarmouth waterfront area;

- expansion of the Yarmouth Hospital;
- Hebron Industrial park development;
- the opening of Western Nova Scotia Branch of the Art Gallery of Nova Scotia;
- the Yarmouth Power Centre development;
- development of the Black Bull Resources quartz and kaolin mine;
- redevelopment of Cornwallis Park; and
- the Weymouth museum and waterfront redevelopment.

As of this writing (August 2006), there are ongoing public hearings related to the development of a quarry on Digby Neck. There have also been discussions and negotiations regarding a potential ferry service between Shelburne and Boston, and the redevelopment of the Shelburne wharf. The former Coast Guard facility in Shelburne and the Nova Scotia School for Boys (now Shelburne Place) have both been the subject of redevelopment initiatives. The Black Bull project is also seeking additional investment funds as it pursues markets and sales.

Three areas in southwestern Nova Scotia – Digby, Yarmouth and Barrington – have emerged as retail and service centres, with new projects developed by Sobey’s, Loblaws (Superstore), and, in the case of Digby and Yarmouth, Canadian Tire.

2.1.2 The fishery

Of Nova Scotia’s 280 active seafood processing plants, 60% are located in southwestern Nova Scotia. Provincial exports amounted to over \$1 billion and 145 million kgs in 2004. Of this total, crustaceans and molluscs amounted to over \$800 million and 71 million kgs. The three most valuable species were lobster, crab and scallops, amounting to \$679 million in value and 43 million kgs. Live product represented the greatest value, at \$393 million and 23 million kgs, followed by frozen and frozen meat and \$283 million and \$105 million, respectively. Only one export “by product group”, “non-metallic minerals and fuels”, was worth more than seafood in 2004, at \$1.3 billion.

The quantity of fish landings has declined since 1999, from a high of 368 million kgs to 283 million kgs in 2004. The value of fish landings has also declined, from a peak of \$826 million in 2003 to \$698 million in 2004. The market value has also declined from a peak of \$1.5 billion to just over \$1 billion, between 2003-04.

By far the biggest market for Nova Scotia is the one that has the closest proximity – United States – which accounted for \$681 million in value and 76 million kgs. The biggest markets in the US are Massachusetts (55.5%), Maine (9.9%), New York (7.5%), New Hampshire (6.3%), Rhode Island (3.6%), and Connecticut (3.1%). The “live”, “frozen” and “fresh whole” markets are the most valuable in terms of process. The “live” market accounts for almost \$300 million in sales and “fresh whole” \$73 million. In terms of US species purchases, the top five markets are for lobster, crab, scallops, cod, and haddock, accounting for over \$535 million in sales and 45 million kgs. The top three months for shipment by value and weight are August, June and July, followed by May, December and February.

The fishery continues to face massive adjustments, although the industry in southwestern Nova Scotia may have weathered the storm better than other regions. The groundfishery has been especially hard hit but shows signs of bouncing back with considerable potential to develop a “new” industry to process haddock, which is now in abundance. Most groundfish processing has been outsourced by western countries to China, which has over 5,000 plants and very low labour costs, but most products produced

there are twice-frozen. Ironically, Nova Scotia seafood obtains its highest value when the least amount of processing is done. Thus, transportation is critical.

2.1.3 Forestry

In 2001, the forest industry in Nova Scotia employed 2,655 in logging, 2,130 in sawmills, 1,856 in pulp and paper, and 805 in “other wood products”. Digby County had 530 forestry workers, Yarmouth County had 145 and Shelburne County had 175, for a total of 850 employees for the southwestern Nova Scotia area. In the province, Lunenburg County had the largest number of forestry sector employees, at 1,250. Approximately 6.3% of Digby County’s employment is forestry based.

The industry in southwestern Nova Scotia is primarily comprised of wood products as well as pulp and paper. The province exported \$290 million of wood products in 2005 and a further \$740 million of pulp and paper. In the immediate vicinity of the Digby-Saint John ferry was the Lewis Lumber mill, which closed in 2005. Bowater Mersey is located in Queen’s County, and primarily ships by charter vessels through its own wharf and containers via Halifax and Shelburne, as well as by rail via Halifax.

Other products include wood chips, logs and Christmas trees, the latter of which are seasonal and are candidates to use the ferry. The wood chip business has been significant for the ferry service in recent years. Several years ago, J.D. Irving tried to operate a tug and barge from the wharf it purchased in Weymouth to Saint John, but the barge was too deep to enter and leave the harbour.

2.1.4 Tourism

The tourism sector in southwestern Nova Scotia, as with much of rural Nova Scotia, has experienced declines in visitation and spending over the last few years. These trends have been more pronounced in southwestern Nova Scotia, heightened by the disruption of the Yarmouth-Maine ferry service in 2005. According to the Department of Tourism, Culture and Heritage, the number of tourists entering at Yarmouth dropped by 38% from over 89,000 in 2000 to just over 55,000 in 2005. In addition, room-nights sold in Yarmouth County (May through October) dropped from 58,200 in 2004 to 44,600 in 2005, a decline of 14,000 room-nights or 23%. Clearly, shifts in transportation access can have dramatic impacts on a local entry zone.

The tourism sector in Digby County has also experienced a decline in visitation and accommodation. Paralleling the decrease in passenger and private vehicle ferry traffic, the number of tourists entering at Digby has dropped by 27%, from 41,700 person-trips in 2000 to 30,500 person-trips in 2005. In addition, Department of Tourism, Culture and Heritage figures show that the number of room-nights sold in Digby County (May through October) dropped from 68,284 in 2004 to 59,392 in 2005, a decline of almost 9,000 room-nights or 13%.

	Digby Entry	Yarmouth Entry	Total
2000	41,700	89,300	131,000
2001	40,600	89,300	129,900
2002	40,500	96,000	136,500
2003	34,600	84,300	118,900
2004	33,277	76,223	109,500
2005	30,539	55,473	86,012
Decline	26.8%	37.9%	

The reduction in person-visits is probably due to a variety of factors. The loss of the *Scotia Prince* service in 2005, and the fact that outbound passengers had to overnight in Yarmouth or environs, was

undoubtedly a contributing factor. In addition, since 2005, there has been a 52% reduction in overall motorcoach tours to the province, which were also a major portion of *Scotia Prince*'s traffic base. This decline may also reflect a fundamental shift in the motorcoach market and basic demographics. Finally, it is also likely that Nova Scotia's tourism industry and the geographic dispersion of spending and visitation is being affected by the numbers of cruise vessels and cruise ship passengers, who are primarily visiting Halifax and Sydney. Last year, Halifax attracted 180,000 passengers and Sydney attracted 60,000. The economic impact of this visitation is probably felt up to an hour's drive from these centres.

Spending of visitors who enter the province via Digby was roughly estimated by Nova Scotia Tourism, Culture and Heritage at just over \$13 million in 2005. These expenditures were made in the southwestern Nova Scotia and in other parts of the province. While it is not possible to make any estimate of what proportion of this expenditure was made in Digby County or in southwestern Nova Scotia, two points can be made: (1) the relative impact on Digby county and southwestern Nova Scotia would be much higher than on the Province, since (2) many of the Digby passengers would use an alternate route to get to Nova Scotia.

2.2 Changes in transportation infrastructure

Southwestern Nova Scotia has been affected by a number of changes to its transportation infrastructure and transportation service structure in the past ten years. These changes include:

- highway twinning completed Halifax-Moncton;
- closure of Marine Atlantic "Bluenose" ferry winter service, 1996;
- privatization of Marine Atlantic Fundy services, including Yarmouth-Bar Harbor and Saint John-Digby, 1997;
- port divestiture programs introduced by Transport Canada (Yarmouth) and DFO (Digby), 1997-98;
- "small airport" transfer program (Yarmouth), 1997;
- introduction of high speed catamaran service operating between Yarmouth-Bar Harbor by Bay Ferries, 1998;
- NB Highway 2, Moncton-Fredericton twinning completed, 2001;
- cessation of commercial airline service to Yarmouth, 2003;
- NB Highway 1, Moncton-Saint John twinning completed, 2004;
- cessation of *Scotia Prince* ferry service operating Portland-Yarmouth, 2005;
- introduction of Bay Ferries service Yarmouth-Portland, 2006;
- Highway 103 Barrington bypass, to be completed, 2007; and
- Highway 101 twinning, Hortonville-Coldbrook (Kentville) and Digby-Weymouth North to be completed, date to be determined.

As a result, travel times from a range of communities in Nova Scotia to southern New Brunswick and beyond have diminished. In addition, highway improvements have tended to reduce wear and tear on vehicles and increased the level of comfort for drivers and passengers. These improvements have affected the marketability of the service, which used to offer both an overall *time* saving as well as a saving of *driving* time.

2.3 Economic development trends and transportation infrastructure

In its most recent report, the Atlantic Provinces Economic Council (APEC) documents the global rise in energy prices and the impact on costs of production and final delivery of manufactured products. The rise in the value of the Canadian dollar versus the US dollar, up some 6% versus the same period in 2005 and some 38% in the past five years, is also noted for its harmful impact on the region's manufactured goods. The latest currency increase is also linked to the rise in energy prices, since Canada is a net exporter of petroleum commodities and the Canadian dollar is viewed as a "petro" currency by international traders.

The double-barrelled effect of increasing production/distribution costs and higher currency prices has contributed to the direct loss of some 3,100 manufacturing jobs (APEC) in the Atlantic Region during the past year. With overall job growth limited or slightly increased year over year, there has been some shift in manufacturing sector employment to service industry occupations.

Actual changes that have occurred in regional transportation infrastructure during the past ten years have been documented above. It is worthy, however, to examine (albeit briefly) the role of transportation infrastructure and transportation costs on economic development in a broader context. Most academic literature views demand for transportation infrastructure as derived from the economic and social needs of the surrounding region. This derived demand status, however, somewhat masks the critical role that adequate and affordable transportation infrastructure may have upon competitiveness and the retention/recruitment of economic activity. As a means of illustrating the effect of transportation on final demand prices, the table opposite (Statistics Canada) shows transportation costs as a proportion of the value of output. For the nation as a whole, transportation costs amount to approximately 5.1% of final output costs. There will be a wide range of ratios dependent upon commodity value, weight/volume, and distance and market factors.

