CHAPTER 13

APPLYING THE PRINCIPLES TO INTERCITY BUS CARRIERS

INTRODUCTION

In examining the intercity bus carrier industry, we asked:

- What is the role of the bus in delivering economical transportation to Canadians?
- Would this role be more effectively performed if the industry were more open to new entrants?
- Would the intercity bus industry remain viable and competitive if economic regulation was substantially relaxed?
- Would a less-regulated bus industry still deliver transportation service to Canada's rural communities?

THE BUS INDUSTRY IN CANADA

MARKETS

Most bus travellers use this service because it is the cheapest form of intercity travel, particularly for those who do not have a car or who are unable to drive. Thus, those who use the bus most heavily are people of modest means, such as students and some older people. Most bus travel is for recreation or visits to family and friends, although there is some business travel on short-haul routes.

Some bus companies have had limited success in offering luxury services (with spacious seats, refreshments and other amenities) at higher fares than for conventional services. In general, however, premium bus services have failed to attract sufficient riders to render them viable.

Buses serve many Canadian communities. According to the *Official Canadian Bus Guide*, in 1991, the intercity bus industry provided scheduled service to approximately 3,000 points in all provinces and territories (down from 3,400 in 1978).[1] Most travellers use the bus for short trips. In 1991, bus passengers travelled an average distance of less than 200 kilometres.

Bus operations are diverse, from large operators with multiprovincial service to small carriers offering only local services. Greyhound Lines of Canada Ltd., the largest bus operator, has 400 buses serving an extensive route system stretching from Vancouver to southwestern Ontario, and north into the Yukon and Northwest Territories. Dewdney Trails operates a service three times a day each way between Castlegar and Trail, British Columbia, a 30-minute trip. An even smaller operation, Atlin Coach Lines, provides a combined freight and passenger service for six to eleven passengers daily from Whitehorse, Yukon Territory, to Atlin, British Columbia.

REGULATORY ENVIRONMENT

Economic regulation of the scheduled intercity bus industry in Canada, in particular the restriction of entry by firms that would compete with existing services, continues today. This contrasts sharply with other countries that have opened the scheduled intercity bus industry to greater competition (notably the United Kingdom and the United States), and with the relaxed economic regulation of the air transportation and freight transportation industries in Canada. Bus regulation is enforced by provincial/territorial transport boards, which have authority over carriers whose operations are entirely within a single province or territory. In addition, the federal government has delegated its authority to the boards for carriers whose operations extend beyond the province or territory.

COSTS AND REVENUES

Of all the types of passenger transportation, bus travel comes closest to paying its way. As we noted in Chapter 3, intercity buses pay fuel

taxes that approximately cover the costs of their use of the roads, and would remain the most inexpensive type of public transportation if travellers paid the full costs of bus transportation, including charges for environmental damage and the costs of safety and accidents.

Many bus carriers also provide freight (parcel) services. In rural areas, the bus is often the only carrier of parcels that are over the Canada Post weight limit, and courier companies often use the bus service to deliver their packages. These freight services are an important source of revenue for bus carriers in remote and rural areas, but are much less significant to carriers in the more densely populated southern Ontario to western Quebec region, where a variety of courier, messenger and package delivery services compete for this business.

Charter services are also a source of revenue for the bus industry. In the more populous regions of Canada, most small, scheduled bus carriers and a significant number of the mid-size carriers earn most of their revenues from charter business, and to a lesser extent from school-bus contracts. For Greyhound, Voyageur Colonial and other large carriers, charter service is a profitable use of idle bus capacity.

TRENDS

The bus industry is an important participant in intermodal passenger transportation. Buses provide a public link to and between other modes of transportation. For example, bus and van services connect communities, train stations and airport terminals.

The market share for intercity scheduled bus service has been declining steadily. Since the 1950s, bus ridership has been dropping while total intercity passenger travel has grown. The intercity bus has been steadily losing ground to the car for short-distance travel and to the airplane for long-distance trips. The bus must also compete with subsidized rail service, especially in the Toronto–Ottawa–

Montreal triangle and in southern Ontario. The bus industry has responded to declining ridership by cutting back service frequency and route-kilometres and by raising fares.

The bus industry is highly concentrated and regionalized. In 1987, the five largest carriers held nearly 90 percent of the value of the assets in the industry, earned 84 percent of the revenues, and carried 81 percent of the passengers — up from 66 percent in 1980.

In eastern Canada, most carriers exchange passengers at or near their provincial borders. To get from Hamilton to Halifax, a person must travel using five different carriers, changing buses each time. Only Greyhound provides significant multiprovincial service — from Vancouver to Toronto.

Buses do not pollute the environment as much as other types of passenger transportation do. Buses consume less fuel per passenger-kilometre, resulting in lower carbon dioxide emissions. Current diesel-engine buses do have significant smog-inducing emissions, but there is considerable potential for improvement.

What Canadians Told Us

THE PUBLIC

In our public hearings, Canadians had little to tell us about bus transportation. In our review of Canadians' travel preferences, we found that they view buses as uncomfortable, and particularly poor in seating space and ventilation. They also complain about the condition of some bus terminals.

THE INDUSTRY

The strongest views on bus travel that we received came from the bus companies and their representatives, who made two major points:

The first point was that they suffer from unfair competition from VIA Rail (especially in the Toronto–Ottawa–Montreal triangle), because VIA Rail is highly subsidized by taxpayers. VIA Rail has been aggressive in its pursuit of market share in the shorter-distance, but higher-density markets. While its campaign has aimed in part at the air mode by emphasizing faster, more convenient and better service, VIA Rail also competes with the bus carriers through special discount fares. The bus industry believes that subsidized passenger rail service limits its ability to offer more and better services to bus customers. VIA Rail, on the other hand, argues that it pays for the infrastructure (stations and track) it uses, while buses do not pay for use of the roads.

The second major point was that the bus industry endorses the present regulatory regime, which restricts competition and allows profits to be generated on high-volume routes, but requires carriers to continue service on low-volume, unprofitable routes. The bus carriers argue that this system, with its cross subsidization, is necessary, if they are to provide service to smaller communities.

GOVERNMENT POLICIES: PAST AND PRESENT

REGULATION

Regulation of the intercity passenger bus industry in Canada was introduced by provincial governments in the early 1930s to stabilize the industry. In 1954, in response to a complaint by a bus company, the Supreme Court of Canada determined that the federal government was responsible for every bus and truck operation whose business was extra-provincial — that is, extending beyond a single province or territory.

Because the federal government had no legislation, administrative structure or expertise in place, Parliament enacted the *Motor Vehicle Transport Act* of 1954. This Act delegated federal responsibility for

the economic regulation of motor-vehicle transport, including bus transport, to the provinces.

The *Motor Vehicle Transport Act, 1987* substantially deregulated trucking, but bus regulation was essentially unchanged. Provincial transport boards are to issue licences and regulate tariffs and tolls for extra-provincial bus operations "... on the like terms and conditions and in the like manner as if the extra-provincial bus undertaking were a local bus undertaking. ..."[2]

Although all provinces and territories regulate bus carriers, there are differences in their manner of doing so. Eight of the provinces grant a bus company authority to operate a scheduled intercity service only if the applicant is able to prove public convenience and necessity. A public hearing is held if there are any objections to the proposed service. New Brunswick and Prince Edward Island removed this requirement in 1987, and now have a reverse onus test — an application is denied only if it is proven that the application would be detrimental to the public interest. In every province and territory, changing or abandoning a service requires approval by the provincial/territorial regulator.

Also in every province and territory, bus companies must file fares and obtain approval for them from the provincial/territorial regulatory authority. In Alberta, Saskatchewan, Manitoba and Newfoundland, only maximum fare levels require approval. All provinces and territories allow for public hearings to handle objections to fare increases. At the time of writing this report, the Maritime provinces were engaged in discussions that may lead to a common regulatory regime for intercity bus operations in New Brunswick, Nova Scotia and Prince Edward Island. It is expected that any common regime would be at least as open to competitive services as the relatively liberal regulation in New Brunswick and Prince Edward Island.

Charter services require separate licences in seven provinces. The reverse onus test applies to charter services in Alberta, New Brunswick and Prince Edward Island.

A number of scheduled bus services link Canadian and U.S. centres. These services are regulated by the provinces under the delegation of federal responsibility for extra-provincial carriers. They are also subject to U.S. regulation. U.S. federal regulation, which applies to interstate and international services, and the regimes of several of the states, less strictly control introduction of new services, changes in service, and pricing, than Canadian regulation.

COMPETITION

Competition among bus carriers on the same routes is generally discouraged. While there are a few exceptions, the bus industry consists mostly of regulated intercity monopolies. Even overlapping routes, such as Greyhound's trans-Canada service and the provincial services of the Saskatchewan Transportation Company, do not usually compete for the same passengers.

THE EFFECTS OF REGULATION

CROSS SUBSIDIES

Cross subsidies help maintain service on low-volume routes. Regulation of fares and routes allows carriers to earn high returns on high-volume routes in exchange for an explicit or implicit commitment to provide service, below cost if necessary, on other routes. Our analysis, based on average costs and revenues for various route types, suggests that:

- The most lucrative express routes could make a profit equal to half of the average fully allocated costs including return on investment.
- Mixed services (where intercity passengers are carried, but stops are also made at small communities) and long-distance services are generally profitable.
- Some local routes that parallel express service between major urban centres recover less than 25 percent of their costs.

OTHER EFFECTS

Regulation has its drawbacks. Our analysis suggests that average intercity bus transportation costs are higher than they would be in a more open market, in part because of lower efficiency. As discussed earlier, the bus industry has been losing market share, and is highly concentrated and regionalized. A policy that provides greater room and stimulus for a more entrepreneurial approach offers the possibility of improving bus service where it has the greatest potential.

THE CASE FOR A COMPETITIVE BUS INDUSTRY

Would opening the bus industry to competition result in a healthier industry, lower fares and improved services for travellers?

The experience in the United States and the United Kingdom offers useful insights. The United States and United Kingdom started regulating their intercity bus industries more than 50 years ago, in 1935 and 1930, respectively, and substantially deregulated them half a century later within a span of 22 months.

THE U.S. EXPERIENCE

In 1982, the U.S. Congress substantially, but not totally, deregulated intercity bus services. Some states have followed suit.

The major carriers have experienced financial difficulty and reorganization. The general economic malaise in the U.S. intercity bus industry was evident before 1982. The cost reduction achieved through franchising, renegotiating wage contracts, changing work rules, and eliminating unprofitable routes (which was possible because of regulatory reform) was not enough to stop the downward trend.

A major development after regulatory reform in the United States was the Greyhound-Trailways merger. Greyhound in the United States (which does not have a corporate relationship with Greyhound

in Canada) now controls 85 percent of the revenues generated by the major interstate bus companies. It provides the only public intercity transportation in 9,000 of the approximately 9,500 markets it serves.

The Greyhound-Trailways merger has resulted in service to rural communities that operates like the airlines' hub-and-spoke system. Small carriers affiliated with Greyhound use vans to provide service in areas where demand is insufficient to warrant using full-size buses. These so-called "feeder lines," which are linked to communities served directly by Greyhound, are operated by independent entrepreneurs who act as agents for Greyhound and receive a portion of the fare.

There is no question that there has been reduction in the availability of intercity bus service to small communities by the major bus companies; but much of this would have occurred in any event. Bus ridership, routes and service points were decreasing prior to regulatory reform.

THE U.K. EXPERIENCE

In the United Kingdom, regulatory reform was more extensive than in the United States. British intercity bus travellers have benefited, on average, from lower fares and improvements in the quality of service.

One of the effects of deregulation was reorganization and concentration within the express-bus sector. Six major private companies combined to compete with the publicly owned National Express, but failed. Within four years of regulatory reform, National Express, which was privatized in 1987, had become, once more, a monopoly supplier on many routes where private operators had initially offered new service. While National Express has recaptured the market on most routes, the threat of new companies entering the market appears to have kept fares from rising.

As in the United States, there was some reduction in lower-volume bus services after regulatory reform. Discontinuing intercity services, however, appears to have denied few people access to adequate intercity transportation.[3] Local authorities have provided subsidies to prevent loss of the services that link rural areas and small communities to larger urban centres. These services have, in general, been operated by private-sector bus companies and have achieved cost reductions.

COMPETITION AND LOWER FARES

Our research indicates that there would be advantages to travellers if the Canadian bus industry faced more competition. In a more open market, carriers would rationalize services and trim costs or lose market share on profitable routes to lower-cost competitors. Easier market entry would invite innovative services that could reverse, or at least slow down, the current decline in bus ridership.

Competition or potential competition on higher-volume routes should lead to lower fares. Because carriers would be deprived of exclusive rights, fares for express services, even between cities of moderate size, should fall. International experience supports this conclusion, as do the results for one of the few routes in Canada where competition exists. Greyhound currently competes in Alberta with Red Arrow's luxury service between Calgary and Edmonton and between Edmonton and Fort McMurray. Fares on these routes are lower than on similar routes.

On short low-volume routes where fares currently fall well below costs, and where competition is unlikely, fares would be expected to rise after removal of regulation. This would contribute to keeping some of the routes viable.

INNOVATION

Relaxed economic regulation would encourage innovation and entry of new operators into some markets, and more carriers in a market should increase service choice. Intermodal connections and

innovative management techniques would be encouraged by a more competitive environment. Mini-bus operations and a variety of part-time ventures offering scheduled service would replace inefficient full-sized coach services to some smaller communities.

Large carriers would not necessarily force smaller operators out of business. Our studies indicate that large carriers do not always have the lowest operating costs. In fact, the costs per unit of service of some of the small and medium-sized carriers were among the lowest of those we studied. Some small carriers operate profitable rural services in markets that larger regional carriers have chosen not to serve.

Therefore, we **recommend** that:

13.1 The *Motor Vehicle Transport Act, 1987* and relevant provincial and territorial legislation be amended to substantially relax the economic regulation of buses to:

(a) reduce the restrictions for entry to "fit, willing and able" criteria;

(b) require that route abandonments be subject only to adequate public notice;

(c) require only the publication of schedules and fares; and

(d) ensure that carriers be subject to the *Competition Act*.

Our recommendation is addressed both to the federal government, regarding extra-provincial bus carriers, and to provincial/territorial governments, regarding remaining carriers. We note that extra-provincial carriers currently account for a large share of total passengers carried, and that other carriers could opt for extra-provincial status by extending their operations beyond a single province or territory. Thus, federal action would have the effect of deregulating most of the industry. To implement the recommendation, the federal

government could withdraw its delegation of powers to the provinces/territories, or it could negotiate new agreements whereby provincial/territorial regulatory boards continue to enforce a modified motor vehicle transportation act with which we hope provincial/territorial regulatory regimes would be in harmony. We prefer the solution that creates the simplest administrative procedures for the carriers.

Competition Legislation and Enforcement

The success of relaxing economic regulation of intercity busing will depend on competition developing in the present regional monopoly markets. Such competition may come from large bus operators expanding into each other's traditional markets. We expect that charter carriers and small local operators that presently connect with the large monopoly carriers may also prove to be significant long-term competitors.

Potential competitors must be confident that federal competition legislation will ensure them a fair opportunity to compete and protect them from monopoly practices. The present *Competition Act* is a substantial advance over its predecessor, but the federal government should assure itself that the Act provides sufficient response and redress procedures to encourage active and effective competition in a newly deregulated bus industry.

We understand that protection for the small carriers that extend operations into the routes and terminals dominated by larger carriers would fall within the "abuse of dominant position" and the "refusal to deal" provisions of the Act.

We recognize also that competition policy applies to other sectors of the economy as well as transportation, and that the federal government must consider a range of factors, including jurisdiction, that we are unable to assess. Nevertheless, if Canadian travellers are to gain the full benefits of relaxed economic regulation, potential entrants into transportation markets must not be discouraged by fears of monopoly practices on the part of well-established carriers.

Therefore, we **recommend** that:

13.2 The federal government review the *Competition Act* and related policy and, if required, strengthen the powers needed to prevent anti-competitive practices in the intercity bus industry.

Service to Small Communities: The Transition

We are concerned about the impact of regulatory reform on services to small, rural communities. Some communities will enjoy reduced prices and better service because bus companies will use more suitable equipment for the market and reduce their costs. In less populated regions, smaller and older buses and part-time operators with mini-vans will enter the bus business, as is common in Newfoundland.

Fares for shorter rural trips could rise with reduced regulation. Some rural routes would survive, but with reduced frequency. Some communities would no longer be served by major carriers with full-size coaches. Others could lose scheduled service if there is very low demand for bus travel.

We believe that, after a period of adjustment, small communities that provide a regular travel market will be served. Experience and our studies indicate that bus operations can be viable in quite small markets. Regulatory reform frees the market and allows each carrier to choose to operate any route or type of service based on its commercial interests. The result is that services appropriate to the size of the market emerge.

We believe that bus travellers on profitable routes should not have to subsidize travellers on unprofitable routes. Bus riders on profitable rural and intercity routes are often those who cannot afford any other mode of travel. These bus riders should not pay extra to provide transportation on unprofitable routes.

We recognize that transition provisions may be required so that bus service in some areas is not lost while the industry adjusts.

Therefore, we **recommend** that:

13.3 If necessary to avoid steep increases in bus fares on particular routes following the relaxation of economic regulation of the intercity bus industry, transition subsidies be provided on a declining basis not to exceed 10 years and then terminated, with such subsidies being provided on a competitive tender basis to the carrier that can provide a safe service at the lowest cost, and being paid for by taxpayers in those jurisdictions that wish to maintain the service.

In recommending reduced regulation of market entry and exit, we considered a gradual transition to an open market that would allow carriers time to reorganize and reduce costs.

We have decided, however, not to recommend such a transition period. Our reasons are as follows:

- The legislative amendment process will take a substantial period of time, and there will be additional delays before the new provisions come into force.
- One change is sufficient. Carriers and travellers should not have to adapt to a transition regime, only to change again when the transition period is over.
- Some parties may be tempted to manipulate a transition regime to position themselves for a competitive advantage later. A transition period could foster anti-competitive practices.

The bus is the lowest cost way of transporting Canadians to where they want to go. With deregulation of the intercity passenger bus industry, bus travel would become more efficient and even less costly.

ENDNOTES

1. Russell's Guides, Inc., *Official Canadian Bus Guide*, May–June 1991.

2. The *Motor Vehicle Transport Act, 1987* provides authority for the federal government to exempt a bus carrier from falling under provincial jurisdiction. Such exemption means that the carrier is regulated under the provisions of Part IV of the *National Transportation Act, 1987* and falls under the jurisdiction of the National Transportation Agency. (The corresponding provision in the earlier Act was invoked only once, as a consequence of a dispute between CN Roadcruiser and the Board of Commissioners of Public Utilities of Newfoundland. The Board had restricted the tariff of the federally owned replacement for Newfoundland's passenger rail service.)

3. European Conference of Ministers of Transport, *Regulatory Reforms in the Transport Sector*, Paris, 1988, p. 13.

CHAPTER 14

APPLYING THE PRINCIPLES TO FERRIES

INTRODUCTION

Canada has the longest coastline of any country in the world and has major island groupings in temperate climatic zones — including three on which provincial capitals are located. Inland, the St. Lawrence River and the Great Lakes are two of the country's and the world's major waterways. In the past, when it was easier to travel by water than overland, towns developed along Canada's waterways. Today, water transportation continues to be an important mode of travel for many Canadians.

Ferries provide a variety of passenger transportation services to many Canadians. The operators providing these services range from small to large; some are privately owned and some are publicly owned. For example, the British Columbia Ferry Corporation (BC Ferries), with 38 ships and 24 routes serving 43 terminals, is one of the world's largest ferry services.[1] In contrast, river-crossing ferry services for short distances between two points are provided in many locations by small operations. The variations in ferry services across Canada are as great as the variations in Canada's geography and population distribution.

Taxpayers provide substantial support to ferry services. Measured in costs per passenger-kilometre, ferries are the second most heavily subsidized means of passenger transportation, after rail. Since Confederation 125 years ago, federal and provincial taxpayers in Canada have spent large amounts of money on ferry services. The reasons for these expenditures include meeting constitutional obligations (for example, the provision of ferry service to British Columbia, Prince Edward Island and Newfoundland) and encouraging social or economic development, particularly in Atlantic Canada.

The major intercity ferry operations in Canada are found on the west and east coasts. Most of the ferry routes on the west coast are operated by BC Ferries, a provincial Crown corporation. Marine Atlantic Inc., a federal Crown corporation, provides the majority of the ferry services on the east coast. Other larger ferry services include: the seasonal service between Prince Edward Island and Nova Scotia, operated by the privately owned Northumberland Ferries Ltd.; the St. Lawrence River ferries, operated by the Quebec government; and the Great Lakes service, operated by the Ontario government.

Passenger volume on these ferries varies a great deal. In 1990, BC Ferries carried nearly 20 million passengers,[2] Marine Atlantic carried almost 2.5 million, and Northumberland Ferries approximately 530,000.[3] The next two largest services are: the Matane to Godbout to Baie-Comeau route of the Société des traversiers du Québec, which carried approximately 270,000 passengers in 1990;[4] and the Ontario Northland Transportation Commission's Tobermory to South Baymouth service, which carried over 200,000 passengers in the same year.[5]

Overall, the use of ferry services in Canada has increased in recent years. Most of the increase has occurred on the west coast, where BC Ferries carried a total of 18 million passengers in 1986 and 20 million in 1990. On the east coast, Marine Atlantic's total ridership grew slightly, from 2.3 million passengers in 1986 to 2.5 million in 1990.[6]

There are many different types of ferry services. The following are a few examples:

- The MV *Joey and Clara Smallwood*, a large ferry equipped with a modern navigation system, travels 519 kilometres between North Sydney, Nova Scotia, and Argentia, Newfoundland, twice a week. In 1991, this ferry carried about 15,000 vehicles and 41,000 passengers during its late-June to early-September operating season.

- A high-speed passenger-only ferry service (catamarans travelling at speeds of up to 37 knots) operates in the Georgia Strait between downtown Victoria and downtown Vancouver. The vessels used on this new service can carry up to 312 passengers.
- A privately owned and operated ferry service crosses the Ottawa River between Cumberland, Ontario, and Masson, Quebec, a distance of less than a kilometre. The ferries in this service can carry 13 cars, operate 24 hours a day year-round, with at least 2 ferries in the winter and up to 5 in the summer, and offer 5-minute service during the day and 10-minute service at night.

Many of the shorter ferry services could be described as intercity. These include such routes as Cumberland to Masson as well as the Quebec City to Lévis and Halifax to Dartmouth routes. As well, there are services on both coasts that connect small, remote communities, most of which are completely dependent on these ferries for both freight and passenger service. For the purposes of this report, however, we have focussed on longer intercity trips that are more comparable with intercity trips in other modes.

What Canadians Told Us

Interveners from the Atlantic region told us that their ferry operations provide essential passenger and cargo services. They argued for increased federal presence and funding to establish more year-round ferry services in the Atlantic provinces. They pointed out that ferry service is an important tool for economic development, both in the role it plays in the tourism industry and as a means of moving freight.

Several interveners urged us to consider ferry service as an integral part of the transportation system in the Atlantic region, rather than as a method for point-to-point travel. They said that ferry services are an extension of the highway and railway systems and recommended further integration of the various modes to enhance the ferry services.

Interveners from British Columbia also told us how important ferry services are to them. They pointed to the role that ferry services could play in a rapid-transit system connecting Victoria and Vancouver. They suggested these cities build rapid-transit systems that link with ferry docks to provide an inexpensive and environmentally safe method of moving large numbers of people (presumably without their cars). Some also suggested establishing local bus service to the ferry terminals because such services would have lower fares than those now charged for special bus service to the terminals.

Interveners emphasized the importance of ferries to tourism and asked for increased service between points in Canada and the United States. Some stressed that ferries should continue to serve remote communities even though such services require subsidies. Several interveners called for an increase in federal funding for British Columbia's ferry services to match that received by eastern Canada. In British Columbia, as in the Atlantic provinces, some suggested that ferry services should be considered as an extension of the highway system.

Constitutional Obligations

Some ferry services are part of early constitutional arrangements. Each of the Terms of Union signed between Canada and British Columbia, Prince Edward Island and Newfoundland included an obligation on the part of the federal government to provide a ferry link to the mainland.[7] In a few cases, the federal government has also agreed to subsidize alternative ferry routes to those set out in the Terms of Union, although no federal constitutional obligation exists for these. The alternative services include the seasonal service between Caribou, Nova Scotia, and Wood Islands, Prince Edward Island, operated by Northumberland Ferries Limited.

Courts and governments have reviewed constitutional obligations for modern transportation. When the federal and provincial governments negotiated these Terms of Union, ferry services played a different

role in the lives of Canadians than they do today. Steamships provided ferry services, carried mail as well as passengers, and linked communities in a time of few roads and no air service. Over the years, the function and technology of ferry services have changed considerably. Today, ferries use many different technologies, and passengers can often choose other modes of transportation for many ferry routes. As a result, courts and governments have attempted to interpret constitutional agreements in a modern context.

BRITISH COLUMBIA

The original federal-provincial agreement was intended primarily to ensure mail service. Under Term 4 of the 1871 *British Columbia Terms of Union*, Canada undertook to "provide an efficient mail service, fortnightly, by steam communication between Victoria and San Francisco, and twice a week between Victoria and Olympia [the capital of neighbouring Washington state]; the vessels to be adapted for the conveyance of freight and passengers." To fulfil its obligations, the federal government subsidized a private steamship operator under a contractual arrangement.

In 1925, the federal and provincial governments agreed that the service between Victoria and San Francisco no longer required a subsidy, and that the British Columbia government should use the subsidy to improve mail service within the province.

In 1977, the federal and British Columbia governments entered into a new arrangement for ferry subsidies.[8] The federal government agreed to pay a block grant of $8 million per year to the province to support ferry service. With annual adjustments to cover inflation, the estimated payment in 1992-93 is $19.9 million.[9] In return for the payment of this subsidy, Canada was "relieved of any and all obligations for the provision of subsidy or other financial assistance over and above the subsidy provided for in this Agreement."[10]

The province is responsible for how the federal grant is allocated and has agreed to "assure reasonable and adequate service and

appropriate supervision thereof" in British Columbia coastal waters.[11] The province is also obliged under the agreement to "place appropriate passenger vessels in service . . . to give effective links where required on the coast between communities and principal water and air services."[12]

While the current agreement satisfies the requirements of the Terms of Union, the constitutional obligation to provide the service remains that of the federal government rather than the province.

PRINCE EDWARD ISLAND AND NEWFOUNDLAND

The federal agreements with Prince Edward Island and Newfoundland ensured specific ferry routes. In 1873, Prince Edward Island joined Confederation with the assurance that the Dominion government would "assume and defray all charges" relating to a list of services, including what has become the ferry service connecting Prince Edward Island and New Brunswick.[13]

Term 32(1) of the 1949 *Newfoundland Act* provided that "Canada will maintain in accordance with the traffic offering a freight and passenger steamship service between North Sydney and Port aux Basques, which, on completion of a motor highway between Corner Brook and Port aux Basques, will include suitable provision for the carriage of motor vehicles."[14]

Marine Atlantic operates the two ferry services that fulfil Canada's constitutional obligations to these provinces. One service operates between Cape Tormentine, New Brunswick, and Borden, Prince Edward Island; the other, between North Sydney, Nova Scotia, and Port aux Basques, Newfoundland. Terms 32(2) and 32(3) of the *Newfoundland Act* limit the rates that can be charged for traffic to Newfoundland.[15] This is the only rate limitation for any constitutionally required ferry service.

The possibility of fulfilling the constitutional ferry obligation to Prince Edward Island by replacing the ferry service operated by Marine

Atlantic with a fixed link has been under consideration for several years. In the spring of 1992, in response to a federal government invitation, three developers submitted proposals to construct and operate for 35 years a fixed link between New Brunswick and Prince Edward Island. At the time of writing, all of these bids had been rejected as not complying with the federal government's requirements, and discussions were ongoing. The invitation for proposals provided that at the end of the 35-year period, the structure would become the property of the federal government and would be operated as an interprovincial bridge. During the intervening period, the federal government would pay the operator a predetermined amount that would be similar to the amount that the ferry subsidy at existing levels would have been, plus other avoidable costs of the service. Had our principles been adopted, however, the ferry subsidy would have been substantially lower and the proposed fixed link would only meet our investment criteria with a higher bridge toll.

Marine Atlantic and BC Ferries — Costs and Revenues

The two largest ferry companies in Canada receive different levels of government subsidies.[16]

Marine Atlantic Inc.'s revenues totalled nearly $218 million in 1990. Of this amount, $147 million[17] came from federal taxpayers and the rest, $71 million, came from ferry passengers and freight.

The commercial portion ($71 million) of the total revenues came from fares and charges for other on-ship services, such as restaurants, and vessel and miscellaneous services. Charges for the direct movement of passengers and vehicles accounted for almost 78 percent of commercial earnings.

Of the federal payment ($147 million), $96 million was for direct operating expenses (excluding any allocations for administrative or capital costs). Approximately 60 percent of this latter amount was for the two constitutionally required services ($22.7 million for the Prince Edward Island service and $36 million for the Newfoundland service).

BC Ferries' revenues totalled $242 million in 1990. Of this amount, $229 million came from commercial revenues, including tolls for passengers and vehicles, and catering and other income, and $13 million came from British Columbia taxpayers as an operating subsidy.[18] Passenger-transportation-related revenues accounted for almost 81 percent of commercial revenues.

In addition to operating revenues, various forms of capital assistance are provided by federal taxpayers to Marine Atlantic and by British Columbia taxpayers to BC Ferries.

There are large differences in average costs for the two ferry companies. Average passenger costs for Marine Atlantic are approximately double those of BC Ferries. Average passenger costs, however, for BC Ferries' services, excluding the services between Vancouver Island and the mainland, are similar to those for Marine Atlantic's operations. Some of the reasons for the large differences in average costs are as follows:

- BC Ferries has a more even distribution of annual traffic than does Marine Atlantic. Peak season activity represents about 40 percent of total annual passenger traffic for Marine Atlantic, but only about 22 percent for BC Ferries.[19] Marine Atlantic vessels are constructed to handle this peak season traffic and therefore have unused capacity in the off-season. In contrast, more even year-round operation allows BC Ferries to make fuller use of its vessels.
- Marine Atlantic has higher costs because its vessels must be ice-strengthened for winter conditions. Ice strengthening increases initial capital costs and, as a result of the added vessel weight, operating costs increase as well. BC Ferries, however, operates primarily in the southern part of the province, where weather conditions are less severe. This results in fewer capital-intensive shore facilities, lower vessel operating expenses and fewer cancellations because of bad weather.

- Wage rates do not contribute to Marine Atlantic's higher operating costs. Labour costs are 44 percent of Marine Atlantic's total operating costs, and 55 percent of BC Ferries'. In addition, BC Ferries' wages are, on average, 11 percent higher than those of Marine Atlantic. Administrative costs do not differ substantially between the two operators — they represent 11.6 percent of Marine Atlantic's total costs, and 14.3 percent of BC Ferries'.

The Pricing of Ferry Services

In Chapter 4, we recommended that travellers pay the full costs of the transportation services they use and that carriers pay the full cost of the terminals, links and traffic control services they use. Thus, passengers (and freight shippers) should pay the full costs of the ferry services that they use, and operators of ferry services should charge travellers the full costs of providing their service, including the costs of the provision of terminals, harbour fixtures and navigational aids.

Any additional costs imposed on ferry operators because of government requirements (such as requirements to purchase local or Canadian manufactured goods or equipment or to have maintenance or refitting of vessels carried out at specific locations) should be clearly identified. These costs should be funded by the government concerned, out of the appropriate industrial or regional development budget, and should not be included as part of the costs to be recovered through fares.

In addition, in Chapter 4 we recommended that terminals, links and traffic control services be individually priced on a terminal-by-terminal, link-by-link and service-by-service basis. The nature of a ferry service allows each service or link to be priced individually.

We realize that the goal of full payment of costs cannot be achieved immediately, but, from this point on, governments should use this goal when setting policy, making transportation investments, and looking at future programs and projects. Avoidance or minimization

of subsidies on existing services results in a more favourable environment for introducing innovative services. The new high-speed ferry service introduced early this year between Victoria and Vancouver is an example of what can happen in a free market. It competes with a BC Ferries' service that receives little or no subsidy.

We recognize that, for some routes, ferry rates would have to increase considerably (more than 10 percent annually) to achieve financial self-sufficiency within the next 10 years. In other cases, ferry rates are already at, or near, cost-recovery levels.

Table 14-1 compares the rates charged on routes of similar length for Marine Atlantic and BC Ferries. The figures show that:

- Marine Atlantic's one-way fare per kilometre for the shortest route shown is higher than for a similar length route operated by BC Ferries;
- one-way fares per kilometre on the longest routes differ substantially on the east and west coasts; and
- fares on medium-length routes also vary. On the east coast, the Yarmouth to Bar Harbor route is almost the same length as the North Sydney to Port aux Basques route, but its one-way fare per kilometre for a passenger is nearly three times as much in the peak operating season. The fare differential is less in the case of the one-way fare for a car and driver. Both routes are operated by Marine Atlantic. BC Ferries' fare for a comparable-length service from Prince Rupert to Skidegate is similar to that for Marine Atlantic's North Sydney to Port aux Basques route for a passenger, but nearly one-third more for a car and driver.

In the transition to ferry services where travellers pay the full costs of the services they use, ferry operators will have to raise rates and/or reduce costs on most routes. We realize that such adjustments will take time.

Table 14-1

SELECTED FERRY RATE COMPARISONS, MARINE ATLANTIC (M.A.) AND BC FERRIES (B.C.), 1992

Service	Crossing distance (km)	One-way fare auto and driver ($)	Fare/km auto and driver ($)	One-way fare passenger ($)	Fare/km passenger ($)
Cape Tormentine to Borden (M.A.)	15	11.75	0.78	3.25	0.22
Horseshoe Bay to Langdale (B.C.)	18	12.75	0.71	2.75	0.15
North Sydney to Port aux Basques (M.A.)	178	66.00	0.37	16.00	0.09
Yarmouth to Bar Harbor (M.A.)	185	120.00[a]	0.65	45.00[a]	0.24
Skidegate to Prince Rupert (B.C.)	172	82.00	0.48	17.00	0.10
North Sydney to Argentia (M.A.)	519	145.00	0.28	45.00	0.09
Bear Cove to Bella Bella to Prince Rupert (B.C.)	507	260.00[a]	0.51	85.00[a]	0.17

Sources: **BC Ferries and Marine Atlantic Inc.**

a. **Peak-season rate.**

Note: **Peak-season fares shown where applicable.**

Therefore, we **recommend** that:

14.1 Governments, in eliminating the capital and operating subsidies on individual ferry routes (including, where possible, the routes provided under the Constitution), establish transitional periods not to exceed 10 years in those cases where moving to immediate cost recovery would result in steep annual fare increases.

We also recognize the constitutional obligation of the federal government to ensure that adequate service continues to Prince Edward Island and to Port aux Basques, Newfoundland, and the constitutional limit on rates for the Newfoundland service. Wherever such routes require subsidies to cover costs, we believe that governments should ask the following:

- Are the fares appropriate?
- Is the operation furnishing services of sufficient benefit to justify continuation in its current form?
- Are there adequate pressures to achieve cost savings?

It may be possible, with increases in rates and cost reduction, that a constitutional service can be financially viable. Under those circumstances we think that is what should happen. We also recognize that, even with the most cost-effective service, and with rates that maximize revenues (subject to any constitutional fare constraint), traffic volumes may be such that a deficit might still be the case and, given the constitutional obligation, the federal government would have to continue to meet it.

In reviewing the options for moving toward elimination of the subsidy, the federal government should consider whether contracting out the provision of service, with fares ultimately to be set by the operator but with the transitional subsidy, would be cost effective. In this case, the tender could also provide for the operation of government-owned vessels for several years.

Keeping the above in mind, we **recommend** that:

14.2 In the case of those ferry services provided as a result of constitutional obligations, the governments concerned reassess arrangements and implement one of the following options:

(a) phasing down the capital and operating subsidy over 10 years to the minimum level consistent with continued operation of the service and with any other constitutional constraints; or

(b) offering a federal grant to the affected province in lieu of the subsidy. Such a grant might be based on the least-cost method of meeting the constitutional commitment. This would allow the province to decide if subsidizing ferry service was the best use of the funds.

To encourage an appropriate balance between fare increases and cost reduction efforts, we suggest that users of subsidized ferry services be given opportunities to advise the ferry operator on costs and fares. In providing their advice, we ask them to recognize the subsidy constraints faced by the operator and the need for procedures to achieve full cost recovery, or reduction or elimination of services.

In addition, we **recommend** that:

14.3 Where a ferry service provided as a result of a constitutional obligation is commercially non-viable, taxpayers provide the subsidy — not users of other ferry services through cross subsidies.

Those responsible for making and applying the rules and spending the taxpayers' money should be accountable for their actions. If government decides to continue subsidizing a ferry service, for whatever reason (for example, regional development), the decisions should be transparent, that is, visible and up-front.