Transport Costs as a Proportion of Value of Output, 1991

Market Sector	Transport Costs
Domestic sales	
Primary industries	7.6%
Manufacturing	3.3%
Sub-total	4.2%
Exports	
Primary industries	20.7%
Manufacturing	3.9%
Sub-total	6.7%
Total sales	
Primary industries	11.8%
Manufacturing	3.5%
Total	5.1%

For instance, the Statistics Canada data estimates the transportation cost ratio for primary industries at 11.8% and for manufacturing industries at 3.5%.

The catchment area for the Digby-Saint John ferry service contains a number of primary industrial activities centred in the fishing and forestry sectors. It would therefore be expected that the higher transportation ratios would be experienced by these shippers (note the 20.7% ratio for exports of primary industries). In short, transportation costs are likely magnified for commercial shippers on the Saint John-Digby ferry service and for those contemplating economic development within the context of the primary industrial base in southwestern Nova Scotia.

Transportation costs are definitely a factor for passenger trips of all purposes (business, tourism, social). The rapid rise in fuel prices has certainly diminished discretionary trips and rubber tired tourism trips are not immune from this phenomenon. Post-Hurricane Katrina gasoline prices in the United States were

reported to have diminished gasoline sales by up to 6% in the fall of 2005 and 2006 gasoline prices, for a wide variety of reasons, are approaching these values again.

Passenger transportation demand curves are normally price inelastic. That is to say that a 1% real price increase will diminish demand by less than 1%. Price elasticities were measured for most ferry services in the Atlantic Region, including the Saint John-Digby service, in the early 1980's and most were found to be atypical. The *Canadian Facts Study* for Marine Atlantic and CN Marine calculated a price elasticity of demand of -2.3 for the service at that time, meaning that a 1% real increase in rates would reduce demand by 2.3%. Because there have been substantive rate increases on this service since then, this may partially explain the decline in passenger travel on this service.

The implications for all forms of passenger travel on the ferry service and the economic/social constituencies that they represent are that fuel prices have impeded highway vehicular travel overall which has reduced tourism levels. Higher fuel prices have also placed pressure on rates for a service which already is very price sensitive. Finally, border security measures are also deemed to be acting as an impediment to cross-border travel between Canada and the United States. As more stringent measures are forecast to occur in the future, there will be continuing pressure on this element of traffic.

2.4 Provincial and federal government policy

2.4.1 Provincial policy

The Way Ahead, Nova Scotia's Transportation Strategy document of 1999, was developed through extensive province-wide consultation. Under the section "Directions & Critical Elements", one of its strategic directions suggests the province will "promote and facilitate the development of transportation Gateways, Hubs and Corridors to enhance Nova Scotia's trade access and prominence." It stated "Yarmouth is a well-established marine gateway, predominantly for passengers and Digby and Sydney for both passengers and cargo." The same document anticipated the replacement of the *Princess of Acadia* by 2002 to serve the needs of some 20,000 trucks per annum which were carrying lobster, scallops, forest products and tires to markets in Canada and the US. It suggested the *Acadia* could be replaced by a combination of high speed vessel and a truck ferry or barge.

The province currently operates several small ferries which carry cars and trucks on the following routes:

- LaHave-Bridgewater;
- Country Harbour, Guysborough County;
- Little Narrows, Victoria County;
- Englishtown, Victoria County;
- Tancook Island-Chester;
- Petit Passage at Digby Neck; and
- Grand Passage at Digby Neck.

The Province of Nova Scotia has recently embarked upon a "Gateway" strategy, to:

- a) identify and evaluate potential gateway-related opportunities for Nova Scotia; and
- b) develop a strategy and action plan that will position the province to take maximum advantage of these opportunities.

The study will examine all modes: marine, air, rail, and road, and is mainly predicated on studying the potential roles of Halifax and the Strait of Canso as major international container gateways.

The Province has also published an economic development strategy called *Opportunities for Sustainable Prosperity*. Its “Strategic Focus” highlights the importance of “built capital” and the need to support infrastructure that can be “sustained, and will augment current and future economic activity.” Priorities include transportation, amongst other sectors. It also alludes to ongoing efforts to create an “Atlantic Gateway”.

2.4.2 Federal policy

There have been a number of policy initiatives that have affected shipping in Canada over the past five to six years. The National Marine Policy of 1995 stated with respect to ferry services:

Under the National Marine Policy, the Government of Canada will continue to support all constitutionally mandated services, as well as those required by remote communities. In order to maintain essential services, it will be necessary to ensure that limited resources are applied where needed most. The government will explore means to reduce the cost of other federally subsidized ferry services currently provided by private-sector operators. The ferry subsidy agreement with the Province of British Columbia will be reviewed with the intent of concluding satisfactory arrangements consistent with the National Marine Policy.

The initiative to commercialize the ferry services across the Bay of Fundy, including Digby-Saint John, was a direct result of the National Marine Policy, and the RFP was issued in the summer of 1996. This RFP stipulated that the services were to be operated free of subsidy after five years.

The *Canada Marine Act* of 1998 resulted in the creation of 19 new Canada Port Authorities. Other initiatives included:

- commercialization of major ports;
- divestiture of smaller regional ports;
- commercialization and transfer to provincial responsibility of some ferry services;
- transfer of the St. Lawrence Seaway to a private not-for-profit group; and
- introduction of user fees for marine navigation, ice-breaking and dredging.

There have been dozens of ports and harbours divested by the Department of Transport since 1996. Ports in Nova Scotia yet to be divested include Brooklyn, Liverpool, Lunenburg and Louisbourg.

Overall, the port divestiture program resulted in the reduction of subsidies to the port sector. The program has included a total budget of \$210 million to prepare ports for transfer from the Crown. This program, originally scheduled to end in 2002, has now (August 2006) been extended to March 2007.

By legislation, the Department of Transport was mandated to initiate reviews of both the *Canada Transport Act* and the *Canada Marine Act*, both of which involved extensive consultations across the country. The *Canada Transportation Act* Review, issued in January 2001, mainly concerned itself with the Canada Port Authorities (CPAs), the St. Lawrence Seaway, and marine service fees. Its principal recommendations included:

- full cost recovery be pursued as a long term goal;
- opportunities to commercialize the marine sector be sought;

- liner shipping conferences to be exempt from competition law;
- to make clear to the US its preference for the elimination of restrictions on entry to domestic shipping in the *Coasting Trade Act* and offer to negotiate bilateral elimination of equivalent restrictions; and
- the elimination of the 25% duty on imported ships.

The *Canada Marine Act* Review initiated in 2002 invited submissions from across the country. It made a series of recommendations relating to government investment in port infrastructure, CPA borrowing limits, alternative means of financing port infrastructure, taxes on ports, the purchase, disposal and exchange of federal real property, environmental liability, port divestiture process and funds available for continuance of the process, and the amalgamation of public ports.

After noting that there were more than 200 ferry routes in Canada, the *Canada Marine Act* Review listed the “dramatic” change that had taken place in the provision of ferry services in Atlantic Canada in the 1990s, including the privatization of the two Bay of Fundy services. Other changes had taken place with respect to Newfoundland coastal services and the bridge to PEI, which replaced three ferries. The Panel made one specific recommendation relating to ferry services generally:

The Panel endorses initiatives to reduce subsidies to ferry services and recommends that commercialization and divestiture of responsibility for local service decisions to other levels of government continue.

It also made a recommendation regarding ferry terminals:

Where ferry terminal facilities owned by the Government of Canada are to be divested or leased or where leases are to be renewed, such facilities should be divested or leased to local CPAs or similar bodies to ensure equal and fair access for all **bona fide** ferry operators, with the intention that no one ferry operator would enjoy an unfair monopoly.

In the meantime, following on the *Canada Transportation Act* review process, the Minister of Transport published *Straight Ahead: A Vision for Transportation in Canada*,³ which set out a strategy for the development of a sustainable transportation system for Canada. With respect to the East Coast ferry industry, *Straight Ahead* noted the levels of federal support that were provided to Northumberland Ferries Ltd., CTMA Traversier and Marine Atlantic, and that the leases on the ferry terminals at Yarmouth, Saint John and Digby expire in 2007.

The document also alluded to “the exploration by Transport Canada of possible opportunities to promote short sea shipping as a means to help alleviate highway congestion and facilitate trade, improve utilization of waterway capacity and reduce greenhouse gas emissions.”

In the summer of 2003, Canada and the United States signed a Memorandum of Understanding to cooperate and exchange information on the subject of short sea shipping. Since the early 1990s, the European Union has been actively trying to get trucks off the road and has been encouraging the development of intermodal short sea shipping through its short sea promotion centres. The motivation is driven by the desire to reduce pollution as well as traffic congestion.

³ *Straight Ahead, A Vision for Transportation in Canada*, Transport Canada, Ottawa, 2002.

In the fall of 2003, Transport Canada hosted six conferences across Canada dealing with short sea shipping. Two major marine conferences have since been sponsored by Transport Canada. At the most recent one in Vancouver, a Declaration was signed by Canada, the US, and Mexico, “to provide a general framework for the establishment of the North American Short Sea Shipping Steering Committee, and other initiatives to ultimately develop a North American short sea shipping strategy.”

Amendments to the *Canada Transportation Act* were introduced in the House of Commons in May 2006. An examination of the legislation did not reveal any specific initiatives relating to ferry service or short sea shipping.

2.5 Operating environment of ferry services

The ferry industry worldwide is in a constant state of flux and adjustment. It is and has been affected by fuel prices, crewing costs, vessel replacement, and other market conditions unique to each region.

2.5.1 Europe

In Europe, the challenges range from low cost airline competition, to the loss of duty free (which often accounted for 30% of revenues) as a result of EU expansion, the Channel Tunnel and other fixed links in Denmark and between Denmark and Sweden. The industry, led by Sea Containers and Incat, then Stena, first responded with fast ferries, which gave them better productivity and higher speed service. High fuel prices have had a big impact on these services, which have, in many instances, been cut back.