Therefore, we **recommend** that:

14.4 The amount of, and reason for, any subsidy for a ferry service be clearly reported.

ENDNOTES

1. British Columbia Ferry Corporation, *Annual Report 1990-1991*, p. 3.

2. Two of BC Ferries' most highly used routes carried more passengers than did the other systems combined. These are the Tsawwassen to Swartz Bay and the Horseshoe Bay to Nanaimo routes, which carried approximately 5.9 million and 3.8 million passengers, respectively, in 1990.

3. Geoplan Consultants Inc., *Canadian Ferry Costs and Industry Analysis*, a report prepared for the Royal Commission on National Passenger Transportation, RR-09, December 1991.

4. Société des traversiers du Québec, *Rapport d'activités, 1990-1991*, Table 1.

5. Ontario Northland Transportation Commission, Planning and Development Office.

6. Geoplan Consultants Inc., Tables 3.1, 4.1 and A.1 to A.5.

7. For a more detailed discussion, see Patrick J. Monahan, "Transportation Obligations and the Canadian Constitution," in Volume 3 of this report.

8. See Transport Canada, "Subsidy Agreement between the Government of Canada and the Government of the Province of British Columbia," April 18, 1977.

9. Transport Canada, *1992–93 Estimates, Part III, Expenditure Plan* (Ottawa: Supply and Services Canada), pp. 3-30.

10. Transport Canada, "Subsidy Agreement," section 5.

11. Ibid., section 4(2).

12. Ibid., section 4(3).

13. The relevant term in the *Prince Edward Island Terms of Union* provided for: "Efficient Steam Service for the conveyance of mails and passengers, to be established and maintained between the Island and the mainland of the Dominion, Winter and Summer, thus placing the Island in continuous communication with the Intercolonial Railway and the railway system of the Dominion."

14. *Newfoundland Act*, R.S.C. 1985, Appendix II, no. 32.

15. The wording of these terms is as follows:

    32(2) For the purpose of railway rate regulation the Island of Newfoundland will be included in the Maritime region of Canada, and through-traffic moving between North Sydney and Port aux Basques will be treated as all-rail traffic.

    32(3) All legislation of the Parliament of Canada providing for special rates on traffic moving within, into, or out of, the Maritime region will, as far as appropriate, be made applicable to the Island of Newfoundland.

16. This section is based on the report by Geoplan Consultants Inc. entitled *Canadian Ferry Costs and Industry Analysis.*

17. The total of $147 million includes $26 million that is shown as depreciation. The federal government funds Marine Atlantic's capital requirements directly. Depreciation is shown to reflect a capital cost on the assumption that depreciation, in the long run, will equal capital advances.

18. The financial assistance provided to BC Ferries by British Columbia taxpayers is applied initially to cover any operating loss and, secondly, to a capital subsidy account. From 1989 to 1991 the provincial government provided $51 million annually. Since 1991, the annual subsidy amount has been negotiated by the province and BC Ferries, and has been reduced somewhat for 1992.

19. Peak season activity is defined as the volume of passenger auto equivalents moved in July and August. A passenger auto equivalent is used to measure deck space utilization to allocate costs to freight and passenger movements.

CHAPTER 15

INTEGRATING THE MODES

INTRODUCTION

As part of our mandate, the Government of Canada asked us to inquire into and report upon a national intercity passenger transportation system that would be integrated. In our Interim Report we noted that, "For some Canadians, the ideal passenger transportation system is one that integrates different modes of transportation. . . . Many Canadians would like to choose between a variety of modes of travel for a trip and be able to move between these modes easily."

Canadians spoke to us about three types of intermodal connections that they consider desirable:

- multimodal terminals — that is, terminals shared by several modes;
- improved linkages from terminals to downtown or home, including baggage handling; and
- integrated reservation and ticketing systems, including multimodal travel packages.

INTEGRATION TODAY

In Canada, with rare exceptions, the only form of intercity transportation that takes people and their luggage directly from home to destination is the car. Rail, airplane, bus — all rely on each other or on the car to deliver most travellers to their destinations. Virtually all the terminals of the public modes are designed around the car.

There are many other reasons for the limited integration of public intercity passenger transportation. To some extent, the problems of intermodal passenger transportation result from governments having

introduced safety and economic regulations along modal lines. While such regulations make administrative sense for technologies and markets, they have tended to keep the modes apart. Also, integration is held back because carrier managers do not want to be dependent on other modes whose operations they may not fully understand or with which they are in competition.

We believe that intermodal connections for public passenger transportation can be improved. We note the way freight is transported in Canada, where we see an industry with increased integration and competition among intermodal services. Rather than operating in isolation, the modes that handle freight cooperate extensively to offer shippers convenient and speedy service. The smooth flow of goods depends on a network with good connections between modes, and on sophisticated management, including computerized capacity scheduling.

So what is causing the lack of integration in the passenger transportation system? In our study of intermodal transportation, we found some good examples of integration, some examples where the missing link between modes is simply lack of information on schedules and tickets, and others where the lack of coordination is not logical. We examined these situations and others, focussing our attention on those aspects of passenger transportation that might inhibit intermodal cooperation: regulatory restraints, industry reluctance, lack of government cooperation or planning, and gaps in transportation infrastructure (such as rail tracks that run right by airports but do not connect with terminals).

To be successful, intermodal connections require cooperation among carriers. Two operators of different modes sharing a terminal, but operating independently and with no effort to coordinate schedules or ticketing, are not achieving intermodality. A network of several modes with a common reservations system, common ticketing, coordinated schedules and effective transfers of people and baggage between modes may integrate successfully without sharing a terminal.

Carriers tend to favour intermodal connections when the modes complement one another (intercity buses connecting with urban transit, for example) but dislike intermodal connections when the modes compete with each other (intercity buses competing with intercity rail, for example).

Canada's Busiest Intercity Passenger Service is Intermodal

The 44-km BC Ferries service between Victoria (Swartz Bay) and Vancouver (Tsawwassen) carries six million passengers annually. Many of these are car travellers while others make the full trip by bus. But others find it convenient to travel by car, then ferry and then bus. The bus service also connects (via a suburban hotel) with a shuttle service to Vancouver airport.

Bus tickets may be purchased aboard the ferries, and foot passengers who indicate their intention to continue by bus may deposit their luggage as they enter the ferry terminal. Their baggage is then transported to the bus by ferry staff for delivery at the passenger's destination bus terminal.

Airports — Most Integration Occurs Here

In Canada, the most common form of intermodal integration is ground transportation at airports. Airports are usually located far from central business districts and urban transit systems. Making airports more accessible to passengers is thus a challenge. At Transport Canada airports, the rights to provide ground transportation are sold through competitive tender.

Private cars account for the largest proportion (65 percent)[1] of airport passenger arrivals and departures. Some travellers are dropped off and picked up; others park at the airport. Five percent of travellers rent cars at their destination airport.

Taxis and limousines provide convenient service to and from airports, but are the most expensive mode of public ground transportation. Nationally, they account for 15 percent of arrivals and departures. In general, taxi fares are regulated and taxis either pay the airport for the right to pick up passengers, or Transport Canada charges the local government for the costs to the airports associated with taxi operations. As an example of the former, Transport Canada charges over $4,000 annually per taxi for an airport taxi permit at Toronto's Lester B. Pearson International Airport. Due to the restricted number of permits, each has a market value in excess of $40,000. At Calgary, however, the city pays the airport for all taxi-related costs, which are estimated to be about $60 per taxi per year and any Calgary taxi may operate to and from the airport.

Taxis with municipal licenses may take passengers to airports; Transport Canada licenses taxis to pick up passengers from the airports. In cases where not having both licences causes taxis to make the return trip empty, the cost of taxi service is increased. Some hotels provide guests with courtesy vehicle service. These vehicles, which carry about 5 percent of passengers, pay airport licence fees equal to about one third of those charged to taxis.

Municipal buses providing links to central business districts are the cheapest form of ground transportation at airports. Airport employees are the predominant users of the local bus services (at Pearson, about a fifth of them do so). These buses, which carry a very small percentage of air passengers, are part of the municipal transit system and do not generally pay airport fees, nor do they handle baggage. Express bus services, which are licensed by Transport Canada, are generally used by passengers (about 5 percent), are more expensive and provide baggage service.

Out-of-town ground services, which include door-to-door vans and intercity buses, carry about 5 percent of airport passengers. Provincial boards regulate entry and the level of fares for these services. A Transport Canada permit, for which a concession fee may be charged, is also necessary.

Exclusive Concessions at Transport Canada Airports Reduce Competition

In 1991, Greyhound Lines of Canada applied for a permit to serve Calgary airport, which is owned and managed by Transport Canada. Their application stated that the company could provide airport passengers with convenient connections, via Greyhound's other routes, to neighbouring communities.

Transport Canada rejected the Greyhound proposal, deciding that the existing shuttle service to downtown Calgary, provided by a local carrier, was satisfactory.

Airport-to-rail intermodal connections do not exist, except to a limited extent at Montreal's Dorval airport, or via a bus link as in Toronto.

Many of these services suffer from a lack of visibility at airports, and information on schedules and fares is not always easy to find. Baggage handling and pre-boarding clearance are rare. Cash is often the only means of payment, and through ticketing is usually unavailable.

When we examined the charges for ground transportation at Transport Canada airports, we found that they are inconsistent with the department's cost-recovery policy for federal airports. Given their revenue objectives, it is logical that airport management favours private operators (which pay for concessions) over public buses (which do not). What seems inconsistent is that, at Pearson, while taxis without airport licences are charged a fee for a pre-arranged pickup, there is no charge to private cars for pickup and drop off of passengers. This situation is not exclusive to Pearson. At other airports, different means are used to charge for access by taxis and buses, but no fee is charged for access by private cars. Since urban buses pay no airport fees, they receive the lowest priority for platform accessibility.

Many Connections at Pearson Airport

About 42,000 passengers arrive at, or depart from, Toronto's Lester B. Pearson International Airport every day, using different modes of transportation:

Car: **Approximately 28,000 travellers use private vehicles. The airport provides 9,500 parking spaces supplemented by private off-site parking with shuttle-bus service.**

Toronto transit: **Three urban bus routes connect through the airport, each with two or three departures hourly, some linked to the subway system.**

Taxis, limousines, vans and intercity buses: **550 taxis and limousines and 14 door-to-door van services and intercity bus companies offer scheduled and non-scheduled service to more than 50 centres throughout southern Ontario.**

The public carriers serving communities beyond the Toronto metropolitan area are members of the Airport Ground Transportation Association, which coordinates the flow of the carriers and their passengers. The airport permits access to all public carriers who have the approval of the provincial or city regulatory authority, subject only to availability of space.

Rail: **Governments earlier concluded that rail, as a stand-alone system, would not be economically viable. They are once again studying a rail link as part of the regional (all modes) transportation network. Rail connections via the express bus are available.**

Leisure travel is an example of carriers cooperating to provide intermodal connections. In the leisure travel market, bimodal and even multimodal all-inclusive flight, cruise, bus and train packages are standard. Examples include air-rail excursions in the Windsor to Quebec City Corridor, air-rail-bus packages to the Rockies, and tours that include west-coast and Arctic cruises.

Leisure Travel and Intermodal Connections

- Air Canada's Freedom Flyers promotion includes a seven-day Greyhound Lines of Canada pass.
- The Experience Canada coalition includes bus, rail and air carriers.
- Canadian Airlines International and VIA Rail offer fly-rail packages to foreign tourists.
- Canadian Airlines International and Brewster Transportation provide a fly-bus inclusive ticket price to Banff.

International Comparisons

In other countries, intermodal connections often involve considerable government funding and/or regulation. National railway monopolies dominate intercity public passenger transportation in Europe. For example, in France, the government intervened to ensure that a Train à Grande Vitesse (TGV) rail connection was developed at Charles De Gaulle airport. In addition, European governments often do not allow bus services to compete with train services.

In Germany, Frankfurt airport has instituted a central baggage handling system to maintain control over intercarrier baggage transfers and to improve the convenience of the airport as a transfer point between air and rail. The airport's system allows convenient integration of the government-controlled airline with the government-controlled rail system.

Many foreign airports are connected to cities through rapid-rail transit. For example, the U.S. government funds the "Metro" in Washington, D.C., which provides express subway service to Washington's National Airport. About 15 percent of airport passengers use this transit system. A new transit line to the Atlanta, Georgia, airport is used by 10 percent of air travellers to Atlanta as well as by airport employees.

Barriers to Integration

It was clear to us that Canadians want more integration of transportation, and that the current passenger transportation connections among modes are often not well developed. Is poor integration simply the result of competition among commercial carriers? For example, carriers see the other modes as competitors rather than extensions of their service. For this reason, bus carriers do not want their passengers to have easy access to trains and therefore resist the use of a common terminal.

THE CAR

We concluded that there are many reasons for Canada's lack of an integrated passenger transportation system. For example, Canadians' extensive use of motor vehicles discourages public mode integration. If cars and taxis did not provide transportation to and from terminals, intercity operators would have to cooperate with local public transit to provide door-to-door service.

THE GOVERNMENT'S ROLE

Both the *National Transportation Act* of 1967 and the *National Transportation Act, 1987* called for free competition among the modes. The 1967 Act promoted competition between public modes to create an "economic, efficient and adequate transport system." The 1987 Act expanded competition from among the modes to within the modes and, at least for the air mode, lessened regulatory burdens and simplified regulatory procedures. The legislation does not encourage cooperation among carriers of different modes.

COMPETITION

Although market forces may not be sufficient to encourage integration among competitors, we note that where there are a number of carriers and regulation of access to the market has been relaxed, intermodal

connections improve. Historically, links to rail have been more frequent where there were competing bus lines. As further evidence, deregulation of domestic air transportation encouraged new entrants and prompted major air carriers to integrate their schedules with subsidiary and allied feeder air carriers.

The airlines that made submissions to us expressed an interest in extending this type of integration to surface modes. In addition, VIA Rail has consistently expressed interest in bus-rail terminals, believing they would result in a net gain in traffic for VIA Rail. While air carriers are interested in better surface connections, market-entry regulations — particularly those for intercity buses — make it difficult for new operators to provide such connections.

REGULATION

The tightly regulated intercity bus industry poses obstacles to integration. Provincial regulations have created intercity bus route monopolies. In addition, intercity bus companies have generally been opposed to convenient bus-rail terminals. They believe they would lose profitable passengers to rail and only pick up less profitable or unprofitable feeder traffic.

Restricted access of ground transportation to air terminals hinders intermodal connections and traffic growth. In general, airports limit such access in order to generate revenue from concession permit holders. We are concerned that the federal government's current airport revenue policy creates pressure to obtain income from permits, and does not encourage airports to create and expand a wide range of ground transportation. We hope that the new federal policy of turning the management of federal airports over to local authorities will have a positive effect. We expect that local managers may give more weight to their communities' needs, to passenger convenience and to encouraging growth in passenger volume.

At present, computer reservation systems are confined to two modes. VIA Rail subscribes to the airlines' computer reservation systems,

but bus companies do not because they find them too expensive. Greyhound has introduced an automatic central telephone system that offers not only information on its own schedules and fares but also information on other bus companies in the continental network. Expanding such information systems to include all modes would be a step toward an integrated passenger transportation system.

DISMANTLING THE BARRIERS

In Chapter 13, we recommend major regulatory reform of the inter-city bus industry to permit competition within that mode. The result of these new opportunities might be a market comprising intermodal chains of cooperating carriers. These chains would compete with each other, providing convenient origin-to-destination, single-ticket service.

For many travellers, modal integration means the ability to make easy interconnections among the modes. This encompasses through ticketing, flow-through baggage handling and minimizing of the number of interconnections.

Many told us that they find it incredible that, through the action of governments, Mirabel airport was located so far away from any city, and with so few means of public access. In addition, many large airports such as Pearson and Dorval are not connected to urban subway networks or to nearby rail lines.

While some of these past decisions may not have been good, it would be extremely expensive to make the desired corrections. Interconnection projects should be evaluated in accordance with our principles. Those responsible for assessment should recognize that terminals alone do not achieve intermodality, that connections among competing modes generally require intervention by governments, and that costs, including common costs, must be properly charged to the various users of the transportation system.

Multimodal terminals are an obvious way to encourage integration. We note, however, that land costs have been a major consideration in the location of bus terminals, and local governments usually participate in deciding the location of urban terminals. Passenger rail stations are generally located near urban transit connections and offer practical starting points for multimodal rail and bus terminals.

Direct government intervention, involving access to public terminals and possible funding of construction, might support more intermodal cooperation. We believe, however, that there are more cost-effective ways to advance modal integration. The role of government as mediator and coordinator, but not necessarily as banker, needs to be emphasized. We urge that a greater role be played by governments at the local level. Reform of regulatory restraints, location of terminals, integration of capacity and design with urban development and zoning functions, and selection of suitable urban terminal designs are issues for local resolution.

Recommendations: Moving Toward Integration

Under our principles, we favour opening all transportation markets to competition, including providing for non-discriminatory access to transportation terminals. We believe that applying our principles to passenger transportation would substantially increase the availability and convenience of intermodal travel.

ACCESS TO TERMINALS

While market forces alone are unlikely to cause the development of major intermodal terminals, we note that terminals built by government do not guarantee better intermodal services. Unless there are large cost-savings, dominant carriers resist sharing terminals with their competitors.

Government and Multimodal Transportation Planning

Mirabel, Quebec

Planners recommended that Montreal's international airport be located in Hudson Heights, Quebec. Highway access and commuter rail service to Montreal and Dorval airport were convenient, as were highway access and passenger rail service to Ottawa.

For a variety of reasons, however, the federal government built the airport in Mirabel, north of the Ottawa River. Builders included a commuter rail station within the airport terminal. Governments believed that a rapid-transit connection would counter the inconvenience of the airport location and further stimulate economic development of the region. The transit system, however, was never built. The commuter rail station is not used and now provides parking for airport employees.

Calgary, Alberta

In the 1970s and early 1980s, Calgary planned to attract foreign tourists by integrating several modes of transportation in one terminal. Included would have been intercity bus passenger services, VIA Rail, the city's new light rapid-transit system and a shuttle bus to the airport with a check-in facility for airlines.

Two competing bus companies, Greyhound and Pacific Western Transportation, were eager to co-locate with VIA Rail but not with each other. When railway passenger service between Calgary and Edmonton was discontinued in 1986, Calgary's multimodal terminal planning ended.

Kitchener, Ontario

When its city council agreed that a catalyst was needed to revitalize Kitchener's downtown core, an urban/intercity bus transportation centre was chosen. The province of Ontario paid $3.8 million of the $10 million cost for the 28 bay terminal with parking and provision for a shopping mall. This multimodal transportation centre was opened in 1988.