The industry’s newest response has been to develop and refine the so-called Ro-Pax concept, placing more emphasis on commercial cargo in combination with passengers. The conflicts in the Balkans produced a unique hybrid of Ro-Pax and very efficient hull forms by Attica Holdings (Superfast) to compete with highway transport between Greece and Italy. In Turkey, 15 trucking companies formed UND Ro-Ro and built a fleet of vessels to avoid driving through a war zone. Europe has also been promoting short sea shipping for over 15 years, and to seemingly good effect, although geography and highway congestion are large factors in its success.

Overall, the industry is now segmented into high speed, cruise ferry, conventional ferry, Ro-Pax, and pure Ro-Ro. It is ultra-competitive and capital-intensive. After peaking at 65 in 2000, in 2005-2006, over 50 new vessels were delivered, ranging in size up to 48,300 grt and 4,200 lanemetres (280 trailers) capacity. In addition, another 38 vessels were sold in 2006 and a further 27 were chartered. About 22 services ceased operations in 2006, but 28 new ones started.

The emergence of the former Russian Baltic states has in some ways been the salvation of the Baltic industry, as new destinations are developed. Indeed, the largest company in the Baltic is now Tallink Line, an Estonian company, which recently purchased the cruise ferry operator Silja Line from Sea Containers for over USD \$400 million. Operators have also taken advantage of an expanding EU and been able to employ lower cost seafarers from lower cost countries within the EU.

2.5.2 North America

The largest ferry services in the world in terms of numbers of vessels (but not employees) are located in North America. They are Washington State Ferries and BC Ferries. BC Ferries is the largest operator in

Canada, while Marine Atlantic, despite its vastly reduced size since 1997, is still the second largest in terms of employees.

In North America, the industry is not as dynamic commercially as in Europe, because it fulfils a different role connecting remote or geographically dispersed regions or locations. In the case of Newfoundland and Labrador, ferry service also fulfils a constitutional mandate. Due to a variety of factors, the industry features a wide assortment of vessel types of varying age and technology, from 50 year old vessels that cross Long Island Sound to a high speed catamaran that crosses the Bay of Fundy from Yarmouth. A new high speed service is under development in Hawaii and a similar service recently ceased operations between Toronto and Rochester, NY. Another high speed vessel has been successfully introduced across Lake Michigan. There are also ongoing efforts to establish short sea Ro-Ro services across both Lakes Ontario and Erie, to relieve highway and border congestion.

The industry in North America faces some of the same issues as does the industry in the rest of the world, such as rising fuel costs, safety, security and vessel replacement. The latter issue is complicated by cabotage restrictions in both Canada and the United States. In Canada, foreign-built and foreign-flag vessels, other than those built in the US, Chile and Israel, are required by Investment Canada regulations to pay 25% duty and must be modified to meet Transport Canada and Canadian Coast Guard regulations. The *Coasting Trade Act* allows charter vessels to apply for a waiver and for charterers to pay 1/120 of the value of the vessel on a monthly basis.

In the US, vessels operating in US coastal waters must be US-built, owned, flagged and crewed. Other than fast ferries, very few ferries have been built in the US for over 40 years, which is why most of their conventional vessels tend to be of this vintage. Likewise, in Canada, the last major order for a conventional ferry was the *Joseph and Clara Smallwood*, built for Marine Atlantic at Davie Shipbuilding in 1989. BC Ferries spent over \$450 million on the ill-fated Pacificats in Vancouver but these have never seen service and the company recently ordered three conventional vessels from Germany at a cost of €68.8 million each, even though they will have to pay duty on them. These cabotage restrictions do not apply to ferries operating between Canada and the US, such as *The Cat*, or proposed new services across the Great Lakes. They do impact on the *Princess of Acadia* replacement issue.

2.5.3 SOLAS

One of the big issues facing the industry worldwide is safety and Safety of Life at Sea (SOLAS) regulations, which are requiring older vessels to be upgraded or causing many of them to be scrapped.

Canadian ships do not have to comply with SOLAS; however, after a long period of negotiation with domestic ferry operators, Canada has chosen to apply SOLAS 90 damage stability requirements starting in 2012. The *Princess of Acadia* will likely need to be replaced by 2012 because it cannot meet these new regulations without substantial and costly modifications. As the vessel has no value in overseas markets, other than as scrap, such modifications would have to be considered as an operating cost rather than a capital investment.

We asked Transport Canada whether there was any possibility of the *Acadia* being “grandfathered” and were informed that the possibility would be “remote”. Newer vessels such as the 1982-built *Madeleine*, which operates from Souris, PEI to the Magdalen Islands, have been modified to meet SOLAS. Before a definite conclusion is made, a full financial feasibility analysis would need to be undertaken.

2.5.4 Government contributions

Most European ferry companies are publicly-traded or private companies. Operating support tends to only be provided to services in remote areas or islands, such as: Gotland, Sweden; Aland, Sweden; Bornholm, Denmark; Jersey and Guernsey; Corsica; and Sardinia. It is also provided to companies that serve the Orkney Islands and the Hebrides off the coast of Scotland. In other regions, state support applies to Tasmania, Australia and the service between the North and South Islands in New Zealand. This list is by no means exhaustive.

We have not conducted an exhaustive search regarding the issue of subsidization or operating support in North America, but can provide the following brief summary of federal support for ferry services in Canada:

Province	Service(s)	Federal Support	Constitutional / Remote	Annual Subsidy
NL	NS-Port aux Basques NS-Argentia	Crown Corp.	Yes No	\$70.2 M (2005/06)
PEI	PEI-NS	Subsidy, 2 vessels, 2 terminals	No	\$5.4 M (2005/06)
NS	Saint John-Digby Yarmouth-Bar Harbor Yarmouth-Portland	Vessel & terminals 2 Terminals (Yarmouth & Bar Harbor)	No	n/a n/a
QC	Souris-Magdalen	Subsidy, vessel & terminals	Yes	\$2.8 M (2003/04)
BC	Various		Some remote	\$24.9 M (2005/06)

Other provinces contribute to ferry service operations, and we have obtained the following information (as of August 23, 2006) from the Canadian Ferry Operators Association and other sources, as follows:

Province	Service(s)	Gov't support	Annual Subsidy
NL	15 coastal, 1 interprovincial	Yes	n/a
NS	7 coastal & river ferries	Yes	n/a
NB	Grand Manan, Deer Island, & 10 river ferries	Yes	n/a
QC	STQ, (8 routes), 11 others	Yes	\$38.9 M provincial; \$3.2 M federal (2005)
ON	7 services, including Tobermory-South Baymouth and Pelee Island	Yes	n/a
Man	6 routes	Gov't department	n/a
Sask	13 routes	Dept. of Highways	n/a
Alta	8 services	?	n/a
BC	58 services	BC Ferries + Ministry of Highways Transport + various private sector operations	15 Ministry of Transport services receive \$15 M; BC Ferries receive \$130 M
NWT	5 services	Dept. of Transportation	n/a
Yukon	1 service	Private sector	n/a

We understand that Bay Ferries is one of the few examples of a private ferry service in Canada that has not received any operating subsidy since 2000. Other private and unsubsidized operators in Canada that we are aware of include: Clipper Navigation (passengers only – Victoria-Seattle); Victoria-San Juan Cruises (Victoria-Bellingham); Black Ball Transport (Victoria-Port Angeles); and Detroit-Windsor Truck Ferry; and Walpole Algonac Ferry Line (Walpole, ON-Algonac, MI).

3. The Digby-Saint John Ferry Service

3.1 History of the service

“Ferry” service across the Bay of Fundy has a long history. The first steamer on the Saint John-Annapolis Basin route was the *St. John*, built in 1826 at Deer Island, NB. In 1830, the Nova Scotia House of Assembly offered a grant of £500 to anyone who would provide a year-round mail service using a steamer of not less than 50 bhp. At the time, Saint John was effectively the metropolis for southwestern Nova Scotia, as it was easier to access and a larger centre than Halifax.

By 1889, the Bay of Fundy Steamship Company purchased the paddlewheel steamship *City of Monticello* for regular service on the route, where it served until 1896. In 1895, the newly formed Dominion Atlantic Railway (DAR) obtained the paddlewheeler *Prince Rupert* from Canadian Pacific, and placed it in direct competition with the *City of Monticello*.

In 1916, Canadian Pacific, which had purchased the DAR in 1913, brought the *Empress* into service. It was replaced by the *Princess Helene*, which sailed on the route from 1930-1963. The first *Princess of Acadia* replaced the *Princess Helene* in 1963. It increased the total passenger and car capacity, but freight still had to be handled “break bulk”, as it could not carry highway trucks or recreational vehicles.

Prior to 1971, the Saint John-Digby ferry service provided a huge source of employment to the Town of Digby. It formed an integral part of CP’s Dominion Atlantic Railway system, connecting the Annapolis Valley to CP’s line between Saint John, Montreal and points west. Upwards of 100 stevedores worked the docks of Digby when the vessel was in port, transferring passengers and freight between the railway and ferry. Vessels docked downtown at a wharf adjacent to the present fishing wharf.

The current *Princess of Acadia* was built at Saint John Shipbuilding in 1971. New wharves and terminals were built by the federal government in both Saint John and Digby, and the Nova Scotia government built a new road to connect with the terminal on the outskirts of Digby. This vessel is able to carry 650 passengers and 160 cars. It was the first ship in Canada equipped with a Roloc system for handling “drop trailers”, which were loaded by the ferry crew and picked up at the other side. The Saint John-Digby service was transferred from CP to CN Marine in 1976, and was operated under the Marine Atlantic banner from 1986-97. In the last year under Marine Atlantic management, the two Bay of Fundy services, Digby-Saint John and Yarmouth-Bar Harbor, together required a subsidy of approximately \$15 million.