Some interveners argued for public investment in multimodal terminals, saying that more travellers would choose public modes if transfers were more convenient. Although we have not found evidence to support this argument, it may be true. We do not believe, however, that building a terminal guarantees its effective use.

Scheduled urban bus transportation that links airports to cities can be found in such centres as Vancouver, Winnipeg, Toronto, Ottawa and Montreal. Direct rapid-transit links do not yet exist at any Canadian airport, nor are dedicated urban express bus connections as developed as they are in other countries. In many cases, public transportation services from the nearest airport to small cities are either infrequent or non-existent.

Bus companies told us that if Transport Canada's exclusive airport concessions to taxi and bus operators ended, the result would be increased services by the intercity bus operators. In addition, airlines might operate their own feeder buses. For service between airports and smaller communities, multiple-passenger taxi services, perhaps semi-scheduled, might be viable if they could pick up and deliver at the airports and were allowed unrestricted intercity operation. Eliminating licences and exclusive franchises would not, of course, require eliminating all charges for motor vehicle access to an airport, but these charges should be applied on an equal basis to private cars, taxis and buses.

We believe that levels of government must work together to improve air and ground connections while local authorities assume management of major airports.

Therefore, we **recommend** that:

15.1 Airport and municipal authorities cooperate to ensure unrestricted access to airports by all ground connectors who pay their share of the costs, and federal authorities grant all ground connectors open access to federally owned airports and rail stations.

15.2 All agreements for the sale or lease of federal transportation infrastructure include provisions that oblige the operating authority to grant open access to all intermodal connectors on equal terms and conditions.

ANTI-COMPETITIVE PRACTICES

Reducing regulations and removing impediments posed by differing regulatory jurisdictions may create a market dominated by one or two large, sophisticated carriers. We believe that our recommendations on open access would reduce the likelihood of a monopoly. We recognize, of course, that when competition is replaced with cooperation, dominant carriers, or a consortium of carriers, may gain market advantages and engage in anti-competitive practices.

In addition, transportation information technology, such as computer reservation systems, will play an important role in integrating passenger transportation services. Market forces will encourage the growth and development of these technologies, which, if controlled exclusively by one or two carriers, could lead to anti-competitive practices. How the government chooses to regulate against abuse by powerful data monopolies could influence future development of public intermodal connections.

Therefore, we **recommend** that:

15.3 To give all modes the opportunity to compete and to cooperate on an equal basis, the federal government extend its regulations governing the anti-competitive practices of computer reservation systems beyond the air mode to take a multimodal approach.

We believe that travelling Canadians would benefit from using intermodal connections and reservation systems that encourage cooperation and integration among modes.

ENDNOTES

1. The 65 percent for cars and corresponding percentages for the other forms of ground transportation are approximate, judgemental estimates based on information from a number of individual airports but not on systematic, comprehensive data.

CHAPTER 16

SEEING INTO THE SYSTEM: ACCOUNTABILITY AND TRANSPARENCY

INTRODUCTION

In Chapter 4, we stated that those responsible for making and applying transportation regulations and for spending taxpayers' dollars should be accountable for their actions. We said that governments can improve such accountability through transparency — making relevant information available and understandable. We further recommended that decision making be transparent so that Canadians can understand why choices are made.

In this chapter, we look at ways to improve accountability and to ensure that transportation expenditures and the reasons for making them are available to taxpayers and travellers. We are concerned with:

- what data are needed; and
- how the success or failure of the passenger transportation system can be judged.

WHAT CANADIANS TOLD US

WHAT THEY WANT TO KNOW

In our Interim Report,[1] we noted that Canadians had told us that they were not happy with the accountability and transparency of the passenger transportation system. They were not convinced that they were being told, with any accuracy, how their money was being spent, and they could not make a fair comparison between the travel modes because subsidies and costs were hidden within the system.[2]

In view of this, they wanted a more complete accounting of costs so that they could more adequately compare all modes, especially when considering large expenditures for new and improved infrastructure. They would also like a clear accounting of the subsidies paid by governments to the different modes of passenger transportation.

OBSTACLES TO TRANSPARENCY

Many who spoke to us recognized the difficulties in calculating the subsidies to each mode. These difficulties occur because:

- multiple levels of jurisdiction subsidize travel;
- governments report investment expenditures on air, road and water infrastructure as annual expenses that are, in turn, mixed in with annual operating expenses; and
- social and environmental costs are hard to measure.

Canadians asked us to do our best to help them understand how much money is being spent and how the levels of government are spending tax dollars on each mode. They asked for a comprehensive accounting of costs that would enable them to better evaluate transportation choices.[3]

ACCOUNTABILITY

BENEFITS OF NEW INSTITUTIONS

A Better Accounting of Costs

In Chapter 6, we recommended new institutions for managing the passenger transportation system. These new institutions would improve accountability and transparency because they would develop accounts differently from those maintained by federal, provincial and territorial departments of transport, and would report income and expenditures

in a more business-like way. For example, such institutions would regularly record investments in physical assets on a balance sheet — not as a current operating expense.

More-Visible Subsidies

The new institutions would be separate from government and would have a corporate structure. The result would be that, if a government decided to finance an activity that does not pay its way, that government would have to make public any subsidies paid for that activity. For example, if a government decided to build a road that did not meet the investment criteria of the road agency, it would have to pay the road agency to undertake the project, and the subsidy would be visible to the public in the government's accounts.

Throughout our report, we have recommended that governments make public not only the amount of subsidies, but the reasons for providing them. We believe that such information is necessary if taxpayers are to hold their governments accountable.

RECOMMENDATIONS FOR ACCOUNTABILITY

We also believe that, where agencies provide transportation infrastructure as monopoly suppliers, travellers and other interested parties should have a say in major decisions.

Therefore, we **recommend** that:

16.1 Where an agency providing transportation infrastructure is a monopoly supplier, the level of government responsible for the agency create an advisory body of travellers and other interested parties to counsel management on investment priorities, charging mechanisms and appropriate charges for achieving financial self-sufficiency.

Governments should be accountable in their roles as regulators and referees, as should government agencies who are monopoly suppliers of transportation infrastructure. Governments, therefore, must ensure that:

- objectives for such Crown corporations are clearly stated;
- information is available to allow taxpayers to assess the degree to which objectives have been met; and
- those responsible for making decisions are judged on their achievements.

The Need for More and Better Information

At present, there is a great deal of data available about Canada's passenger transportation system. During the course of our studies, however, we discovered many areas in which the data were not adequate to answer the questions we were mandated to investigate.

WHAT CANADIANS NEED TO KNOW

Data collection should meet the needs of users and other interested parties, such as ministers, government officials and carriers. To determine what information is necessary, we asked whether more or improved data are necessary to:

- predict what will happen to the system if a decision is taken to change it, or if the status quo continues;
- estimate the benefits and costs of proposed changes to the system; and
- evaluate the effects of a policy or program after it has been put in place. (In this case, the information should include the measurement of outputs as well as inputs. At present, governments rarely report on whether or not the programs' objectives have been achieved.)

CURRENT DATA GAPS

We identified several areas in which there are little or no data on the passenger transportation system. Table 16-1 shows where data gaps exist and how missing data would be used. The table indicates:

- what type of data is needed;
- the type of decision for which the data would be used;
- the contribution of such data in assisting people to participate in decision making;
- the difficulty of obtaining the data (the cost and the burden placed on those who must collect and report the information); and
- whether the gap is primarily one of data collection, estimation or analysis.

Table 16-1
CURRENT DATA GAPS

Type of data gap	How data would assist in making policy decisions	Contribution of data to accountability	Costs or burden	Action needed
Comprehensive coverage of services offered (frequency and points served) and prices.	To study the impacts of regulatory changes. To assess the adequacy of competition.	Good price and service data are key indicators of consumer impact.	Raw data are publicly available from the carriers, but data-base management would be required.	Data assembly and collation.
Information on public infrastructure and capital stock.	To provide a cost base for infrastructure pricing. To indicate the adequacy of replacement investment.	It will ease the evaluation of previous decisions, improve the transparency of capital costs and allow public capital costs to be compared with those of the private sector.	Establishing appropriate depreciation costs could be complex in some situations.	Estimation of depreciation, collection of data for existing projects.

Table 16-1 (cont'd)
CURRENT DATA GAPS

Type of data gap	How data would assist in making policy decisions	Contribution of data to accountability	Costs or burden	Action needed
Information on environmental impacts and costs.	To provide a basis for environmental charges and/or regulatory constraints. To help choose which mode to invest in when alternatives exist.	These data would help transportation policies to achieve environmental goals.	The costs would vary depending on the nature of the data required. The additional burden may be minimal if the data are also being used for an environmental assessment.	Evaluation of environmental damage and collection of data on environmental impacts.
Data on system use and volumes (especially for road travel).	To determine the demand for expansion when judging new projects. To allocate costs and design pricing policies appropriately. To assist in intermodal planning.	It will be used in evaluating projects and estimating the benefits of new or similar projects.	This may not be costly, either financially or in terms of response burden, if existing or modified highway counting systems can be used.	Data collection.
Information on the origin and destination of trips. (There is a large gap in highway data and some improvement needed in other modes.)	To provide background to assist in infrastructure investment and intermodal integration. To perform demand modelling.	This information would be helpful for understanding intermodal flows.	The collection of these data would be costly, and would require individual surveys.	Data collection.

RECOMMENDATIONS FOR DATA GATHERING

It is important that the data systems that we have begun to develop (in particular the estimates of costs of the passenger transportation system including environmental damage, safety and accident costs) be added to for future use and that data gaps be filled.

Therefore, we **recommend** that:

16.2 Governments allocate resources to the continuing improvement of travel and other transportation data and the data be available to the public.

16.3 Provincial and territorial governments cooperate with the federal government to ensure the collection of data for modes within their jurisdictions.

TRANSPARENCY

Better data would improve accountability, but would not necessarily ensure that passenger transportation decisions were more visible to Canadians.

We believe that Canadians should have access not only to information but to the reasons behind decisions that affect them as taxpayers and travellers.

Therefore, we **recommend** that:

16.4 The federal government publish an annual report card on the passenger transportation system to include such information as:

(a) who uses the transportation system and how much;

(b) the amounts and proportions paid by travellers, carriers and taxpayers;

(c) why, to whom and by whom subsidies if any are given;

(d) the reliability of the passenger transportation system;

(e) the safety of the passenger transportation system;

(f) the costs not recovered from travellers and carriers for such activities as policing highways, providing medical assistance for victims of traffic accidents, and repairing environmental damage caused by the transportation system; and

(g) the degree to which passenger transportation policy, and regulatory and expenditure decisions meet stated objectives.

ENDNOTES

1. *Getting There: The Interim Report of the Royal Commission on National Passenger Transportation* (Ottawa: Supply and Services Canada, April 1991), pp. 156-57.

2. Such subsidies and costs certainly include expenditures for policing highways, providing medical assistance for victims of traffic accidents, and repairing environmental damage caused by the transportation system. They would also, in principle, include any tax expenditures specific to transportation such as capital subsidies for the purchase of transportation equipment.

3. Two examples of improved transparency are the New Zealand Land Transport Fund and the Swiss Road Account. See New Zealand Ministry of Transport's "Land Transport System" and Francis-Luc Perret and P.A. Jaccard, "The Swiss Road Account," in the European Conference of Ministers of Transport, *Report of the Eightieth Round Table on Transport Economics on Systems of Road Infrastructure Cost Coverage*, Paris, February 1989.

CHAPTER 17

IMPLICATIONS FOR INTERNATIONAL COMPETITION AND FOREIGN OWNERSHIP

INTRODUCTION

Policy changes in transportation, as in other sectors of the economy, may affect Canada's economic relations with the rest of the world, particularly the United States, Canada's major trading partner. In the first part of this chapter, we discuss the potential effects that new charges for transportation infrastructure, environmental costs and accident costs will have on Canadian carriers who face international competition.

This chapter also considers, within the context of our principles, the issues associated with foreign ownership and entry of foreign-owned carriers into the Canadian market. We explored aspects of these issues in the discussion of international air policy in Chapter 11. In this chapter, we provide a broader review of how the application of our principles to all modes might affect international competition and investment, including foreign ownership.

TRANSPORTATION CHARGES AND INTERNATIONAL COMPETITION

Since many Canadian carriers are in competition with foreign carriers, we asked:

- If travellers must pay increased transportation charges, would such increases put Canadian carriers at a disadvantage with foreign competitors?
- Should concern about potential competitive disadvantages constrain the extent to which governments shift transportation costs from taxpayers to travellers?

- In previous chapters, we urge governments to consider the extent to which they treat the modes differently with respect to direct and indirect subsidies and taxes, because these differences may affect the ability of one mode to compete with another. Should governments be equally concerned that the treatment of a particular mode in Canada is different from the treatment of the same mode in other countries, particularly in the United States, where transportation subsidies are extensive?

In examining these questions, we asked more specifically:

- In what circumstances would higher charges create a competitive disadvantage for Canadian carriers?
- Where there is such disadvantage, in what circumstances would it affect the efficient functioning of the Canadian economy?

SITUATIONS WITH NO COMPETITIVE DISADVANTAGES

We believe there are many situations in which higher charges in Canada will not affect the ability of Canadian carriers to compete with foreign carriers. This is either because such competition does not exist, or because foreign carriers also would be subject to Canadian charges when they provide services that compete with Canadian carriers. Two examples follow.

Domestic services: Higher charges do not affect competition on those domestic services where travellers have little choice of alternative routes through the United States — for example, a trip from Calgary to Edmonton. International competition would also likely be unimportant on trips from Toronto to Montreal, and probably the majority of domestic routes. In some cases, however, the higher costs of a domestic trip might influence a traveller, particularly a tourist, to shift to a foreign destination. The result would be some adverse effects for Canadian suppliers of tourist services, and possibly for Canadian carriers.

Trans-border services: Higher fuel charges would probably have little effect on the competitive positions of Canadian and foreign carriers. Both groups of carriers face similar needs and opportunities to obtain fuel during the Canadian and foreign portions of their routes. Similarly, higher road tolls, airport landing charges and air navigation fees, which are also directly related to distance travelled or infrastructure used within Canada, would have little effect on the competitive position of Canadian carriers. Higher annual licence fees, however, could put Canadian carriers at a disadvantage unless foreign carriers face a comparable charge in relation to their use of Canadian infrastructure.

It is important to structure Canadian transportation charges so that they apply equally to Canadian and foreign carriers on routes that are entirely or partially in Canada. If equal charges are not possible (for example, if foreign carriers have better access to cheaper fuel than domestic carriers do), then special measures may be necessary. Foreign carriers may have to pay the equivalent of the Canadian charge, or governments may have to make less use of the specific charge.

SITUATIONS WHERE COMPETITIVENESS IS AFFECTED

In some cases, a route through another country — primarily the United States — can serve as an alternative to a Canadian route. The result is that a foreign or Canadian carrier can avoid the higher Canadian charges associated with the Canadian route. For example, a Vancouver to Toronto air traveller might take two flights involving a U.S. stopover, or might take ground transportation to nearby U.S. airports and fly from the United States. Re-routing via the United States, as a result of higher Canadian charges, could affect Canadian air travel and have a substantial impact on Canadian carriers.

We do not believe there is any gain in keeping traffic in Canada that does not cover costs. For example, raising charges on trucks to cover the costs of wear on Canadian highways might cause some truckers to use U.S. routes with lower charges that do not cover the cost of road wear. If Canadian governments set charges to truckers low

enough to retain the traffic in Canada, the gains to the economy from the charges, even with higher traffic, would not cover the costs of road wear; general taxpayers would therefore have to make up the difference. While the competitive position of Canadian truckers may suffer as a result of such higher road charges, maintaining a competitive position through a form of subsidy — charging less than costs — will not benefit the Canadian economy.

Similarly, if a carrier ceases to be competitive when it faces the full costs of its accidents and environmental damage, the Canadian economy is not likely to benefit from maintaining activities that cannot cover these costs.

There are two situations, however, where traffic diverted as a result of Canadian charges could involve a net loss to the Canadian economy: when environmental charges are based on global damages, and when transportation infrastructure charges are substantially higher than marginal costs.

When Environmental Charges are Based on Global Damages

If Canadian charges for environmental damage are based, not on damage in Canada, but on global damage, diverted traffic may result in a loss to Canada and little gain to the world. For example, Canada could impose a fuel charge for carbon dioxide (CO_2) emissions that is much higher than the charge imposed in the United States. The result could be lower revenues for Canada when traffic shifts to the United States and no environmental benefit to Canada or the world. There would be no reduction in CO_2 released, only a shifting of emissions out of Canada to the United States.

Although Canada may wish to show leadership in responding to global environmental problems, it will pay an economic price if it moves much ahead of other countries in pursuing such environmental objectives, either through higher charges or through stricter regulatory standards.

In Chapter 7, we identify global warming as a multinational issue and recommend that Canada strive to obtain international agreement on strategies that coordinate national policies and charges aimed at reducing global warming. It would not be appropriate for Canada to differ greatly from competitors in those environmental policies where the benefits of Canadian action are not concentrated in Canada but are global, and where the real benefit to Canada depends not on Canadian action but on global action. Canadians, however, should not lag behind the rest of the world in meeting their responsibilities in reducing global pollution.

When Transportation Infrastructure Charges are Substantially Higher than Marginal Costs

In Chapter 5, we examined situations in which transportation infrastructure charges may have to be substantially above marginal costs to achieve full cost recovery. In such cases, the value of the benefits received by a group of users should be a factor in determining the extent to which charges are in excess of marginal costs.

In a hypothetical example, the marginal cost associated with providing air navigation services for a passenger aircraft on a Vancouver to Toronto flight could be $100, but a charge of $300 has been set as part of recovering the costs of the air navigation system, since many of its costs do not vary proportionately with use. If such a charge results in an aircraft shifting from a Canadian to a U.S. route, Canada loses $300 in revenue but avoids only $100 in costs. Clearly, if it results in a substantial shift of traffic to the United States, this charging scheme will not be successful in recovering full costs.

In Chapter 5, we described our approach to pricing, in which some infrastructure charges take account of the value of benefits received. In applying that approach to our hypothetical example, one should recognize that:

- The alternative U.S. route reduces the value of the benefit of the Canadian air navigation system to the aircraft operator, who can make use of the U.S. route.

- Because the operator would not value the Canadian infrastructure as highly, the operator's desire to use the Canadian infrastructure would be more responsive to price than that of an operator who had no alternative.

- Therefore, operators in a position to substitute use of foreign infrastructure for a Canadian one should not be charged as high a mark-up over marginal cost as those who have no choice.