In 1997 Bay Ferries Ltd. assumed the operation of the ferry service in response to a privatization/RFP process by the Government of Canada to take over the existing ferry services of the Bay of Fundy (which included service between Yarmouth and Bar Harbor). An operating subsidy was paid for the first three years and a capital subsidy for five years. The ferry terminals and vessels are leased to Bay Ferries at a nominal amount and Bay Ferries is responsible for the management and safe operation of the site, the general maintenance of terminal assets, maintenance of the vessel, and the insurance of the property. In 1998, Bay Ferries replaced the aging Bluenose ferry with a high speed Incat ferry which it financed itself. That vessel was replaced by a larger version, and now runs between Yarmouth and both Bar Harbor and Portland, Maine.

3.2 Profile of the service

Bay Ferries' year-round passenger and freight ferry service (Digby-Saint John) on the *Princess of Acadia* operates with a minimum of five crossings per week in low season (winter) and up to 19 crossings per week in high season (summer). In 2005, the service carried 140,000 passengers, and brought approximately 30,500 tourists to Nova Scotia.

Major commercial traffic users are in the fishery, forestry, and general freight areas. In 2005, approximately 8,800 tractor trailers used the service, with about 60% of this traffic related to the fishery, 25% general freight, and 15% forestry. In addition, about 6,800 drop trailers used the service, with forestry products accounting for almost 80%, general freight 14%, and the fishery 7%.

While passenger (particularly tourist) traffic is highly seasonal, commercial traffic is less so:

- fisheries is essentially a year-round user with a peak in late November through end of December (lobster season) and a six to eight week lull in January-February;
- traffic from forest product users, predominately transporting wood chips, is also relatively steady throughout the year; and
- general freight is fairly consistent with some seasonality due to extra movement of Christmas trees (December) and fresh blueberries (August).

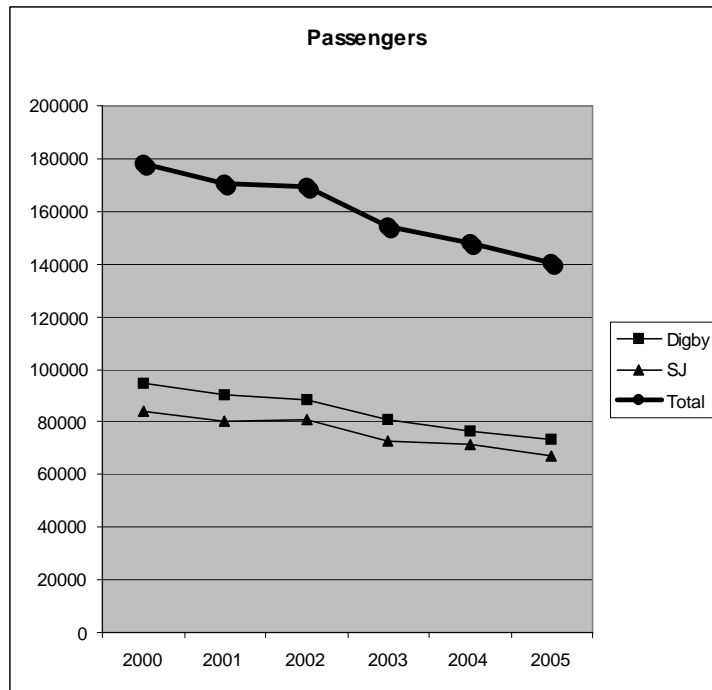
The service operates with approximately 110 staff – a vessel crew of about 70 and approximately 40 in the terminals. In addition, there are about 20 concession staff and 15 security staff.

3.3 Role of the service

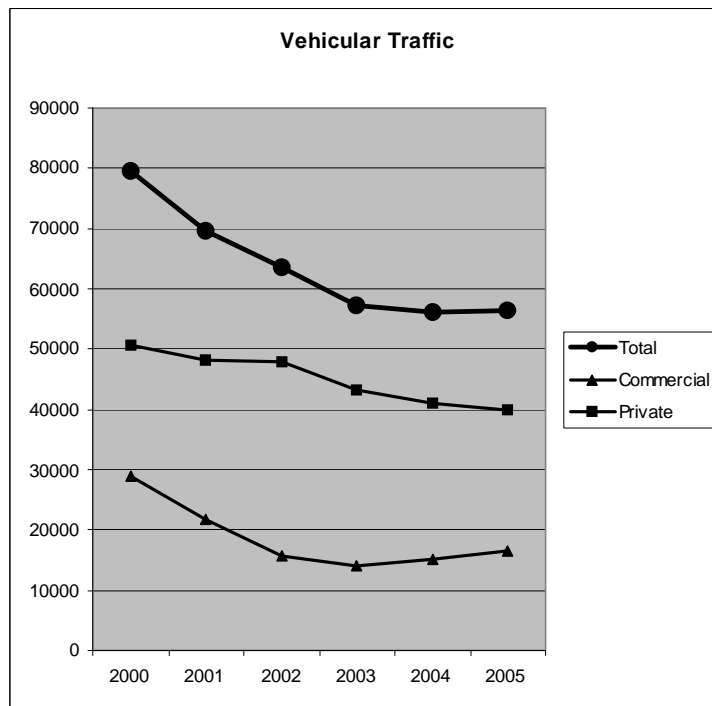
Historically, the Digby-Saint John ferry served a catchment area which encompassed the whole southwestern part of the Province, from Windsor in the Annapolis Valley, and from Lunenburg on the South Shore. Exports carried by truckers typically have included fish, seafood, meat products, lumber, newsprint, wood chips, tires, and furniture. Imports have included groceries, waste paper, manufactured goods, and retail items. Even though new highways throughout all three Maritime Provinces have made the road alternative increasingly competitive, the new operator had successfully withstood the competition until recently. With new highway developments, the catchment area for the service has shrunk, however.

3.4 Recent trends in the service (2000-2005)

The number of passengers using the service has been steadily declining, decreasing by 21% from 180,000 passengers in 2000 to 140,000 passengers in 2005. The number of visitors (i.e. tourists) entering at Digby has dropped by 27%, from 41,700 person-trips in 2000 to 30,500 person-trips in 2005.



Over the same period, total vehicular traffic has declined steadily by 29% (from almost 80,000 to just approximately 56,500), private vehicular traffic has declined steadily by 21% (from almost 51,000 to just under 40,000), while commercial vehicular traffic declined by almost 43% (from almost 29,000 to about 16,500) – a rapid decline in the first three years and then small growth in the last three years. The pattern for commercial traffic reflects several banner years from 1998-2001, primarily for the transport of wood products.



4. Business Circumstances

As a result of persistent declines in revenues and rapid cost increases, Bay Ferries is incurring operating losses on the service. The service was not profitable in 2005/06 and continued losses are expected. It appears that the service is profitable during the tourist season, and reverts to a loss position for the remainder of the year.

The business situation at this time can be characterized as:

- a revenue-cost squeeze;
- limited flexibility for price and cost adjustment;
- a changing marketplace;
- a tired product;
- heightened risk of equipment breakdown; and
- a need for vessel replacement.

At this point, there is no reason to expect this situation to change.

4.1 A revenue-cost squeeze

What has changed in the situation over the past few years is the creation of a revenue-price squeeze, in which revenues are declining as tourism traffic decreases, and costs are increasing due to a number of external factors (particularly the costs of fuel and insurance).

The revenue decline – particularly as the result of declines in passenger traffic – can be attributed to a number of factors: improvement in the highway systems in New Brunswick and Nova Scotia, general decline of tourism traffic in eastern Canada, the lack of attraction of the “product”, and a lack of advertising of the product, especially in New Brunswick, which actually prefers that tourists “drive around” and use NB highways instead. Commercial traffic, which is the mainstay of the business between October and April, after banner years of 2000 and 2001 (due to high wood product volumes), has stabilized and even grown a little, but not nearly enough to balance the loss of revenue due to passenger traffic decline.

Total expenditures of running the service (exclusive of drydocking) have increased by 34% over the past three years with a large part of the increase due to the rapid rise in fuel costs (88% in total, or an annual compound rate of just under 24%). In fact, fuel costs have risen from just under 25% of all costs to almost 36%.

4.2 Limited flexibility for price and cost adjustment

Based on the consulting team’s base of industry knowledge, we are confident that the service is being run extremely “close to the bone”. Nevertheless, there are a number of potential “tweaks” to the schedule and overall operation which the company could explore. These could include the following:

- reduce sailings in the off-peak season resulting in a fuel savings of an estimated \$2,500 per crossing based on current fuel costs;
- increase rates at peak periods and on more than one peak sailing, e.g. the 1:00 pm (13:00) sailing from Digby;
- reduce rates on less popular sailings, e.g. the 5:00 am (05:00) sailing from Digby; and
- provide summer-only service.

Obviously, these options are less than ideal. Reducing sailings would also potentially reduce revenues. Research in the 1980s suggested that the service is very price sensitive, but more recent research (1992) indicates it attracts people who want to save overall travel time and save time behind the wheel. The former is less advantageous in 2006 than it was five years ago because of improvements to regional highways, but the latter notion may still be valid. We have not been privy to any research done since 1995.

Providing summer-only service may enable the company to operate profitably, but it still creates a problem for commercial traffic, most notably the fishery and Christmas tree markets. It constitutes a break in the supply chain, which may see the summer commercial customers switch their operation to that which is instituted in winter. Thus, their patronage may be permanently lost.

4.3 A changing marketplace

It is our belief that the marketplace for this service has fundamentally changed since privatization ten years ago. These changes have been mentioned in several sections above. However, they bear repeating:

- improvements to NS Highways 101, 104, 103, and NB Highways 1 and 2;
- changing demographics (boomers approaching retirement);
- lots of competition for tourism dollar worldwide (new destinations);
- vast reduction in motorcoach visitation;
- 10% compound annual growth in US-based cruise industry since 1980;
- large, expensive, new cruise vessels home-ported in New York and Boston cruising in Nova Scotia and New Brunswick waters;
- security concerns post-9/11;
- aging tourism facilities and infrastructure;
- more sophisticated consumers;
- dollar exchange rate;
- fuel prices affect Free Independent Travel (FIT) market;
- emergence of low cost air carriers make fly-in visits more attractive;
- direct air service from Boston, NYC, Washington, and other US origins (about to get US pre-clearance); and
- fast paced lifestyles looking for shorter, more frequent getaways – difficult to sell Nova Scotia in this market.