We recognize that foreign charges on competing routes and infrastructure do constrain the extent to which transportation charges in Canada should exceed marginal costs. We note, however, that the United States and other countries are changing the way they are charging for their transportation systems.

CONCLUSION

From our review of transportation charges and international competition, we conclude that:

- The appropriate starting point in setting charges for infrastructure, environmental damage and accidents is still the efficient costs associated with use in Canada for the different modes, rather than the level of foreign charges for the modes.

- Under our principles, net increases in charges to air and car travellers for transportation infrastructure, accidents and environmental damage would generally not be large relative to the overall cost of travel currently borne by travellers (Chapter 18). In addition, such increases would, in part, be offset by the gains that travellers experienced as a result of the new institutional arrangements that were more responsive to their needs, and provided better service.

- In many cases, the absence of foreign competition or the equal treatment of foreign and Canadian competitors, means that the competitive impact of Canadian charges compared with foreign charges would not be significant. Governments should be careful to design charges so that they apply equally to Canadian and foreign carriers using the same routes.

- There are situations, especially where there is a choice between a Canadian route and a foreign route, when the charges may affect the competitive position of Canadian carriers or may affect the route chosen by both Canadian and foreign carriers.
- Even if Canadian charges affect the competitive position of Canadian carriers, Canada's economy will not likely benefit when charges are set below marginal costs.
- There are two situations in which charges are set above marginal costs and in which the level of foreign charges should constrain Canadian charges.

  The first occurs when an environmental charge is based on global damage rather than on damage in Canada. It would be costly for Canada to impose higher charges than those imposed by its major trading partners. We strongly support international coordination of environmental policies and charges.

  The second occurs when transportation infrastructure charges are set above marginal costs to recover infrastructure costs fully. The ability of a group of travellers to substitute use of foreign infrastructure for Canadian infrastructure will constrain the extent to which charges can be raised above marginal costs.

Foreign Ownership

Under our proposals, any competitor who is "fit, willing and able" to supply passenger carrier services should have an opportunity to do so. We do not distinguish whether the competitor is a domestic or a foreign carrier. In transportation, as in other sectors of the economy, foreign competition can contribute to lower costs and improved product quality. Foreign carrier entry can be particularly important in those markets where actual and potential domestic competition is weak or absent.

Foreign carrier entry into the Canadian market may involve establishing a new Canadian base of operations by the foreign carrier, or acquiring a Canadian carrier. Restrictions on either form of entry may

reduce competition and pressures for efficient performance. Restrictions on foreign ownership could also result in a carrier being taken over by an existing domestic carrier, leading to a substantial increase in market concentration. In addition, controls on foreign ownership may prevent a firm from being integrated into a larger multinational operation and realizing major gains in efficiency.

At the same time, trade barriers — which Canada is not in a position to eliminate through its actions alone — prevail in world markets for some transportation services. These barriers should be taken into account when judging Canadian trade and foreign ownership policies.

AIR CARRIERS

As discussed in Chapter 11, today Canadian air carriers can enter foreign markets only through government-to-government negotiations in which foreign carriers are simultaneously offered increased access to Canadian markets. Unilaterally opening Canadian markets by giving landing rights to foreign carriers, in effect "giving away our bargaining chips," would foreclose opportunities for Canadian carriers to gain entry into new foreign markets. As we noted in Chapter 11, giving landing rights could also lead to the creation of monopolies on certain important international routes. A foreign government may be inclined to take advantage of the resulting opportunity to designate its national airline as the sole carrier on major routes to and from Canada.

We conclude that, in general, the federal government should not depart unilaterally from the special rules of government-to-government negotiation that characterize international air services. We recognize, however, that this approach may conflict with the need to maintain competition and ensure that air travellers are provided with low-cost, reliable service. Recommendation 11.6 and the final section of Chapter 11 on Open Skies address those situations where the benefits from new entry justify a departure from the traditional approach toward foreign ownership and competition in the airline industry.

RAIL CARRIERS

Passenger rail carriers generally operate within the borders of their home countries. This is true for VIA Rail in Canada and Amtrak in the United States, with the following exceptions:

- VIA Rail routes between Montreal and Halifax pass through Maine; and
- Amtrak uses Canadian track on its services into Toronto and Montreal and, in collaboration with VIA Rail, provides some domestic service in southern Ontario.

We do not believe that there is reason to restrict access to Canadian track by a foreign-owned rail carrier as long as the foreign carrier pays appropriate charges and is governed, while operating in Canada, by the same rules that govern Canadian-owned carriers.

BUS CARRIERS

Most companies in Canada's regulated intercity bus industry are domestically controlled. An exception is the country's largest carrier, Greyhound Lines of Canada Ltd., which is controlled by U.S. shareholders. Greyhound Canada's intercity bus operations earned about 40 percent of total industry revenue in 1989, or about three times as much as the next-largest intercity bus carrier. Our recommendations in Chapter 13 would benefit Canadian travellers by easing entry into the industry for both Canadian-controlled and foreign-controlled firms. The result would be a competitive environment that encouraged bus companies to innovate, reduce costs and improve service.

Bus carriers from the United States seeking entry into Canada would be subject to similar "fit, willing and able" criteria as Canadian carriers seeking to compete in those U.S. jurisdictions that have eliminated economic regulation. Many states in the United States continue to restrict entry into their intrastate markets. The United States *Bus Regulatory Reform Act, 1982*, however, deregulated interstate busing

and allowed the Interstate Commerce Commission to grant interstate carriers the right to serve points within a state on a new or existing interstate route.

We encourage the federal government to press for a relaxation of entry restrictions into those U.S. states that continue to impose economic regulation. Whatever emerges from such negotiations, however, we believe the interests of Canadian travellers are best served by relaxing provincial entry controls that apply to all firms, foreign as well as Canadian-owned.

FERRY CARRIERS

There are no Canadian restrictions on the ownership or control of ferry services. Restrictions do exist on the vessels that may be used to carry passengers between two Canadian ports, but such restrictions are designed to protect the Canadian shipbuilding industry, not the ferry operators. (Domestic water transportation is reserved for Canadian-registered ships. Foreign-registered vessels are subject to a substantial customs import duty, unless a waiver can be obtained owing to the lack of a suitable Canadian-registered vessel.) By contrast, the United States is highly protective of its carriers. Under the *Jones Act*, only U.S.-owned ferries can transport passengers between two ports in the United States. We believe this is an inappropriate model for Canada. Foreign ownership and entry restrictions are not consistent with our principles and are not in the long-term interest of Canadian ferry users.

In all modes, Canada will benefit from foreign competition as long as foreign carriers operating in Canada are governed by the same regulations that govern Canadian carriers.

CHAPTER 18

ADDING IT ALL UP: PASSENGER TRANSPORTATION COSTS — TODAY AND TOMORROW

INTRODUCTION

In this chapter, we provide estimates of the costs of transportation today and how we expect our principles to affect these costs in the future. To demonstrate how our recommendations would change costs, Tables 18-1 to 18-4 show:

- what is paid today, and by whom;
- what would be paid in the year 2000, and by whom, if governments do not change current transportation policy; and
- what would be paid in the year 2000, and by whom, if governments implement the recommendations in this report.

We want to stress that our recommended changes in charges to travellers are not an "add on" to existing fees, charges and taxes paid by Canadians. Canadians are already paying all the costs of transportation in some way. Increases in charges to travellers will be offset by making available billions of dollars annually that governments can use to lower taxes. As well, our charges to travellers are based on the provision of an efficient level of services and infrastructure, not "gold-plated" ones — you get what you pay for and only pay for what you get.

All estimated costs, for today and for the future, are in 1991 dollars. We did not build in estimates of inflation in the general level of prices that may occur between 1991 and 2000. We believe that giving costs in same-year dollars provides a better comparison.

We ask readers to understand that the costs in the tables and the text are not precise estimates, but are rough indications of the direction and magnitude of change and of the differences among the costs by mode. Providing precise estimates of future passenger transportation costs is beyond the scope and resources of the Royal Commission. When governments implement our recommendations, producing more precise estimates will require a substantial amount of work.

We cannot forecast with any precision how the Canadian population, economy and society will develop over the coming decades, or how the location of activities and the demands for intercity travel might alter. We do expect that intercity travel will continue to grow faster than the population and general economic activity, probably doubling each generation, and that long-distance travel, particularly by airplane, will grow faster still. Governments will implement our recommendations against this background of continual change. Our recommendations, in turn, will bring about further changes.

We do not believe that it is necessary to have precise forecasts to be confident that the effects of our recommendations will be beneficial. Under our principles, carriers and travellers will pay the full costs of travel. The result will be that they use transportation resources more efficiently in their choice of trips, modes and routes. For example:

- Transfer of road costs from taxpayers to car and other motor vehicle users will affect car use, causing consolidation of trips and — everything else being equal — shifts to other means of travel. There will be some encouragement of denser patterns of land use and of slower growth in car ownership.
- Reduction of fares on buses, following relaxation of economic regulation, will stimulate bus use, with some travellers switching from other means of travel and others making bus trips they would otherwise not have made.

- Charges for environmental damage will lead consumers to use cars that cause less damage, and may lead car makers to manufacture less-polluting cars.

The resulting changes in total travel and in the share of each mode will depend on many factors that interact in subtle and complex ways. We cannot forecast all the changes that will occur and their impact on transportation costs. But we can predict the major changes that will affect transportation costs for travellers, carriers and providers of infrastructure.

Costs for Illustrative Routes

We present illustrative costs for four intercity routes that represent different types of travel by length, passenger volume and carrier type. The costs are not specific to the routes, but are based on average costs for the type of service and distance.

Four Illustrative Routes

- **Saskatoon to Halifax: a long-distance route consisting primarily of medium-volume segments.**
- **Toronto to Montreal: a high-volume, medium-distance route.**
- **Churchill to Winnipeg: a low-volume, medium-distance route with no continuous road.**
- **Halifax to St. John's: a medium-volume, medium-distance route that may include ferry travel.**

READING THE TABLES

The following categories of transportation costs are shown in each route table:

Types of Transportation Costs[a]	
Infrastructure:	**costs of terminals, links and traffic control systems not provided by carriers.**
Environmental:	**costs of environmental damage associated with vehicle/carrier opertions.**
Accident:	**costs of death, injury (including health care costs) and property damage associated with transportation accidents.**
Special Tax/Fee:	**costs of fuel taxes and vehicle, carrier and drivers' licences.**
Vehicle/Carrier:	**costs of vehicles and carrier services.**

a. For more-detailed information on types of transportation costs, see Chapter 3.

The three blocks in the route tables with three columns in each block illustrate transportation costs in the following manner:

- "1991" shows current costs by means of travel. These figures are calculated on the same basis as the estimates in Chapter 3, and are identical to the Chapter 3 tables where they apply to the same routes.
- "2000 S-Q" shows costs projected for the year 2000, presuming the status quo (that is, no substantial adjustment to current transportation policy).
- "2000 D" projects costs for the year 2000, presuming that the recommendations in this report, *Directions*, are implemented.

Within each block, we identify two groups that pay the costs of transportation: users and others. "Users" include travellers and carriers.

"Others" are taxpayers and those affected by such factors as environmental pollution. The three columns in the block show costs paid by users and others and the total costs.

Users	*Others*
Travellers	**Taxpayers, through direct subsidies to carriers and subsidies for infrastructure**
Carriers	**General public, through the effects of environmental damage**
Vehicle owners	**Taxpayers, through health care costs of accident victims**
	Travellers on other routes (cross subsidy)
Users' Costs + Others' Costs = Total Costs	

If our recommendations changed how Canadians pay for passenger transportation, but did not change governments' or carriers' behaviour in providing transportation, or travellers' use of transportation, the impact would be simply to shift costs from others to travellers, with no impact on total costs.

In other words, total costs in the 2000 D case would be identical to the 2000 S-Q case, but others' costs in the 2000 D case would have dropped to zero (or close to zero, subject to some remaining transitional subsidies), while users' costs would have increased by a corresponding amount.

In fact, we expect that our recommendations will lead to changes in the behaviour of governments, carriers and travellers; changes that will reduce the total costs of providing transportation services. Therefore, we expect several components of the total costs in the 2000 D case to be lower than in the 2000 S-Q case, and costs to users will not, in general, have to rise by the full amount of the reduction in costs borne by others. Inevitably, our estimates of these reductions are

often quite approximate; they are intended to indicate the order of magnitude of the potential for cost reductions that might reasonably be achieved when our recommendations are implemented.

The tables show cost component estimates to the nearest dollar, although in many cases the figures are subject to margins of uncertainty of several dollars or, in some cases, several tens of dollars. We trust readers will bear with us when we refer to, for example, a cost of $378, and will interpret this as roughly $400. Our use of nearest-dollar figures is motivated by our wish to show some cost components that are only a few dollars, coupled with our wish to allow readers to see how the figures in the tables add up — which would be obscured by use of rounded components and totals.

Charts 18-1 to 18-4, corresponding to the tables, provide an alternative display of the 2000 S-Q and 2000 D cases (see explanation of chart format in Chapter 3).

All four routes share common features, and we discuss these in the text for the first route, Saskatoon to Halifax.

ROUTE #1: SASKATOON TO HALIFAX

Saskatoon to Halifax: 1991 Costs

The average overall costs per person travelling this type of route are $747 by car, $313 by bus, $443 by airplane and $1,532 by train.

For car travel, travellers pay $168 in accident costs (through insurance premiums and uncompensated damage losses), $53 in special taxes and fees, and $487 for vehicle/carrier expenses. Of others' costs, governments pay $67 to provide infrastructure. The public bears the environmental damage costs, estimated at $19 in winter and $24 in summer, or an average of $21 year-round. Another $4 for health care costs is unrecovered from motor-vehicle insurance companies and is paid by governments, but they receive $53 in special taxes and licence fees from motorists. In aggregate, travellers pay $708, while others pay $39 per car traveller for a route of this type.

Table 18-1

ILLUSTRATIVE COMPREHENSIVE COSTS PER PASSENGER IN 1991, 2000 "STATUS QUO" AND 2000 "DIRECTIONS" — ROUTE #1, SASKATOON TO HALIFAX

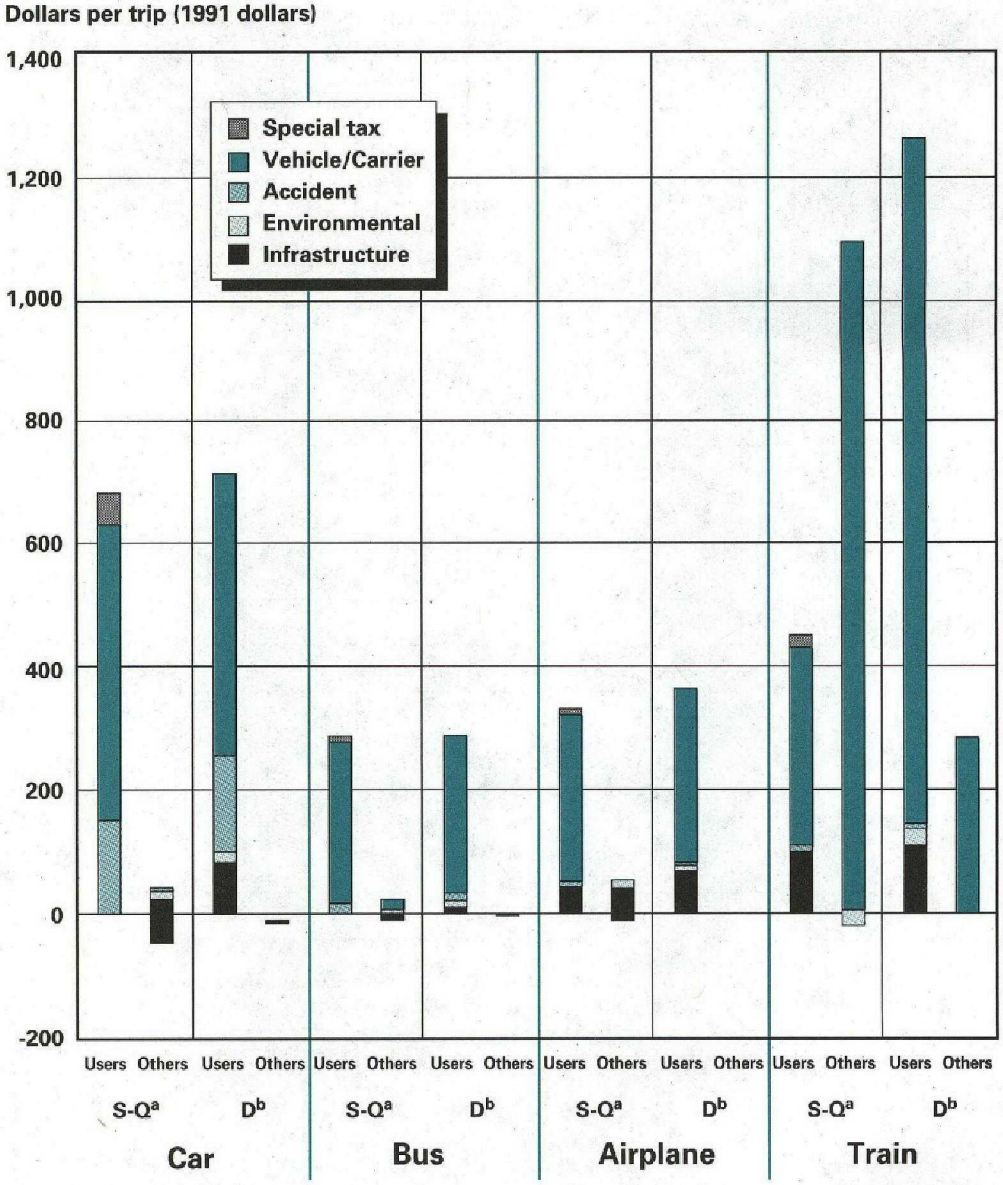
Dollars per trip, in 1991 dollars

Type of cost	Car 1991			Car 2000 S-Q			Car 2000 D		
	Users	Others	Total	Users	Others	Total	Users	Others	Total
Infrastructure	0	67	67	0	67	67	81	–18	63
Environmental	0	21	21	0	18	18	16	0	16
Accident	168	4	172	151	3	154	154	0	154
Special tax/fee	53	–53	0	53	–53	0	0	0	0
Vehicle/Carrier	487	0	487	476	0	476	468	0	468
Total	**708**	**39**	**747**	**680**	**35**	**715**	**719**	**–18**	**701**
	Bus 1991			**Bus 2000 S-Q**			**Bus 2000 D**		
Type of cost	**Users**	**Others**	**Total**	**Users**	**Others**	**Total**	**Users**	**Others**	**Total**
Infrastructure	0	8	8	0	8	8	9	–1	8
Environmental	0	7	7	0	7	7	5	0	5
Accident	18	0	18	16	0	16	16	0	16
Special tax/fee	9	–9	0	9	–9	0	0	0	0
Vehicle/Carrier	261	19	280	261	19	280	252	0	252
Total	**288**	**25**	**313**	**286**	**25**	**311**	**282**	**–1**	**281**
	Airplane 1991			**Airplane 2000 S-Q**			**Airplane 2000 D**		
Type of cost	**Users**	**Others**	**Total**	**Users**	**Others**	**Total**	**Users**	**Others**	**Total**
Infrastructure	37	68	105	37	47	84	66	0	66
Environmental	0	22	22	0	18	18	17	0	17
Accident	4	0	4	4	0	4	4	0	4
Special tax/fee	15	–15	0	13	–13	0	0	0	0
Vehicle/Carrier	368	–56	312	272	0	272	272	0	272
Total	**424**	**19**	**443**	**326**	**52**	**378**	**359**	**0**	**359**
	Train 1991			**Train 2000 S-Q**			**Train 2000 D[a]**		
Type of cost	**Users**	**Others**	**Total**	**Users**	**Others**	**Total**	**Users**	**Others**	**Total**
Infrastructure	93	0	93	99	0	99	113	0	113
Environmental	0	28	28	0	28	28	23	0	23
Accident	8	0	8	8	0	8	8	0	8
Special tax/fee	21	–21	0	21	–21	0	0	0	0
Vehicle/Carrier	264	1,139	1,403	322	1,090	1,412	1,127	285	1,412
Total	**386**	**1,146**	**1,532**	**450**	**1,097**	**1,547**	**1,271**	**285**	**1,556**

a. It is assumed that passengers would abandon some of this rail service before 2000, as subsidies were gradually withdrawn.