4.4 A tired product

The *Princess of Acadia* was built in 1971. While it is an elegant-looking vessel that has been well-maintained, it is now 35 years old and showing its age. When it was constructed, Canadian ferries were

being built with very basic passenger amenities, designed to get people from “point A” to “point B” as expeditiously as possible.

Europeans learned that a pleasant and cruise-like environment encourages people to spend more. Thus, the cruise ferry was born in the early 1970s. Europeans have long since realized that the product has to be continually upgraded and replaced to attract consumers.

At 35 years of age and looking and feeling “tired”, the service is increasingly unable to compete with other tourism products, especially the cruise industry.

While certain sections of the *Acadia*'s interior were refurbished in the mid-1990s in an attempt to provide a more appealing product in a much more competitive environment, these changes did not encompass the whole vessel. They were an improvement, but for passengers who have cruised or travelled on more modern vessels, the ship is very basic and inadequate.

4.5 Heightened risk of equipment breakdown

Aside from aesthetics, the *Acadia* is simply getting old and both difficult and costly to maintain. There is a heightened risk of equipment breakdown and the need for major repairs.

This situation poses risks to the operator because breakdowns can disrupt services and much of the value of the service is its on-time performance.

In addition, when there are breakdowns, parts are harder to find, they are more expensive, and regular maintenance is more costly and frequent.

4.6 Need for vessel replacement

The *Princess of Acadia* is near the end of its useful life, from a number of perspectives:

- it does not offer an attractive product;
- it is difficult and costly to maintain;
- it is at risk of breakdowns; and
- it will not be compliant with safety regulations.

The *Princess of Acadia* needs to be replaced by 2012 because, under current circumstances, it cannot meet new SOLAS regulations relating to damage stability that come into force at that time (see Section 2.5.3 above).

Interestingly, experience on other Canadian ferry services has “proven” that a new vessel will have a “halo” effect and traffic will often surge afterwards. This phenomenon has proven to be the case when the *Bluenose* was introduced in 1983 and passenger traffic increased from 82,000 to 127,000. With the introduction of the *Caribou* on the Newfoundland service in 1986, traffic increased from 278,000 in 1985 to 356,000 by 1988. The service from Souris, PEI to the Magdalen Islands has had a similar surge in traffic since its new vessel was introduced in 2000. Indeed, Bay Ferries experienced a similar phenomenon with the introduction of the *Cat* in 1998, when traffic spiked from an estimated 125,000 to over 175,000. The “halo” effect may not be long-lasting or permanent, however, as other factors impacting demand for ferry service, such as dollar exchange values and overall economic conditions, also come into play. The *Canadian Tourism Intelligence Bulletin* of July 2006 said “Robust Economy Keeps

Summer Travel Demand on Track”, yet the *Globe and Mail* reported on August 16, 2006 that “American visits to Canada have sunk to a record low...the lowest level since record keeping started in 1972.” Clearly, the Canadian tourism industry is being impacted by the dollar, fuel prices, security issues, weather, and competition from other markets.

5. Impacts of Ferry Service Cessation

5.1 Introduction

The purpose of this section is to assess, from an economic impact/benefit-cost analysis perspective, the impacts of the Saint John-Digby ferry service cessation. It will examine economic impacts or gross and net economic impacts for major traffic streams, and provide commentary on distributional effects where these are deemed to be appropriate.

5.2 The framework

There are two categories of impacts:

- 1) direct impacts resulting from the provision of the service itself, i.e. employment of ferry service personnel and purchases of goods and services; and
- 2) user impacts occurring to users of the ferry service who will be forced to seek alternative means of transportation or methods to receive/ship goods/services.

The report forecasts net economic impacts, which are calculated as gross impacts (such as the additional costs to commercial users for trucking their freight from Digby to Saint John, and vice versa) minus costs not incurred (the ferry charges saved). Net economic impacts are determined using benefit-cost methodology. Benefit-cost analysis is a technique used to evaluate the economic consequences of a particular project or policy initiative. The base case scenario is compared to a projected course of action. Incremental economic changes are calculated for a project period and returned to present values using social discount rates.

In the case at hand, the base case is the continued operation of the Saint John-Digby ferry service while the projected course of action is service cessation.

Multiplicative impacts also reverberate throughout the economy and these can be ascertained through input-output formulations. Because of their downstream nature, they are usually acknowledged but not actually incorporated into benefit-cost decision constructs such as benefit-cost ratios or net present values.

Both the labour and other expenditure calculations herein are for the first year of ferry service cessation. A forecast of the long term economic impact would be accomplished utilizing a social discount factor (5%-10%) for quantification in present value terms.

5.3 Bay Ferry operations

Current employment levels for the Saint John-Digby ferry service have been provided by the Company. A tabular presentation of employee numbers and FTEs (full-time equivalents) is noted in the following table:

Saint John-Digby Ferry Service Employment, 2006

Location	NB Residence		NS Residence		Other		Total	
	#	FTE	#	FTE	#	FTE	#	FTE
Vessel	67	42	2	2	2		71	44
Saint John	19	11					19	11
Digby			18	9			18	9
Student	2						2	
Total	88	53	20	11	2		110	64

Immediately evident is the large concentration of employees with New Brunswick residency. New Brunswick has 88 of the 110 employees total (or 80%) and 53 of the 64 full-time equivalent total (83%). Terminal staff employees are almost equally split between Saint John and Digby but vessel employment is almost all composed of New Brunswick residents.

In addition to vessel and terminal staff, the service also provides employment for contracted catering individuals and security personnel. There are a total of 17 FTEs in these occupations (ten catering, seven security). Security staff members are equally split between Saint John and Digby, while catering staff are largely resident in New Brunswick (80% NB).

The total wage impact from ferry service employment is estimated to total \$4.8 million based on information provided by the Company and estimation of security/catering wages and benefits. The provincial split on this total income is estimated at \$3.86 million for New Brunswick and \$0.94 million for Nova Scotia, based on the residency percentages noted above.

In order to determine the true economic loss from the employment and wage levels noted above, one must determine the opportunity cost of labour. The Harberger formula prepared for the Canadian Labour Force Task Force in the early 1980s estimated that depressed economic conditions may produce an opportunity cost as low as 60% with higher levels for more vibrant economic conditions.⁴ Based on employment data for both the Saint John and Digby economic areas, the consulting team has chosen an opportunity cost of 70% for Saint John and 65% for Digby. Using the respective opportunity costs, the actual net economic impact of the wage loss noted above will be \$1.2 million (\$3.86 million x 0.3) for New Brunswick and \$0.3 million (\$0.94 million x 0.35) for Nova Scotia.

Bay Ferries also purchases other goods and services for the operation of the service and these expenditures have been estimated at \$8-8.5 million. It is much more difficult to derive direct impact from this activity in that there is substantive regional and even domestic leakage for such items as fuel, engine parts and other specialized equipment and services. With fuel representing about 40% of the purchases, and notwithstanding the likelihood that it is refined regionally, an order of magnitude domestic impact for the other operating expenditures is estimated at 50% of the total. Using a logic structure comparable to that utilized above for the net economic impact of lost wages, the net economic impact of other expenditures equates to a total of \$0.77 million (\$5.1 million net of fuel x 0.5 leakage factor x 0.3 net of opportunity cost). It is important to note that this will likely be centred in New Brunswick and Nova Scotia but also will be experienced in other parts of Canada.

⁴ See Harberger's opportunity cost methodology in Appendix 2.

5.4 User impacts

Traffic levels have been provided by the Company and supplementary visitor information by the Nova Scotia Department of Tourism, Culture and Heritage.

The following table summarizes historical traffic information for passengers, passenger related vehicles (PRVs), and commercial related vehicles (CRVs) for the period from 1997 to 2005.

Acadia Ferry Service Traffic, 1997-2005

Year	Passengers	PRVs	CRVs
1997	166,871	48,600	17,722
1998	190,246	53,101	25,089
1999	189,419	54,337	26,825
2000	178,213	50,717	28,945
2001	170,796	48,069	21,690
2002	169,365	47,959	15,709
2003	153,948	43,140	14,143
2004	147,886	41,086	15,088
2005	140,209	39,980	16,555

Immediately evident from the historical traffic figure statistics is the large spike in 1998 traffic levels from the previous year. This year was the first year of Bay Ferries operation and reflected the Company's success in attracting new customers to the service. Passenger levels actually peaked in 1998, while the PRV peak occurred in 1999 and the CRV peak in 2000. Passenger traffic has declined in every single year since then. Commercial traffic interestingly enough rebounded in both 2004 and 2005 but is still only 57%

of the peak value. Year-to-date results in 2006 (end of June) show passenger traffic and commercial vehicle traffic actually rising by 3.7% and 27.4% respectively. Passenger vehicle traffic has continued its downward trend showing a year-to-date decline of 4.4%.

Hidden by the above presentation of traffic numbers is the tendency for all traffic categories to be larger exiting Digby. Digby exiting traffic accounts for 51.6% of commercial vehicles, 52.6% of passenger vehicles, and 53.4% of passengers.

The following table provides greater clarity on commercial vehicle movements for 2005.