Note: In order to illustrate smaller components, route totals are shown to the nearest dollar. In general, cost estimates are not accurate to this level of precision. See text for qualifications.

Chart 18-1
Illustrative Comprehensive Costs per Passenger Projected to 2000, Saskatoon to Halifax



a. S-Q is status quo for year 2000.
b. D is with the recommendations in "Directions" implemented in 2000.

Note: The chart is a graphic representation of Table 18-1. Any negative components of costs borne by others are represented by shifting the others bar below the zero line.[1]

By comparison, the average traveller using a public carrier pays $288 for bus, $424 for airplane and $386 for train. Others pay $25 of the costs per trip by bus, $19 per trip by airplane, and $1,146 per trip by train.

For airplanes, the vehicle/carrier cost borne by others (–$56) shows that the charges to air travellers are $56 more than the costs of providing the service. The system-average revenue for journeys of this length in southern Canada is $368 (net of taxes, infrastructure charges and traveller-borne accident costs) and the system-average cost (including normal profits) is $312. Air travellers on this route pay $56 toward the cost of other air routes. This type of route is thus currently estimated to be characterized by above-average profitability. Differences in the profitability of route types change over time. We have assumed that the average fare equals the average cost for the year 2000 in both the 2000 S-Q and the 2000 D scenarios.

Saskatoon to Halifax: 2000 Status Quo

The estimated costs of travel in the future, without any significant change in transportation policy, allow for the following anticipated developments in traffic and technology:

- Domestic air travel and road traffic grow at 3 percent per year. We have adjusted the costs for infrastructure provided by governments to accommodate this growth.
- Considerable reductions in fuel consumption per passenger-kilometre occur as a result of new technology and the turnover of vehicle fleets — 13 percent on average for cars, and 15 percent for aircraft. Such reductions will lessen carbon dioxide (CO_2) emissions from these vehicles by the same proportions. Improved motor-vehicle emission control equipment reduces average emissions of nitrogen oxides (NO_x) and volatile organic compounds (VOCs) by 40 percent.
- New train technologies may contribute to reducing costs such as environmental damage, but we have not shown any improvement by the year 2000 given the slow turnover of long-lasting railway

locomotives. We also assume that rail passenger cars and service levels will be upgraded on the Western Transcontinental. This will be accompanied by some increase in infrastructure costs, vehicle/carrier costs, and revenues from users.

- Newer aircraft make substantially less noise; thus average noise costs fall as older models are replaced.
- Improvements in road safety continue, reducing accident costs per passenger-kilometre for car and bus by 10 percent.

Overall, total costs in 2000 S-Q fall from 1991 levels by approximately 4 percent per car trip and 15 percent per airplane trip.

Saskatoon to Halifax: 2000 Directions

We expect important changes in all modes as a result of the implementation of our recommendations.

Car: The special transportation tax/fees (fuel tax and licence fees) will be replaced by specific charges for infrastructure and environmental damages. If special taxes are viewed as charges for road infrastructure, in 2000 S-Q the overall recovery of infrastructure costs from travellers is only 50 percent across the entire road network, although it amounted to $53 out of $67 on this type of route.

We expect that in the year 2000, road charges will still need to be averaged across all highways within a province or territory, although charging by route will eventually be feasible. We show the cost to users for infrastructure provided on this route as an $81 road charge in 2000 D, generating a $18 surplus over the road costs for this type of route. This is necessary to cover the deficits on more-lightly travelled highways. We expect total road costs to fall as a result of improvements in investment planning and consultation with users in the rate-setting process. This is represented by a 5 percent decrease in road infrastructure costs for car travel over the 2000 S-Q costs.

The environmental damage charge would be set at the rate for air pollutant damage, most probably as a fuel surcharge. We expect that this charge, together with the increase in fuel charges described in the preceding paragraph, will stimulate travellers to reduce fuel consumption and emissions. The result is represented by a 10 percent reduction in fuel use, and thus in environmental damage and in the fuel component of vehicle/carrier costs. The environmental damage charge to travellers is $15 per trip in winter and $18 in summer, or $16 averaged over the year.

Users pay $39 more than the 2000 S-Q costs, or a 6 percent increase. Others do not pay anything, and the $18 surplus pays for less-used highways in the provinces through which the route passes. In total, the combined costs of car travel will fall by about 2 percent from 2000 S-Q to $701 for this type of trip.

Bus: Bus companies, and hence bus travellers, currently and in 2000 S-Q, pay special transportation taxes/fees that, on average, more than meet the costs of the roads; thus the infrastructure charge would not differ appreciably from the current fuel tax ($9). The environmental charge to users would be $5 per trip, resulting in a slight increase per passenger in the total of infrastructure charges, environmental charges, accident costs and special taxes (with the latter having disappeared in the 2000 D scenario).

With our recommendations in place, however, the bus industry would be open to competition, giving bus companies greater commercial freedom and eliminating cross subsidization of low-volume services from higher-volume routes. The resulting improved efficiency is represented by reductions of 10 percent per passenger in vehicle/carrier costs (from $280 in the 2000 S-Q case to $252 in the 2000 D case).

The 2000 D case shows a decline of $4, or 1 percent, in total users costs; the savings induced by greater competition would, in this case, be substantially offset by the elimination of cross subsidy.

Airplane: Under our recommendations, the federal government will transfer the costs of airports and the air navigation system from taxpayers to travellers. In addition, most airports and the air navigation system would be run as commercial operations. For a Saskatoon–Toronto–Halifax routing, we expect such changes would reduce total air infrastructure costs from $84 per trip in 2000 S-Q to $66 per trip in 2000 D. These costs would be paid directly or indirectly by air travellers.

The environmental charge to users would be $17 per user per trip in 2000 D; at the same time, governments will eliminate special fuel taxes. The net increase or charges, in turn, would cause carriers to slightly reduce fuel consumption.

Overall, fares (total costs to users) would rise by 10 percent, or $33, reflecting the transfer of costs from the taxpayer to the traveller, but total air trip costs would fall by 5 percent.

Train: We are recommending that taxpayers provide passenger rail with declining subsidies during a 10-year transition period. Much of the rail route between Saskatoon and Halifax is lightly used, and there are few prospects for substantial reduction in costs. For the year 2000, we show the subsidy as three-quarters phased out. The price to potential train travellers on this route, assuming no change in the number of passengers, would have risen substantially — to more than three times the average price of air travel. It seems likely that the number of travellers choosing the train would decline on several of the links that make up this route, and that passenger rail service, on some of these links, would be discontinued prior to 2000.

ROUTE #2: TORONTO TO MONTREAL

Toronto to Montreal: 1991 Costs

Total costs per passenger-trip on routes of the Toronto to Montreal type are $89 by car, $37 by bus, $194 by airplane and $137 by train.

On this type of route, bus passengers do not impose costs on others. The road-infrastructure costs and environmental costs are approximately balanced by special transportation taxes/fees (primarily fuel taxes). As well, fares paid by bus travellers exceed carrier costs; the excess is available to cross subsidize other bus services.

For the remaining types of travel:

- Others pay $4 of the total cost per car trip, because special taxes do not fully cover infrastructure, environmental and accident costs.
- On airplane flights, taxpayers and the public contribute a $20 shortfall in cost recovery on government-provided infrastructure plus $6 in environmental costs, minus $3 received from special (fuel) taxes. Travellers on other air routes provide $35 in estimated cross subsidy toward vehicle/carrier costs. (Travellers on this route make a lower than average contribution to overhead.)[2] Thus, in total, others contribute $58 per trip by airplane.
- Others pay $84 of the costs per passenger of the train service, nearly all for the direct subsidy to VIA Rail's vehicle/carrier costs.

Toronto to Montreal: 2000 Status Quo

Costs per bus trip are projected to remain constant, while costs in the other modes would decrease slightly. We expect important improvements in train travel through cost economies, service improvements and revenue enhancement, so that overall cost recovery from train travellers on this route would increase from 39 percent in 1991 to 47 percent by 2000.

Table 18-2

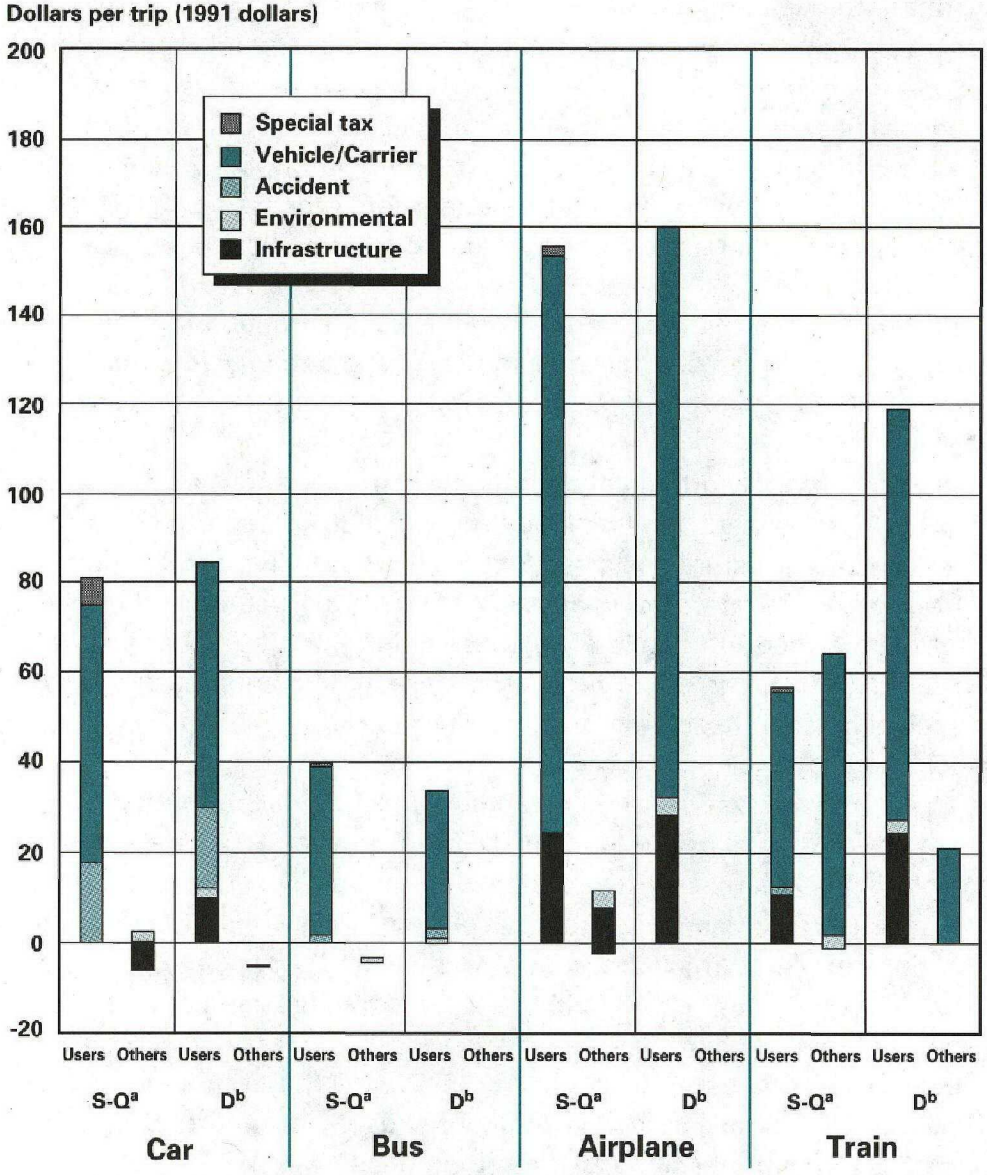
Illustrative Comprehensive Costs per Passenger in 1991, 2000 "Status Quo" and 2000 "Directions" — Route #2, Toronto to Montreal

Dollars per trip, in 1991 dollars

	Car 1991			Car 2000 S-Q			Car 2000 D		
Type of cost	Users	Others	Total	Users	Others	Total	Users	Others	Total
Infrastructure	0	6	6	0	6	6	11	-5	6
Environmental	0	4	4	0	3	3	3	0	3
Accident	20	0	20	18	0	18	18	0	18
Special tax/fee	6	-6	0	6	-6	0	0	0	0
Vehicle/Carrier	59	0	59	57	0	57	56	0	56
Total	**85**	**4**	**89**	**81**	**3**	**84**	**88**	**-5**	**83**
	Bus 1991			**Bus 2000 S-Q**			**Bus 2000 D**		
Type of cost	**Users**	**Others**	**Total**	**Users**	**Others**	**Total**	**Users**	**Others**	**Total**
Infrastructure	0	0	0	0	0	0	0	0	0
Environmental	0	1	1	0	1	1	1	0	1
Accident	2	0	2	2	0	2	2	0	2
Special tax/fee	1	-1	0	1	-1	0	0	0	
Vehicle/Carrier	37	-3	34	37	-3	34	31	0	31
Total	**40**	**-3**	**37**	**40**	**-3**	**37**	**34**	**0**	**34**
	Airplane 1991			**Airplane 2000 S-Q**			**Airplane 2000 D**		
Type of cost	**Users**	**Others**	**Total**	**Users**	**Others**	**Total**	**Users**	**Others**	**Total**
Infrastructure	22	20	42	24	10	34	28	0	28
Environmental	0	6	6	0	4	4	4	0	4
Accident	0	0	0	0	0	0	0	0	0
Special tax/fee	3	-3	0	3	-3	0	0	0	0
Vehicle/Carrier	111	35	146	128	0	128	128	0	128
Total	**136**	**58**	**194**	**155**	**11**	**166**	**160**	**0**	**160**
	Train 1991			**Train 2000 S-Q**			**Train 2000 D**		
Type of cost	**Users**	**Others**	**Total**	**Users**	**Others**	**Total**	**Users**	**Others**	**Total**
Infrastructure	9	0	9	11	0	11	25	0	25
Environmental	0	3	3	0	3	3	3	0	3
Accident	1	0	1	1	0	1	1	0	1
Special tax/fee	1	-1	0	1	-1	0	0	0	0
Vehicle/Carrier	42	82	124	44	62	106	90	21	111
Total	**53**	**84**	**137**	**57**	**64**	**121**	**119**	**21**	**140**

Note: **In order to illustrate smaller components, route totals are shown to the nearest dollar. In general, cost estimates are not accurate to this level of precision. See text for qualifications.**

Chart 18-2
Illustrative Comprehensive Costs per Passenger, Projected to 2000, Toronto to Montreal



a. S-Q is status quo for year 2000.
b. D is with the recommendations in "Directions" implemented in 2000.

Note: The chart is a graphic representation of Table 18-2. Any negative components of costs borne by others are represented by shifting the others bar below the zero line.[1]

Toronto to Montreal: 2000 Directions

Car: With our recommendations in place, overall costs, including environmental damage and accident costs, would fall slightly. Infrastructure charges and environmental damage charges would amount to $14 per traveller, or an increase of $8 on average per traveller over the equivalent charges (the special tax of $6) in 2000 S-Q. If this increase were charged entirely as a fuel tax, it would amount to 25 cents per litre of gasoline at current fuel consumption rates (our estimates of costs per traveller assume an average of 1.8 travellers per car).

Bus: As a result of deregulation and the elimination of cross subsidization through fares, total costs to users would fall by 15 percent from 2000 S-Q, becoming $34 per trip.

Airplane: More economical operation of airports and the air navigation system between the 2000 S-Q and 2000 D scenarios would reduce infrastructure costs by 18 percent. Eliminating the $10 subsidy from others for airport and air navigation infrastructure in 2000 S-Q would then require only a $4 increase in infrastructure charges, to $28, in 2000 D. The environmental charge of $4 compares with $3 in special taxes to users in the 2000 S-Q scenario.

Train: Cost recovery in 2000 S-Q would still be only about half of that required for viability, and in 2000 D, train vehicle/carrier subsidies would have decreased over a transition period. We believe, however, that there is a potential for train travel to succeed with our recommendations in place. Improved speed, comfort and service are possible on this route. Train travel could become attractive even at much higher fares. Total infrastructure and vehicle/carrier costs would increase 15 percent to $136 per trip ($25 + $111), but there would also be an increase in total revenues per user from $57 to $119. The 2000 D fare would still be $41 less than the air fare ($160 – $119). The taxpayer vehicle/carrier subsidy, which would not be completely phased out by 2000, would cover the difference of about $21 per trip.

ROUTE #3: CHURCHILL TO WINNIPEG

Churchill to Winnipeg: 1991 Costs

This remote route is of interest because it includes a substantial community that cannot be reached by car. Travellers from Churchill must use an airplane or train to reach Winnipeg. The costs of these modes today are:

Airplane: Users pay a total of $262 in air fare, while others pay $280 for the costs of the air infrastructure, particularly the Churchill airport. The total cost by air is $530 per trip.

Train: Users pay $229 in fares. The taxpayer contributes $2,749 per passenger to the trip — more than ten times as much as is paid by the traveller — and the total cost is almost $3,000 per passenger.

Churchill to Winnipeg: 2000 Status Quo

Projected growth in air traffic for 2000 S-Q would reduce the cost of the airport and the air navigation system, when averaged over more passengers, but the total infrastructure cost would still be $217 per passenger. We do not foresee any decrease in costs or increase in revenues for rail service.

Churchill to Winnipeg: 2000 Directions

For the 2000 D model, our assumptions for this type of route are as follows:

Airplane: Based on costs at similar non-Transport Canada airports, we believe that scaling the Churchill airport down to a size adequate to handle forecast demand, and allowing management to pursue efficiency, would reduce the total air infrastructure costs. The historical capital costs associated with the larger airport would not determine pricing during the transition. Rather, pricing would cover new capital spending to maintain the smaller airport. The reduced infrastructure costs would still be high compared with system-average airport costs,

Table 18-3

ILLUSTRATIVE COMPREHENSIVE COSTS PER PASSENGER IN 1991, 2000 "STATUS QUO" AND 2000 "DIRECTIONS" — ROUTE #3, CHURCHILL TO WINNIPEG

Dollars per trip in 1991 dollars

Type of cost	Airplane 1991			Airplane 2000 S-Q			Airplane 2000 D		
	Users	Others	Total	Users	Others	Total	Users	Others	Total
Infrastructure	28	280	308	25	192	217	34	9	43
Environmental	0	7	7	0	6	6	6	0	6
Accident	1	0	1	1	0	1	1	0	1
Special tax/fee	8	–8	0	7	–7	0	0	0	0
Vehicle/Carrier	225	–11	214	190	0	190	190	0	190
Total	**262**	**268**	**530**	**223**	**191**	**414**	**231**	**9**	**240**

Type of cost	Train 1991			Train 2000 S-Q			Train 2000 D[a]		
	Users	Others	Total	Users	Others	Total	Users	Others	Total
Infrastructure	186	94	280	186	94	280			
Environmental	0	23	23	0	23	23			
Accident	2	0	2	2	0	2			
Special tax/fee	41	–41	0	41	–41	0			
Vehicle/Carrier	0	2,673	2,673	0	2,673	2,673			
Total	**229**	**2,749**	**2,978**	**229**	**2,749**	**2,978**			

Type of cost	Bus–Train 1991			Bus–Train 2000 S-Q			Bus–Train 2000 D[b]		
	Users	Others	Total	Users	Others	Total	Users	Others	Total
Infrastructure							10	0	10
Environmental							4	0	4
Accident							4	0	4
Special tax/fee							0	0	0
Vehicle/Carrier							121	40	161
Total							**139**	**40**	**179**

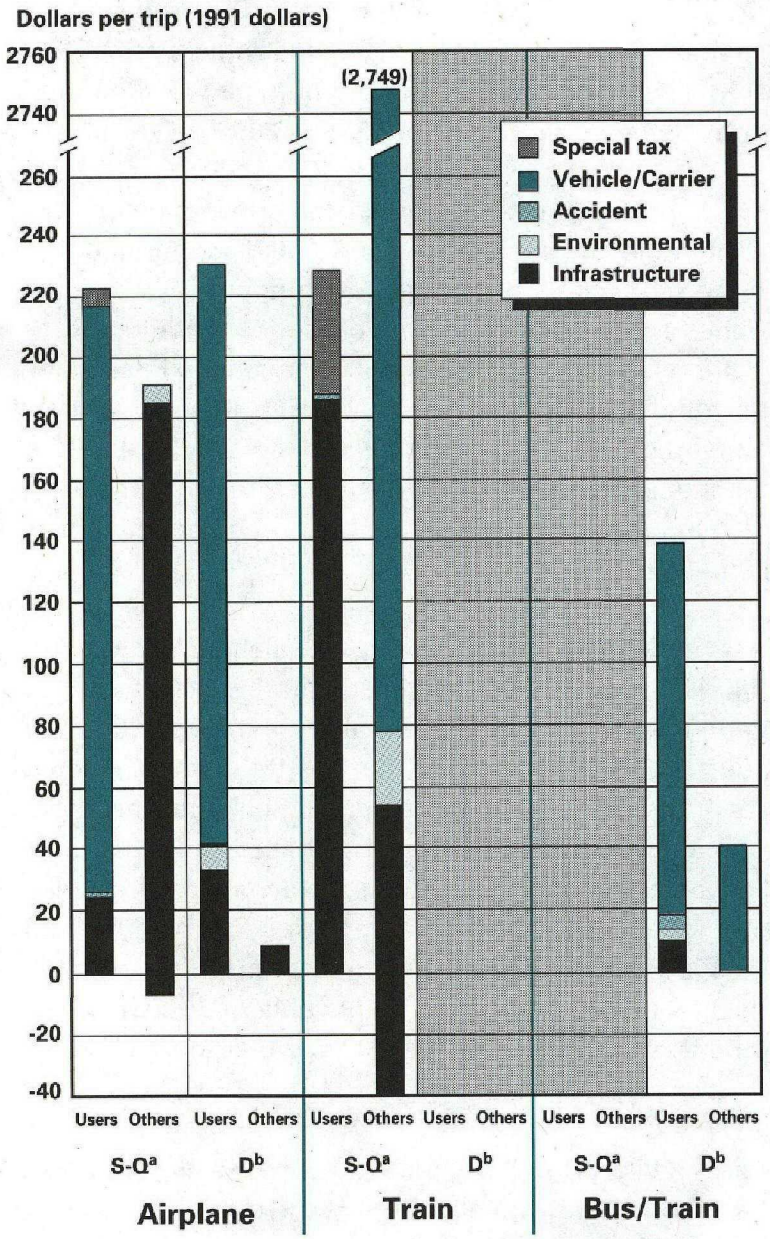
a. It is reasonable to predict that this rail service would be discontinued before 2000.

b. The bus–train service is shown as an alternative to air travel, presuming the through train service was discontinued.

Note: In order to illustrate smaller components, route totals are shown to the nearest dollar. In general, cost estimates are not accurate to this level of precision. See text for qualifications.

Chart 18-3

ILLUSTRATIVE COMPREHENSIVE COSTS PER PASSENGER, PROJECTED TO 2000, CHURCHILL TO WINNIPEG



a. S-Q is status quo for year 2000.
b. D is with the recommendations in "Directions" implemented in 2000.

Note: The chart is a graphic representation of Table 18-3. Any negative components of costs borne by others are represented by shifting the others bar below the zero line.[1]

but a major improvement over those shown in 2000 S-Q. Charging this amount to air travellers would constitute a steep increase in infrastructure charges to users (Recommendation 5.2) and result in a (decreasing) transitional subsidy from others, illustrated by the $9 shown in the table. Total infrastructure costs would be $43. The total fare paid by air travellers would rise from $223 in 2000 S-Q to $231.

Train: Since train service will never approach self-sufficiency on this route, we predict that the current service would be discontinued before 2000; we therefore show no figures for standard rail service in 2000 D. We searched for an alternative that passengers could afford and that did not impose such large costs on the taxpayer. Passengers from smaller communities along the rail line from Gillam to Churchill can be reliably served only by the train; the airplane-only option is restricted to residents of Churchill itself. We therefore developed a model for a bus-train intermodal system that would be effective and reasonably priced.

Bus-Train: There is bus service from Winnipeg to Gillam, 265 kilometres south of Churchill. This bus service combined with a mixed train (offering coach and freight services) would provide transportation to Churchill. Although the train segment of this bus-train service would lack the comforts of the present sleeper service (meal and beverage amenities), the distance and time involved would be much less. Such a service could achieve, or come much closer to achieving, full cost recovery. It is another example of when a transitional subsidy would be warranted. This is represented by a $40 others' contribution to vehicle/carrier costs. The subsidy would be payable on the Gillam to Churchill segment of the route. The total cost would be $179 per passenger.

Other alternatives: The very small population that lives along the rail line from Gillam to Churchill could also be served from Winnipeg by air to Gillam or Churchill and by the revised train service discussed earlier.

ROUTE #4: HALIFAX TO ST. JOHN'S

This route involves crossing between Nova Scotia and Newfoundland by air or by one of the two ferries: the year-round service between North Sydney, Nova Scotia, and Port aux Basques, Newfoundland, or the summer service between North Sydney, Nova Scotia, and Argentia, Newfoundland.

The combined road and ferry distances differ greatly between these two routes.

- Using the Port aux Basques ferry, the crossing is 178 kilometres and the road trip is 1,267 kilometres, for a total trip of 1,445 kilometres.
- Using the Argentia ferry, the crossing, which is 519 kilometres, reduces the road trip by 798 kilometres to 469 kilometres, for a total trip length of 988 kilometres.

With the exception of Halifax to Truro, no passenger rail services exist between Halifax and St. John's. The alternative means from Halifax to St. John's are airplane, bus-ferry or car-ferry. Table 18-4 illustrates five route combinations, including bus and car, using each of the two ferry routes.

Halifax to St. John's: 1991 Costs

Overall total costs per passenger-trip are:

- $214 by airplane;
- $333 by car-ferry using the Port aux Basques ferry;
- $292 by car-ferry using the Argentia ferry;
- $181 by bus-ferry using the Port aux Basques ferry; and
- $150 by bus-ferry using the Argentia ferry.

Table 18-4

ILLUSTRATIVE COMPREHENSIVE COSTS PER PASSENGER IN 1991, 2000 "STATUS QUO" AND 2000 "DIRECTIONS" — ROUTE #4, HALIFAX TO ST. JOHN'S

Dollars per trip, in 1991 dollars

Type of cost	Airplane 1991			Airplane 2000 S-Q			Airplane 2000 D		
	Users	Others	Total	Users	Others	Total	Users	Others	Total
Infrastructure	25	21	46	25	7	32	24	0	24
Environmental	0	6	6	0	5	5	5	0	5
Accident	1	0	1	1	0	1	1	0	1
Special tax/fee	1	–1	0	1	–1	0	0	0	0
Vehicle/Carrier	157	4	161	141	0	141	141	0	141
Total	**184**	**32**	**214**	**168**	**11**	**179**	**171**	**0**	**171**

Type of cost	Car + P-a-B[a] Ferry 1991			Car + P-a-B[a] Ferry 2000 S-Q			Car + P-a-B[a] Ferry 2000 D		
	Users	Others	Total	Users	Others	Total	Users	Others	Total
Infrastructure	0	30	30	0	30	30	31	–5	26
Environmental	0	9	9	0	8	8	7	0	7
Accident	48	1	49	43	1	44	44	0	44
Special tax/fee	15	–15	0	15	–15	0	0	0	0
Vehicle/Carrier	181	64	245	178	64	242	198	20	218
Total	**244**	**89**	**333**	**236**	**88**	**324**	**280**	**15**	**295**

Type of cost	Car + Argentia Ferry 1991			Car + Argentia Ferry 2000 S-Q			Car + Argentia Ferry 2000 D		
	Users	Others	Total	Users	Others	Total	Users	Others	Total
Infrastructure	0	32	32	0	32	32	31	–2	29
Environmental	0	12	12	0	12	12	10	0	10
Accident	18	0	18	16	0	16	16	0	16
Special tax/fee	6	–6	0	6	–6	0	0	0	0
Vehicle/Carrier	150	80	230	148	80	228	167	25	192
Total	**174**	**118**	**292**	**170**	**118**	**288**	**224**	**23**	**247**

Table 18-4 (cont'd)

ILLUSTRATIVE COMPREHENSIVE COSTS PER PASSENGER IN 1991, 2000 "STATUS QUO" AND 2000 "DIRECTIONS" — ROUTE #4, HALIFAX TO ST. JOHN'S

Dollars per trip, in 1991 dollars

Type of cost	Bus + P-a-B Ferry 1991			Bus + P-a-B Ferry 2000 S-Q			Bus + P-a-B Ferry 2000 D		
	Users	Others	Total	Users	Others	Total	Users	Others	Total
Infrastructure	0	12	12	0	12	12	11	0	11
Environmental	0	3	3	0	3	3	3	0	3
Accident	5	0	5	5	0	5	5	0	5
Special tax/fee	3	–3	0	3	–3	0	0	0	0
Vehicle/Carrier	106	55	161	106	55	161	135	7	142
Total	**114**	**67**	**181**	**114**	**67**	**181**	**154**	**7**	**161**
Type of cost	**Bus + Argentia Ferry 1991**			**Bus + Argentia Ferry 2000 S-Q**			**Bus + Argentia Ferry 2000 D**		
	Users	Others	Total	Users	Others	Total	Users	Others	Total
Infrastructure	0	25	25	0	25	25	23	0	23
Environmental	0	5	5	0	5	5	4	0	4
Accident	2	0	2	2	0	2	2	0	2
Special tax/fee	2	–2	0	2	–2	0	0	0	0
Vehicle/Carrier	87	31	118	87	31	118	87	12	99
Total	**91**	**59**	**150**	**91**	**59**	**150**	**116**	**12**	**128**

a. Port aux Basques.

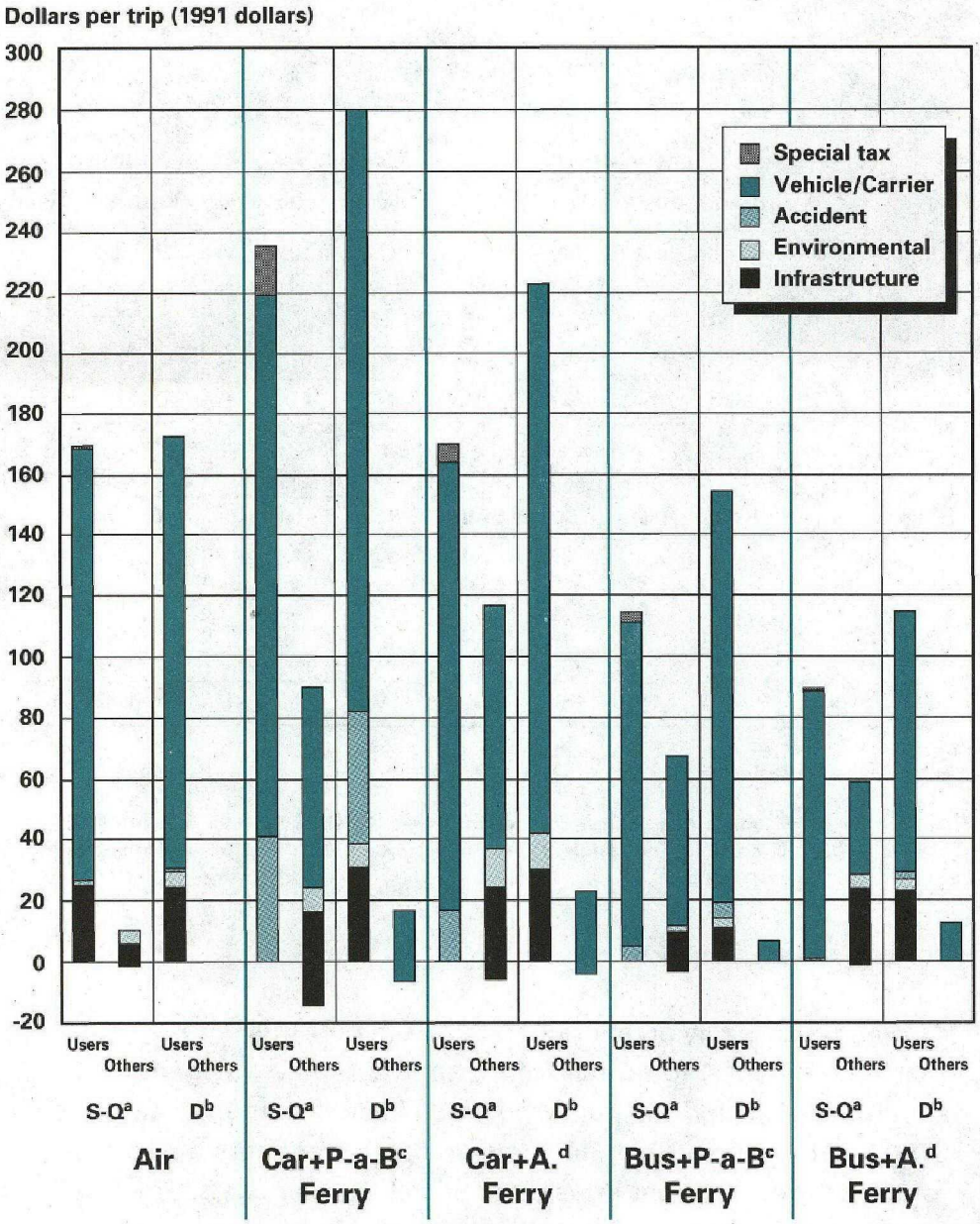
Note: In order to illustrate smaller components, route totals are shown to the nearest dollar. In general, cost estimates are not accurate to this level of precision. See text for qualifications.

In more detail, they are:

Airplane: Users pay an average fare of $184 for this type of route. Taxpayers pay $21 for unrecovered airport and air navigation infrastructure costs, and the public bears $6 in environmental damage. One dollar is recovered in fuel tax, and air passengers on other routes pay $4 in a cross subsidy to vehicle/carrier costs. The total contributed by others is $30 per passenger.

Car-ferry using the Port aux Basques ferry: (For this and the following three trips, the text reports some costs for the modal segments that are not shown in the table.) Average costs per traveller for the road

Chart 18-4
Illustrative Comprehensive Costs per Passenger, Projected to 2000, Halifax to St. John's



a. S-Q is status quo for year 2000.
b. D is with the recommendations in "Directions" implemented in 2000.
c. Port aux Basques.
d. Argentia.

Note: The chart is a graphic representation of Table 18-4. Any negative components of costs borne by others are represented by shifting the others bar below the zero line.[1]

segments of the trip are $213, of which $13 is borne by others in unrecovered infrastructure and environmental damage costs.

Others contribute considerably to the ferry portion of the trip. While a user pays $44 for the ferry, federal taxpayers contribute an estimated $8 for such infrastructure as coast guard and navigation aids on this route. In addition, the direct vehicle/carrier subsidy to the carrier from federal taxpayers is $64 per car traveller. Combining the car and ferry costs, travellers pay a total of $244 and others pay $89.

Car-ferry using the Argentia ferry: Costs for the road portions of the trip are $78; travellers pay all but $4. Of total ferry costs of $214, travellers pay $100 and others pay $80 in direct subsidy. In addition, others pay $24 in infrastructure costs and $10 in environmental damage for the ferry crossing. In combination, travellers pay $174 and others pay $118 of the total cost of $292 per passenger.

The Argentia route is advantageous to travellers to St. John's. It costs less than the Port aux Basques route when all car costs are included and eliminates 800 kilometres of driving. This route, however, costs the taxpayer more than the Port aux Basques route with current pricing and subsidy policies. Travellers currently pay less on the Argentia ferry route than if they were travelling by airplane, although the full costs per passenger for the trip are much lower by airplane.