Acadia Ferry Service Commercial Traffic Units, 2005

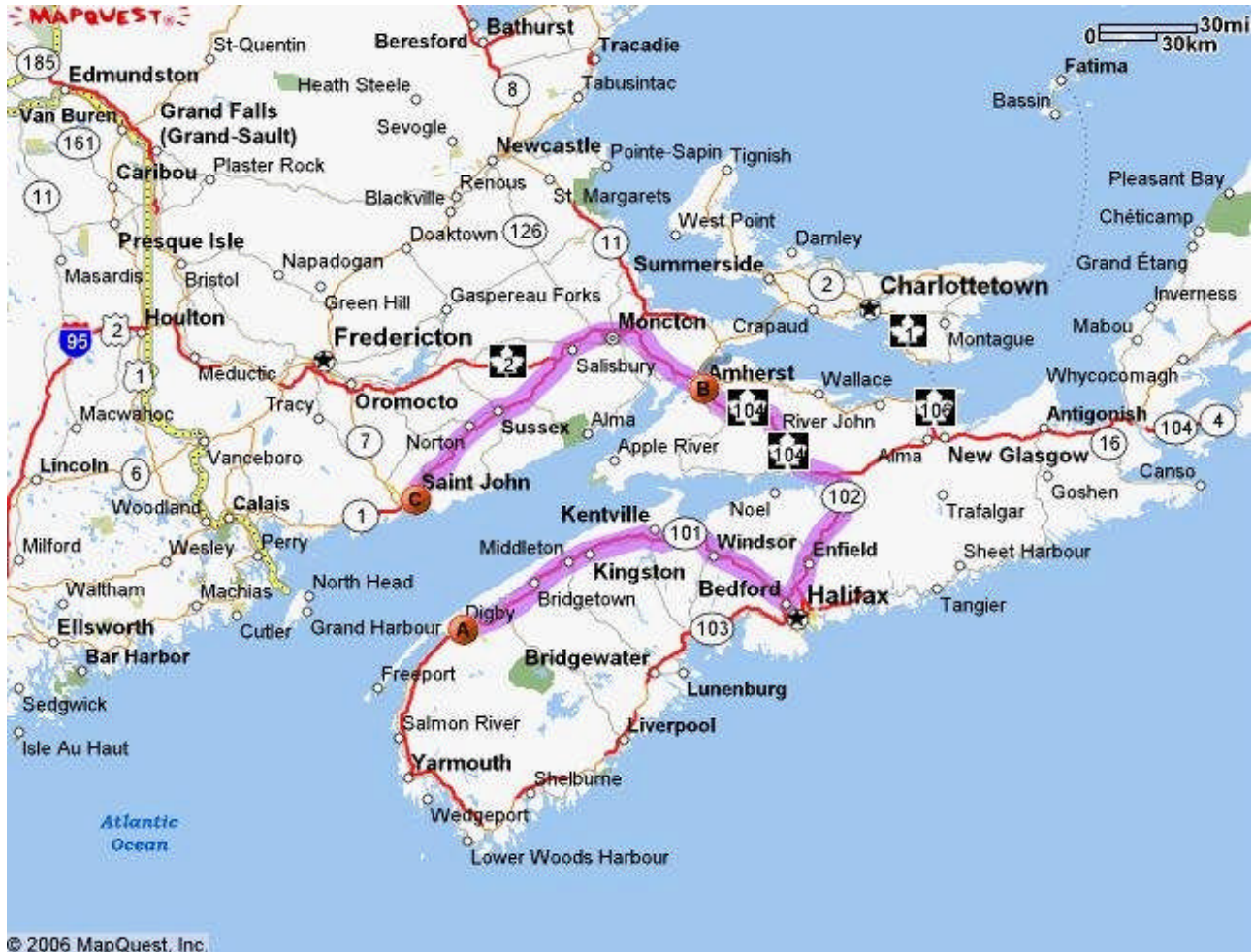
	Fishery	Forestry	General	Total
Tractor Trailers	5,673	1,322	1,779	8,774
Drop Trailers	472	5,470	880	6,822
Straight Trucks				959
Total	6,145	6,792	2,659	16,555

Tractor trailer units are driver accompanied while drop trailers are units without tractors and drivers that are loaded on the vessel with yard tractors. Straight trucks are driver accompanied three-axle truck units that are typically

in the 30-40 foot range, versus 60-70 feet for tractor trailer combinations. Bay Ferries have classified truck cargoes based on visual inspection. It is interesting to note that the fishery and forestry commercial units are of comparable magnitude. Also noteworthy is the marked tendency for driver accompaniment of fishery trucks versus forestry products. This is reflective of the much greater time sensitivity of fishery products being shipped.

To calculate the economic impact of ferry cessation on the above traffic elements, highway routing alternatives have been calculated using Saint John and Digby as common nodes. An illustration of the highway routing is contained below. Total distance for the required highway travel is approximately 610

kilometres. We believe that this figure for incremental travel is a good proxy for the bulk of commercial traffic emanating from the Yarmouth area and other origin/destination combinations between Yarmouth and Digby. Slightly lower values would be more appropriate for other locations.



Utilizing Transport Canada estimates of trucking costs by vehicle types (\$1.77/km for tractor trailers and \$1.35/km for straight trucks), the 2005 commercial vehicle profile and the incremental distance involved, a total estimated operating cost of \$17.6 million is incurred in the event of ferry service cessation. Using appropriate rates for one way movements, jockeying charges and drivers (exclusive of fuel surcharges) the cost of ferry service utilization for the same traffic elements is \$5.1 million. Total additional shipping costs are therefore \$12.5 million per annum. One very important element (especially for the time sensitive fishery cargoes) not accounted for in the above numbers is the approximate extra two to three hours in shipping time that would be incurred from extra highway travel. Freshness of product is a key value parameter in the Boston fish market and even two to three hours of extra delivery time is reported to be a factor in market price. As well, for the shipment of live lobsters, extra time and extra vibration on the highway is reported to be a factor in lobster mortality.

Using the splits for fishery, forestry, and general freight sectors, and netting out straight truck impacts, incremental commercial vehicle costs for each are as follows:

- fishery sector – \$4.7 million;
- forestry sector – \$5.2 million; and
- general freight – \$2.6 million (classifying straight trucks as general freight).

The issue of determining impacts for passengers and passenger related vehicles is a bit more complex in the absence of detailed information on trip purpose and origin/destination. It is known, however, that the crossing serves as a significant entry point for Nova Scotia visitors. The Nova Scotia Department of Tourism, Culture and Heritage reports that 31,500 visitors to the province entered at Digby in 2005. While this is down 8.7% from the 2004 value, expenditures from these visitors are still estimated at approximately \$13.3 million.

In order to determine the net economic impact from ferry service cessation, the portion of visitors that would not visit Nova Scotia as a consequence must be ascertained. In the absence of a statistically valid answer to this question, it is the consulting team's opinion that most of the visitors using the *Acadia* ferry service would enter Nova Scotia anyway if the ferry service were no longer there. When visitors using the Wood Islands-Caribou ferry service were asked a similar question in 1998 (after the opening of the Confederation Bridge) about whether they would visit Prince Edward Island if the ferry service were not available, 80% replied in the affirmative. For the current exercise, it has been conservatively assumed that 10% of the tourism expenditures would not occur regionally if the ferry service were terminated. This converts into an annual amount of approximately \$1.4 million.

It is extremely important, however, to recognize that even though net tourism expenditures are not large, there will be a large impact in southwestern Nova Scotia and in particular on the tourism and accommodations sector in Digby and environs. The accommodations sector, restaurants, and tourism and service facilities throughout this picturesque area of Nova Scotia will be affected.

The Saint John area would also experience substantive negative consequences in tourism and related enterprises. The City of Saint John – with over 1500 hotel rooms, a number of nationally recognized tourism venues (i.e., City Market, the New Brunswick Museum and the Reversing Falls) and a highly developed retail, entertainment and cultural sector – currently benefits from visitor expenditures from those waiting to take the ferry service or those arriving on it. This effect is most acutely experienced during the peak tourism season from June to September and the consulting team has been made aware of individual business impacts that would occur from the loss of such things as tour bus traffic. In addition, the City is a year round destination for people in Digby and the Annapolis Valley who attend theatre productions, hockey games and other events at Harbour Station, and who shop in the diverse and large scale retail facilities available.

Because of potential redistributive effects, it is difficult to precisely determine a net regional impact from a loss of the ferry service traffic but it must be recognized as having a substantive negative impact on Saint John and Digby and surrounding areas.

The remainder of the passenger and PRV traffic elements will likely experience incremental travel time and vehicle operating costs without the ferry service. Again, without knowing precise origins/destinations and trip purposes, some assumptions are required to estimate order of magnitude impacts. Assumptions are as follows:

- average vehicle operating cost is \$0.45/km (Canadian Automobile Association);
- average value of travel time is \$10.00 (based on indexation of a 1990 figure contained in the Transport Canada benefit-cost analysis guideline and does not include any allowance for business purpose travel);
- average number of passengers impacted is approximately 99,000 (140,200 less 31,500 tourists less 9,700 truck drivers);
- the average travel time increase is 1.5 hours;
- the average number of passenger vehicles affected is 20,000; and
- the incremental travel distance involved is 300 kilometres.

Based on these assumptions, which we believe are conservative, the passenger and PRV impact is about \$4.2 million per annum (\$2.7 million in vehicle operating costs, \$1.5 million in travel time).

5.5 Tourism information centre employment

The Nova Scotia Department of Tourism, Culture and Heritage operates a Visitor Information Centre at Digby employing nine seasonal staff with an estimated wage and benefit expense of \$105,000 per annum. With no ferry service, there would be no obvious reason to continue the Centre’s operations. The net impact of this job loss, considering the previously discussed opportunity cost, is approximately \$35,000 per year.

5.6 Summary of ferry service cessation economic impacts

The annual impact of ferry service cessation is estimated at a gross value of just over \$48 million and a net value of just over \$20 million per year (see summary table opposite).

We believe that these are conservative estimates of direct impacts. They do not include potential multiplier effects that would occur in other sectors.

Summary of Annual Economic Impacts From Ferry Service Cessation (\$ million)

	Net Impacts
Ferry service employment	\$ 1.5
Other service expenditures	0.8
User impacts – Commercial	12.5
User impacts – Tourism	1.4
User impacts – Passengers/PRV	4.2
Tourism Information Centre	0.03
Highway impacts	N/A
Total	\$ 20.4

5.7 Taxation impacts

The consulting team prepared an order of magnitude taxation impact by jurisdiction. The methodology involved converting current expenditures into wages, fuel and other expenditures and then applying personal income tax, corporate tax, fuel tax and HST, where appropriate. A similar calculation was then completed for a post-ferry service situation. Incremental changes for Nova Scotia, New Brunswick, and the federal government were then calculated. Using gross expenditures and a wage/expenditure multiplier of 1.85⁵, the following impacts were estimated:

⁵ The multiplier is an average for transportation related expenditures, as provided by Statistics Canada.

- New Brunswick – \$1.3 million;
- Nova Scotia – \$0.4 million; and
- Federal Government – \$4.4 million.

5.8 Other impacts and externalities

Using incremental travel distances assumed for individual traffic elements, it can be shown that an additional 22.1 million vehicle-kilometres of travel will occur on arterial, local and collector highways in Nova Scotia and New Brunswick as a consequence of ferry service cessation.

Average accident rates are expressed in units per hundred million vehicle-kilometres (100 mvk). For Nova Scotia 100 series highways, approximately 19 accidents occur annually per 100 mvk. Twelve property-damage-only accidents occur per 100 mvk and are estimated to cost \$6,000 each (from previous studies). Seven injury accidents per 100 mvk occur and are estimated to cost \$58,000 (from previous studies). Using the additional highway travel noted above, it could be expected that an additional 2.5 property-damage-only accidents would occur annually with a value of \$15,000 and an additional 1.5 injury accidents annually with a value of \$87,000. The total annual highway accident cost increase is therefore \$102,000. Given the additional travel involved, it is unlikely that additional fatal collisions would occur.

Accidents also happen from ferry service operation and also have a notable bias to property-damage-only events. No accident history is available at this time to calculate an incremental impact.

Extra highway traffic will affect highway capacity (potentially causing build-sooner costs), extra wear and tear on roadway surfaces (additional maintenance and rehabilitation costs), and additional greenhouse gas emissions. Given the relatively low volume of traffic levels involved (an extra 154 vehicles per day on regional roads), these impacts on highway capacity and operations maintenance have not been quantified but should certainly be noted as impacts.

Based on a variety of Green House Gas (GHG) emission sources, it is estimated that the incremental highway travel for commercial vehicles will be the source of an additional 11,900 tonnes of CO₂ per annum. Lesser amounts of CO, HC, NOX, SO₂, and particulates will be produced.

It should be noted that ferry service operation has externalities such as grey water emissions, potential collisions with Bay of Fundy marine mammals, and potential fishery vessel and fishery equipment collisions. It is extremely difficult to determine a net impact of these external effects.

6. Options

This section contains a number of options for the Committee to consider in dealing with the current situation. The development of these options is based on the findings of the analysis as well as on the consulting team's appreciation of realistic and potentially implementable possibilities.

6.1 Findings

The principal findings of this study can be divided into seven themes and several sub-themes:

1. *The service is part of the transportation, economic, social, and psychological fabric of southwestern Nova Scotia and is an important transportation link for southern New Brunswick.*

- The service has been operating since 1826, a period of 180 years.
- Substantial amounts of primary product (fish and wood) as well as general cargo, passengers and tourists continue to use the service.

2. *The basic value proposition of the service has changed fundamentally over the last five to ten years – as a result of a persistent decline in revenues and rapid cost increases.*

- Demand grew after privatization in 1997, but has been in decline for several years. From 2000 to 2005, total vehicular traffic declined by 29%, the number of passengers decreased by 21%, and the number of visitors (i.e. tourists) entering at Digby dropped by 27%.
- The costs of running the service (exclusive of drydocking) have increased by 34% over the past three years with a large part of the increase due to the rapid rise in fuel costs (88% in total, or an annual compound rate of just under 24%).

3. *It is our opinion that the current operators provide a cost effective and efficient service.*

- However, the product is tired, drawing fewer and fewer users, and is approaching the end of its useful life, which will likely come no later than in 2012.

4. *Discontinuance of the service would have a net annual economic impact of over \$20 million:*

- A direct loss of approximately 145 jobs in Saint John and Digby (about 110 employed by the company and 35 contracted through concessions).
- A direct annual impact of \$2.3 million from these job losses and from Company purchases in Nova Scotia and New Brunswick.
- Annual losses to ferry service users, particularly in the fishery and forestry sectors, of approximately \$12.5 million (and primary products are more transportation price sensitive than are manufactured products).
- A direct negative impact on the number and expenditures of visitors and tourists in southwestern Nova Scotia and southern New Brunswick.
- Annual tax losses of approximately \$0.4 million to Nova Scotia, \$1.3 million to New Brunswick and \$4.4 million to Canada.

5. ***The schedule for discontinuance does not provide adequate time for transition adjustment and for the orderly development of potentially viable options.***
6. ***It is unlikely that a Saint John-Digby ferry service can operate in the longer term without public support, if the service is expected to cover its full capital and operating costs.***
 - The service is presently operated with a vessel that is chartered for \$1.00 per year and terminals that are leased for \$500 per year each.
7. ***Finally, it is unclear whether the recent negative trends in private vehicle, passenger, and tourism traffic are long term.***

6.2 Options

Four classes of options have been identified. Each class of options could have a number of variations – depending on its further development and specification.

The options range along a continuum from allowing the cessation of the service, to refurbishing the vessel and operating the service as a short term measure, to revitalizing the service with one or two vessels. In summary, these options are to:

- Option 1: Allow the service to terminate on October 31, 2006;**
- Option 2: Refine the service;**
- Option 3: Revitalize the service; and**
- Option 4: Specialize the service.**

A seasonal service is not identified as an Option. Seasonal service would be difficult to implement as: (1) the current operator has labour commitments and other agreements; and (2) the supply chain for shippers of seafood and other commodities would be disrupted (they would have to make alternative arrangements for the balance of the year).

Option 1 involves the cessation of the service and the ensuing rapid adjustment to the resulting situation.

Options 2 through 4 all call for a transition period where the current service is operated, under contract, while new approaches are developed, assessed and then implemented, if feasible.

There are two important points to note:

- it is our view that some public sector intervention will be required to deal with *all* options; and
- the three options dealing with continuation of the service will need to be subjected to extensive specification and then market and financial scrutiny.

In the following sections, each option is introduced, described and summarized in a chart showing four characteristics – Features, Relative Cost, Advantages, and Disadvantages.

6.2.1 Option 1: Allow the service to terminate on October 31, 2006

This option would allow for the cessation of the service, disposal of assets, and the removal of structures. It would, therefore, implicitly accept the argument that the transportation system has changed to such an extent that the basic business parameters of this type of service are no longer sustainable without public support.

The costs of this option would be the direct and indirect economic impacts of cessation in both Nova Scotia and New Brunswick, additional costs to shippers in southwestern Nova Scotia, and a reduction of tourism visitation and spending in southwestern Nova Scotia and southern New Brunswick.

Its major advantages, given acceptance of the view that public sector intervention is not appropriate, are that it removes uncertainty and allows the adjustment process to begin immediately. On the other hand, its major disadvantages are that it will have those economic, social and environmental costs, it suffers from an (arguably) inadequate and inequitable transition period, and it is likely to affect the “investment climate” in southwestern Nova Scotia.

Option 1: Allow the Service to Terminate on October 31, 2006

Features	Cessation of the service Disposal of assets Dismantle and remove terminals
Relative Cost	Annual economic impacts of over \$20 million Direct job losses in the Saint John and Digby areas Loss of multiplier effects Additional costs to southwestern Nova Scotia producers for the export of their products
Advantages	Removes uncertainty Allows the adjustment process to begin immediately
Disadvantages	The economic and social costs – in both Nova Scotia and New Brunswick, and particularly on southwestern Nova Scotia and southern New Brunswick Inadequate and inequitable transition period Considered another “body blow” to southwestern Nova Scotia and a potential disincentive for investment

6.2.2 Option 2: Refine the service

This option would involve:

- immediately contracting for continuation of the service, as a transition measure; *plus*
- a demonstrated commitment of local shippers and users to support the service; *plus*
- developing and assessing a go-forward package which includes refurbishment of the vessel (which would likely cost \$2-3 million) plus enhanced marketing of the service and the resolution of terminal ownership and maintenance issues.

A number of other issues will have to be dealt with including a determination of the level and type of short- and possibly long-term public support as well as the potential viability of service continuation (either with the current operator or through a re-tendering process).

The costs would involve public sector support for the transition period plus vessel refurbishment costs, as well as the costs of developing and evaluating the package.

The advantages of this option are that it provides more adjustment time to the community and to users, it keeps the service going for a while to see whether there will be an upturn in traffic, it would need a

concerted and coordinated public and community effort, and it should bring consensus as to the future of the service.

On the other hand, this option prolongs the uncertainty at least for the length of the transition period, refurbishment is a stop-gap measure for the vessel which is near the end of its useful life, and it is not likely to transform a money-losing service to profitability.

Option 2: Refine the Service

Features	(1) Transition period for continuation of the current service under contract with an adjusted business plan (to possibly include reduced sailings, increased rates, and yield management measures) plus demonstrated commitment of users. (2) Development, assessment, packaging and decision-making on refinement package, to include: <ul style="list-style-type: none"> • Refurbishment of vessel • Enhanced marketing by the company and government • Potential for re-tendering • Determination of level and type of public support • Resolution of terminal ownership and maintenance issues, i.e. operator responsible for terminal maintenance but does not own facilities
Relative Cost	Public capital and operating support Development and assessment of packages
Advantages	More equitable for users/the community to have more adjustment time A concerted, coordinated public, community and corporate effort Provides an interim solution
Disadvantages	Prolongs the uncertainty The vessel is close to the end of its useful life and refurbishment is stop-gap Not likely to significantly alter the core business parameters

6.2.3 Option 3: Revitalize the service

This option would involve:

- immediately contracting for continuation of the service, as a transition measure; *plus*
- a demonstrated commitment of local shippers and users to support the service; *plus*
- developing and assessing a go-forward package which includes obtaining a new or used vessel (roughly \$15-40 million for a used vessel or \$80+ million for a new vessel), plus enhanced marketing of the service and the resolution of terminal, ownership, and maintenance issues.

A number of other issues will have to be dealt with including determination of the level and type of short- and possibly long-term public support as well as the potential viability of service continuation (either with the current operator or through a re-tendering process).

The costs would involve public sector support for the transition period plus some refurbishment of the current vessel in the short-term plus a contribution (potentially) to the purchase or charter of the new vessel and associated commissioning costs.

Similar to Option 2, this option provides more adjustment time to the community and to users. If it proves feasible it would likely increase traffic and revenues at least for a few years (the “halo” effect), it would maintain jobs and spending in Saint John and Digby, and it would maintain service to users.

As with Option 2, this option prolongs the uncertainty at least for the length of the transition period. It is also higher cost and it might not fit the current and future needs of the marketplace.

Option 3: Revitalize the Service

Features	<p>(1) Transition period for continuation of the current service under contract with an adjusted business plan (to possibly include reduced sailings, increased rates, and yield management measures) plus demonstrated commitment of users.</p> <p>(2) Development, assessment, packaging and decision-making on revitalization package, to include:</p> <ul style="list-style-type: none"> • A new, used or chartered (conventional) vessel • Enhanced marketing by the company and government • Potential for re-tendering • Determination of level and type of public support; public capital and operating support required • Resolution of terminal ownership and maintenance issues
Relative Cost	<p>Capital cost (roughly \$15-40 M for a used vessel and \$80+ M for a new vessel)</p> <p>More fuel efficient, lower maintenance costs, perhaps slightly more crew</p> <p>Potential terminal reconfiguration costs</p>
Advantages	<p>More equitable for users/the community to have more adjustment time</p> <p>Will increase traffic and revenues thereby providing greater chance of profitability</p> <p>A positive impact on southwestern Nova Scotia and southern New Brunswick, including maintaining or increasing employment in Saint John and Digby</p>
Disadvantages	<p>Prolongs the uncertainty</p> <p>Higher cost</p> <p>May not be appropriate to the marketplace</p>

6.2.4 Option 4: Specialize the service

Option 4 reflects a broader look at changes that have occurred in the marketplace and the potential needs of users in southwestern Nova Scotia. It assumes that the service configuration needs substantial adjustment in order to make it competitive with improved highway travel. It addresses the view that a service revitalization may not meet the needs of the present-day market and would not bring back the clientele that have been lost to the service.

This option would involve:

- immediately contracting for continuation of the service as a transition measure; *plus*
- a demonstrated commitment of local shippers and users to support the service; *plus*
- developing, specifying and assessing a go-forward package which involves at least two services – three variations of which could include:

- ◆ two separate vessels: a Ro-Ro (Roll-on, Roll-off) service for trucks only from southwestern Nova Scotia to New England (or Saint John) plus a high-speed car ferry from Digby to Saint John;
- ◆ Digby-Saint John Ro-Ro truck ferry (no passengers) or a Digby-Saint John tug and barge (no passengers); and
- ◆ combination high-speed Bar Harbor-Digby-Saint John service, with Portland-Yarmouth cruise ferry, which would operate Digby-Saint John in winter while the high speed vessel is chartered elsewhere.

A number of other issues will have to be dealt with, including at what points in Nova Scotia, New Brunswick and New England the Ro-Ro terminals would be located, determination of the level and type of short- and possibly long-term public support, and the potential viability of both services (either with the current operator or through a re-tendering process).

The costs would involve public sector support for the transition period, plus some refurbishment of the current vessel in the short-term, plus a contribution (potentially) to the purchase of the new vessels and associated commissioning costs. The costs of this option could be more or less than that for Option 3 depending on the service configuration and vessel costs.

Similar to Options 2 and 3, this Option provides more adjustment time to the community and to users. If it proves feasible, this option could fit the marketplace since it could reduce crossing times and deliver exports closer to market. It would also likely increase traffic and revenues for a few years (the “halo” effect), it would maintain jobs and spending in southwestern Nova Scotia and southern New Brunswick, and it could improve service to many users.

As with Options 2 and 3, this option prolongs the uncertainty at least for the length of the transition period. It is also higher cost than Option 2 and it would not carry some commercial traffic now using the Digby-Saint John service.

Option 4: Specialize the Service

Features	<p>(1) Transition period for continuation of the current service under contract with an adjusted business plan (to include reduced sailings, increased rates, and yield management measures) plus demonstrated commitment of users.</p> <p>(2) Development, specification, assessment, packaging and decision-making on a multi-faceted package, to include:</p> <ul style="list-style-type: none"> • A specialized two vessel service (one primarily for freight and one for passengers) with routes to be determined • Enhanced marketing by the company and government • Potential for re-tendering • Determination of level and type of public support • Resolution of terminal ownership and maintenance issues
Relative Cost	<p>Public capital and operating support (perhaps similar to that for Option 3)</p> <p>Likely terminal re-configuration costs (in two locations)</p> <p>Some economic adjustment costs in southwestern NS and nearby Saint John</p> <p>Additional costs for port and terminal infrastructure</p>
Advantages	<p>More equitable for users/the community to have more adjustment time</p> <p>Could have greater market appeal as crossing times might improve</p> <p>Local exports could be delivered closer to US market</p> <p>Potentially better fit with southwestern Nova Scotia exporters' needs</p>
Disadvantages	<p>Prolongs the uncertainty</p> <p>Public investment and support required</p> <p>Potentially negative impact on existing Yarmouth-New England high-speed ferry service</p> <p>Some current traffic elements potentially not covered, depending on the configuration finally selected</p>

APPENDIX 1

TERMS OF REFERENCE, STATEMENT OF WORK

Appendix 1:

Terms of Reference, Statement of Work

The scope of the study will be divided into three phases incorporating five principal areas, as described below. Phase I will be undertaken by a contracted consultant to be engaged by the Nova Scotia Office of Economic Development. **Phase II (the subject of this contract) is to be undertaken by a consultant engaged by ACOA Nova Scotia.** Phase III (options for consideration) will be developed by the two consultants jointly.

Phase I – Review and Analysis of the Ferry Service

A. Environment for Ferry Services

- a) historical overview of the Digby–Saint John ferry service;
- b) comparison of the economic operating parameters of the Digby–Saint John ferry with similar services in Canada and other comparable jurisdictions; and
- c) review of the operating environment of ferry services in North America and in other developed countries.

The study should investigate the role and type of government support provided for ferry services as a component of public transportation policy and the general policy considerations governments use in determining the requirements for such support.

B. Business Circumstances

- a) comparative history of the operation of the service – traffic, costs of operations capital, etc;
- b) analysis of passenger loads with explanation as to trends, including discussion of users and non-users of the service;
- c) review of freight use of ferry – users, cargoes carried, volumes, destinations, etc.;
- d) analysis of options and alternatives to the ferry by category of user; and
- e) current financial outlook for the service in the future and qualifications of go-forward financials for various scenarios.

C. Economic Impacts

- a) estimation of economic impact of the loss of service in terms of major inputs cost; e.g. lost employment wages, fuel and supplies, etc. To the extent possible this should be defined at the various governmental levels in terms of lost tax revenues, household income and employment (direct, indirect and induced) and include both costs and benefits (such as shifts in economic activity) of service cessation in the short and long term;
- b) estimation of impact on the costs to businesses as a result of the loss of service; e.g. increased trucking costs, delayed product delivery, loss of tourism revenues, etc; and
- c) discussion and comment on other impacts and externalities such as greenhouse gas emissions, impact on roads, highway safety, grey water discharge, dredging requirements, etc.

Phase II – Transportation and Economic Development in western Nova Scotia, southern New Brunswick and Maine

The consultant will provide a Phase II final report, including the following topics:

- a) review of recent economic developments and trends in the region, with particular reference to the primary sectors and manufacturing;
- b) discussion of the linkages between economic development trends and consequences for transportation infrastructure/services;
- c) discussion of the ferry service's role in promoting the area for new economic development and tourism;
- d) analysis of transportation use/needs/gaps in western NS, southern NB and Maine; and
- e) analysis of the current and potential fit of the Digby–Saint John ferry service in the transportation modal mix for this region.

Phase III – Options

The consultants shall jointly set out options for consideration as a result of information and analysis in the preceding phases of the study and including cost-benefit analyses. The deliverable is a final Phase III report laying out various options for consideration by the Committee. Specific options could include:

- a) allow cessation of the ferry service to occur, with analysis of availability and applicability of alternative modes;
- b) actions required to rebuild the business to the point of long-term viability;
- c) provide funding to allow continuation of service in short term;
- d) re-tendering the service;
- e) alternative ferry services and operating models;
- f) minimum requirements for revenues for continued operation without ongoing government intervention with a replacement vessel; and
- g) other.

APPENDIX 2

HARBERGER'S OPPORTUNITY COST METHODOLOGY

TABLE 5

EXAMPLE OF CALCULATION OF THE SOCIAL OPPORTUNITY COST OF LABOR,
BY CYCLICAL PHASE
(in dollars per week)

	Jobs Created in			
	Ontario		Nova Scotia	
	Permanent (a)	Temporary (b)	Permanent (c)	Temporary (d)
(1) Weekly market wage	200	200	150	150
(2) Weekly cash income	200	184	150	126
(3) Social opportunity cost per week worked (normal sourcing, from Table 2, row 9)	182.2	235.2	135.8	240
(4) Social opportunity cost per week worked (sourcing from cyclically unemployed, from Table 4, row 7)				
depression	-1	23	-14	22
strong recession	19	45	1	43
mild recession	39	69	16	62
(5) <u>Social opportunity cost per week worked, expected sourcing pattern</u>				
depression [= .7x(3)+.3x(4)]	127.2	171.5	90.9	174.6
strong recession [= .8x(3)+.2x(4)]	145.6	197.2	110.6	200.6
mild recession [= .9x(3)+.1x(4)]	163.8	218.6	125.8	222.3
normal year [= (3)]	182.2	235.2	135.8	240.0