Bus-ferry using the Port aux Basques ferry: To use this route, travellers must take a bus in Nova Scotia operated by a private carrier and cross Newfoundland on the Crown-owned CN Roadcruiser bus. Although we estimated the average fares from actual 1992 full-fare figures, the bus costs in the table are not those of any of the carriers involved but generic costs estimated from data for a number of carriers. Our table reflects a $33 vehicle/carrier subsidy from passengers on other routes and from bus carrier losses (borne by shareholders, which in CN's case is the federal government) and an estimated total bus fare of $99. The traveller pays $15 of the ferry service.

Taxpayers contribute $8 to marine infrastructure costs and pay a vehicle/carrier subsidy of $22. Including all components, total ferry costs are $46.

Combined fares for the bus and ferry portions of the trip are $114 paid by passengers, toward a total cost of $181 per passenger.

Bus-ferry using the Argentia ferry: Travellers also require bus service in Nova Scotia and Newfoundland for this trip. Both bus services are run by privately owned carriers; the Newfoundland run is much shorter than that required for travellers using the Port aux Basques ferry. The combined bus carriers' costs are estimated at $42 per trip, while the average bus traveller pays $45 in fares. Bus carriers use the extra $3 to cross subsidize passengers on other routes.

The traveller pays $42 in ferry costs. Taxpayers contribute $24 for marine infrastructure, and $34 in vehicle/carrier subsidies, for a total of $58. Together with environmental damage costs, total ferry costs are $106.

The combined fare for the bus and ferry portions of this trip is $91, while the total cost is $150.

Halifax to St. John's: 2000 Status Quo

Air infrastructure costs per passenger would fall as traffic increased at a greater rate than spending on airports and air navigation services. Airplane and car costs would also decline slightly as fuel consumption and emissions decreased and road accident costs fell. Costs of the bus and ferry services would remain the same.

Halifax to St. John's: 2000 Directions

When our recommendations are implemented, we expect the following changes in costs by mode:

Airplane: Airport and air navigation spending (infrastructure) would fall by 25 percent to $24 per passenger for this trip. Travellers would

pay all costs, including charges for infrastructure and environmental damage. Total costs per passenger would decline to $171. The total costs in the 2000 D case are expected to be almost the same as the traveller costs in the 2000 S-Q case.

Car: Car costs would change in the same proportions as those on the other routes. Road infrastructure costs would fall because only part of the growth in traffic would be met by increases in capital and operating spending. This is represented as a 5 percent decrease in infrastructure costs. The fuel tax would be changed into a road infrastructure charge and would almost double in order to cover costs throughout the road network. This increase, plus the charge to travellers for environmental damage, would bring a 10 percent reduction in environmental damage costs and the fuel component of vehicle/carrier costs.

Bus: Deregulation would encourage efficiency in operations and remove cross subsidization. Privatization or contracting for operation of the government-owned Newfoundland service could also result in cost reductions.

Ferry: With full cost recovery for navigation services and with transparency of cost-related decisions, we expect total costs for water infrastructure to fall 10 percent. The federal government would ensure full cost recovery in ferry financing by decreasing vehicle/carrier subsidies over the next 10 years. By 2000, subsidies would be only 25 percent of their 1991 levels, with elimination of remaining amounts scheduled for 2002 if that were consistent with continuing to meet Constitutional obligations to ensure service. Management would be directed to focus on efficiency. As a result, we expect ferry costs to fall 20 percent. Further, ferry users would not be charged with any extra costs associated with requirements to construct vessels in domestic shipyards.

In summary, under our recommendations the overall costs of the air, car-ferry and bus-ferry services would decrease notably. Most of the others costs would be paid by travellers. Total users' charges would therefore increase relative to the 2000 S-Q case from:

- $168 to $171 for airplane;
- $236 to $280 for car-ferry costs on the Port aux Basques route;
- $170 to $224 for car-ferry costs on the Argentia route;
- $114 to $154 for bus-ferry costs on the Port aux Basques route; and
- $91 to $116 for bus-ferry costs on the Argentia route.

Total System Costs

Illustrating the effects of our recommendations on the four routes gives some idea of the way we expect our recommendations to affect travellers using different routes and modes. To understand how our recommendations would affect the economy and taxpayers in general, it is also necessary to attempt to approximate the total effects.

We have done this using three tables:

Table 18-5: Total costs for Canada's intercity passenger transportation system projected to the year 2000, presuming no substantial adjustment in current transportation policy (the 2000 S-Q case). The table includes the costs for each means of travel and for total intercity travel.

Table 18-6: Total costs projected to the year 2000 after governments implement our recommendations (the 2000 D case). The table includes the costs for each means and for total intercity travel.

Table 18-7: Shows the 2000 D costs less the 2000 S-Q costs; this is an indication of the impact of the recommendations on the costs for each means of travel and for total intercity travel.

The tables are set up in a similar fashion to those for the illustrative routes. For the different components of transportation costs (infrastructure, environmental, accident, special taxes/fees and vehicle/carrier), the first and second columns indicate who pays — users and others including both the taxpayers and the public. The third column is the sum of the first two. The amounts in all tables are in 1991 dollars.

TOTAL COSTS IN THE 2000 STATUS-QUO CASE: TABLE 18-5

We based our calculations on simple projections of traffic growth from 1991 to 2000, consistent with those for the illustrative routes. For example:

- car and airplane travel will grow by 30 percent;[3]
- ferry travel will grow by 30 percent;[4] and
- bus and train travel will not change.[5]

As with the illustrative routes, we calculated total system costs to reflect the expectation that the average cost per passenger-kilometre will fall by the year 2000 due to trends in technology and traffic growth. For example (all references are per passenger-kilometre):

- fuel consumption will decrease by 13 percent for cars and 15 percent for airplanes;
- environmental damage from cars will drop by 20 percent, and from airplanes by 25 percent;
- accident costs for cars and buses will fall 10 percent;
- carrier operating costs for trains will be reduced by 5 percent;
- average costs of airport and air navigation infrastructure will decrease as use of the existing capacity grows; and
- ferry costs remain unchanged for the individual services, but the average declines slightly due to the faster growth in traffic on the lower cost services.

The result of these changes will be that total costs per passenger-kilometre fall by 3 percent for travel by car, 4 percent for train, 15 percent for airplane, 3 percent for ferry and remain unchanged for bus. Of course, with increases in traffic, the total amount spent on domestic passenger transportation will rise substantially between 1991 and 2000.

Table 18-5

ILLUSTRATIVE SYSTEM-WIDE ANNUAL COSTS OF INTERCITY DOMESTIC TRAVEL IN 2000 "STATUS QUO"

Totals: $ millions, in 1991 dollars

Type of cost	Car (270 billion pass-km)			Bus (3.3 billion pass-km)		
	Users	Others	Total	Users	Others	Total
Infrastructure	0	5,769	5,769	0	10	10
Environmental	0	1,247	1,247	0	8	8
Accident	9,213	202	9,415	12	0	12
Special trans. tax/fee	3,199	-3,199	0	9	-9	0
Vehicle/Carrier	28,954	0	28,954	277	8	285
Total	**41,366**	**4,019**	**45,385**	**298**	**17**	**315**

Type of cost	Airplane (33 billion pass-km)			Train (1.4 billion pass-km)		
	Users	Others	Total	Users	Others	Total
Infrastructure	723	701	1,424	45	0	45
Environmental	0	266	266	0	9	9
Accident	33	0	33	3	0	3
Special trans. tax/fee	165	-165	0	6	-6	0
Vehicle/Carrier	4,127	0	4,127	99	435	534
Total	**5,048**	**802**	**5,850**	**153**	**438**	**591**

Type of cost	Ferry (1.1 billion pass-km)			All intercity travel (310 billion pass-km)		
	Users	Others	Total	Users	Others	Total
Infrastructure	0	52	52	768	6,532	7,300
Environmental	0	22	22	0	1,552	1,552
Accident	1	0	1	9,262	202	9,464
Special trans. tax/fee	10	-10	0	3,389	-3,389	0
Vehicle/Carrier	264	113	377	33,721	556	34,277
Total	**275**	**177**	**452**	**47,140**	**5,453**	**52,593**

Note: **In order to illustrate smaller components, figures are shown to the nearest $ million. In general, cost estimates are not accurate to this level of precision. See text.**

TOTAL COSTS WITH OUR RECOMMENDATIONS IMPLEMENTED: TABLES 18-6 AND 18-7

The passenger transportation system would be fairer for all Canadians after our recommendations are implemented. Travellers would pay all the costs of their travel, including the costs of the damage they cause to the environment and of accidents. The result would be that most travellers would pay more for travel but this would be more than balanced by the reductions in what general taxpayers and the public would pay to support the passenger transportation system, reflecting a reduction in total costs — including environmental costs.

Putting our recommendations in place would cause changes in amounts of travel, varying by the means of transportation. With the increase in car and air costs to travellers, some reduction in use of these means is expected. With the increase in the price to the traveller of car and air travel, and reduction in price and improvement in service of main-route bus travel, some increase in use of the bus is expected. With only small percentage shifts from car and airplane to bus, more than a doubling in the use of intercity bus is entirely possible. Some increase in train travel on the remaining routes may be achieved through better service, in spite of the increase in fares. Ferry travel will tend to be reduced by higher fares, although it is not likely to be very responsive to price.

It is easier, however, to make and interpret cost comparisons under the assumption that traffic patterns and levels do not change from the 2000 S-Q to the 2000 D case. The figures in tables 18-6 and 18-7 for the different means of transportation are calculated using this assumption, with the exception that total train passenger-kilometres are reduced by 50 percent, reflecting our prediction that a number of passenger rail services would cease to operate as the subsidy is reduced. These figures are used in discussing changes in costs for the individual means of travel.

Table 18-6

ILLUSTRATIVE SYSTEM-WIDE ANNUAL COSTS OF INTERCITY DOMESTIC TRAVEL IN 2000 "DIRECTIONS"

Totals: $ millions in 1991 dollars

Type of cost	Car (270 billion pass-km)			Bus (3.3 billion pass-km)		
	Users	Others	Total	Users	Others	Total
Infrastructure	5,491	0	5,491	9	0	9
Environmental	1,122	0	1,122	6	0	6
Accident	9,414	0	9,414	12	0	12
Special trans. tax/fee	0	0	0	0	0	0
Vehicle/Carrier	28,480	0	28,480	237	5	242
Total	**44,507**	**0**	**44,507**	**264**	**5**	**269**

Type of cost	Airplane (33 billion pass-km)			Train (1.4 billion pass-km)		
	Users	Others	Total	Users	Others	Total
Infrastructure	1,133	40	1,173	32	0	32
Environmental	253	0	253	4	0	4
Accident	33	0	33	1	0	1
Special trans. tax/fee	0	0	0	0	0	0
Vehicle/Carrier	4,127	0	4,127	181	60	241
Total	**5,546**	**40**	**5,586**	**218**	**60**	**278**

Type of cost	Ferry (1.1 billion pass-km)			All intercity travel (310 billion pass-km)		
	Users	Others	Total	Users	Others	Total
Infrastructure	47	0	47	6,725	40	6,765
Environmental	17	0	17	1,405	0	1,405
Accident	1	0	1	9,470	0	9,470
Special trans. tax/fee	0	0	0	0	0	0
Vehicle/Carrier	320	28	348	33,411	93	33,504
Total	**385**	**28**	**413**	**51,011**	**133**	**51,144**

Note: **In order to illustrate smaller components, figures are shown to the nearest $ million. In general, cost estimates are not accurate to this level of precision. See text.**

Costs for means of travel do not sum to costs for all intercity travel, as the latter also includes allowance for costs of increased car, bus and airplane travel to replace assumed reduction in rail travel between 2000 S-Q and 2000 D cases. See text.

Table 18-7

ILLUSTRATIVE SYSTEM-WIDE ANNUAL COSTS OF INTERCITY DOMESTIC TRAVEL, CHANGES BROUGHT BY IMPLEMENTING "DIRECTIONS" COMPARED WITH THE "STATUS QUO"

Totals: $ millions, in 1991 dollars

Type of cost	Car			Bus		
	Users	Others	Total	Users	Others	Total
Infrastructure	5,491	-5,769	-278	9	-10	-1
Environmental	1,122	-1,247	-125	6	-8	-2
Accident	201	-202	-1	0	0	0
Special trans. tax/fee	-3,199	3,199	0	-9	9	0
Vehicle/Carrier	-474	0	-474	-40	-3	-43
Total	**3,141**	**-4,019**	**-878**	**-34**	**-12**	**-46**

Type of cost	Airplane			Train		
	Users	Others	Total	Users	Others	Total
Infrastructure	410	-661	-251	-13	0	-13
Environmental	253	-266	-13	4	-9	-5
Accident	0	0	0	-2	0	-2
Special trans. tax/fee	-165	165	0	-6	6	0
Vehicle/Carrier	0	0	0	82	-375	-293
Total	**498**	**-762**	**-264**	**65**	**-378**	**-313**

Type of cost	Ferry			All intercity travel		
	Users	Others	Total	Users	Others	Total
Infrastructure	47	-52	-5	5,957	-6,492	-535
Environmental	17	-22	-5	1,405	-1,552	-147
Accident	0	0	0	208	-202	6
Special trans. tax/fee	-10	10	0	-3,389	3,389	0
Vehicle/Carrier	56	-85	-29	-310	-463	-773
Total	**110**	**-149**	**-39**	**3,871**	**-5,320**	**-1,449**

Note: **In order to illustrate smaller components, figures are shown to the nearest $ million. In general, cost estimates are not accurate to this level of precision. See text.**

Costs for means of travel do not sum to costs for all intercity travel, as the latter also includes allowance for costs of increased car, bus and airplane travel to replace assumed reduction in rail travel between 2000 S-Q and 2000 D cases. See text.

It would be inappropriate to compare total passenger transportation costs for all means of travel in the 2000 S-Q and the 2000 D cases on this basis, because no allowance is made for replacement of the reduced train travel. Thus the estimates for costs of all intercity travel in tables 18-6 and 18-7 are calculated using the illustrative assumption that the entire reduction in rail travel shifts to other means: car, bus and airplane travel are each increased by one third of the reduction in train passenger-kilometres.

Car Travel

Drivers and owners will pay the full costs of travelling by car. The results:

- *Infrastructure:* Charges to users would be about $5.5 billion, replacing the special transportation taxes/fees, which we estimate at $3.2 billion for 2000 S-Q. This increase is the amount we expect (by our rough calculations) to be needed in the long term to recover all of the costs of building and maintaining roads, including the costs of land and an interest charge on capital. In addition, the total costs of roads will fall by about 5 percent ($278 million), relative to the 2000 S-Q case. In 2000 S-Q, we assumed that road infrastructure expenditures would be increased in proportion to traffic, but in the 2000 D case — where more careful scrutiny of the benefits and costs of expenditures would be given in improving and extending the highway network — we assume that expenditures will need to increase less than proportionately to traffic growth over this period.

Once our entire framework is in place, with investment decisions and pricing designed as we suggest, the annual revenues would, on average, equal the annual costs. In particular years, however, there might be substantial cash surpluses or cash requirements due to the irregularity of road construction. During early years, our proposed pricing based on the annual costs of the existing highway network might generate considerable cash surpluses. Such prices, however, would be intended to provide an appropriate measure of the long-run costs

of the different means of passenger transportation, and to provide the road agencies with information on which to base investment decisions. Interim surpluses, not required for long-term network expansion, would represent a return to governments on past investment.

- *Environmental costs:* Car users will pay about $1.1 billion for the damage they cause to the environment. Emissions will decline due to decreasing fuel consumption, and environmental costs will fall by 10 percent ($125 million).
- *Accident costs:* Car users will pay directly for that portion of total accident costs previously borne by taxpayers through general taxes and/or health care premiums.
- *Vehicle/carrier costs:* These costs will fall by about 1.5 percent ($474 million) due to the reduction in fuel consumption.

The overall result of the implementation of our recommendations for car travel is as follows:

- users' costs will rise by $3.1 billion, or 8 percent;
- others will save $125 million because total environmental costs will decline by 10 percent, and about $1.1 billion which users will pay in environmental charges. Governments could use a part of the $1.1 billion for environmental clean-up and compensation, and the remainder (probably the larger part) to reduce general taxes. Others will also save $2.8 billion in previously hidden net subsidies (the excess of subsidies to infrastructure and accidents over special taxes); and
- total car costs will fall by $0.9 billion, or 2 percent.

It would be a natural extension to apply some or all aspects of the approach that we recommend for car travellers using highways, to cars using urban streets and secondary rural roads, and to trucks. The changes in costs for all users of all roads would be substantially larger than the changes discussed above.

Bus Travel

Competition among bus companies and discontinuation of cross-subsidized services on local routes where demand is insufficient to cover costs is projected to reduce carrier costs by 15 percent per passenger-kilometre.[6]

- *Infrastructure costs:* Charges to buses for use of roads are projected to be only slightly higher than the present special fuel tax. Per passenger-kilometre, costs should fall as average load factors improve.
- *Environmental costs:* These costs, and the charges to bus carriers, will amount to $6 million, or approximately 2 percent of total cost.

These increases in charges to bus travellers will be more than offset by decreases in bus carrier costs and therefore:

- bus traveller fares, which would now cover all infrastructure and environmental costs, will fall by 11 percent; and
- the total amount paid by others ($17 million) in 2000 S-Q will be reduced by $12 million, to $5 million in direct (transitional) subsidies.

Airplane Travel

Air carrier costs will remain the same, while changes in the operations of airports and air navigation services will stimulate innovation and efficiency. The costs of air travel are projected to change as follows:

- *Infrastructure costs:* Charges for airports and air navigation services paid by travellers will increase by about $400 million, or 1.3¢ per passenger-kilometre. Others will save about $650 million at this point in the phase-out of taxpayer subsidies. An 18 percent ($251 million) reduction in total airport and air navigation costs is projected.
- *Environmental costs:* Environmental charges and improved air traffic control are projected to achieve a 5 percent reduction in

emissions. Air travellers will pay about $250 million for the damage they cause to the environment.

The results of the implementation of our recommendations are that:

- travellers will pay $500 million, or 10 percent, more for airplane travel;
- costs of $750 million net of special charges, previously borne by taxpayers in airport and navigation service subsidies and by the public in environmental damage, will be eliminated; and
- total air travel costs will fall by 5 percent, or $250 million.

Train Travel

The rationalization of passenger rail service will be accompanied by a reduction of direct vehicle/carrier subsidies by others of $375 million. To the extent that the 2000 S-Q subsidies of $435 million include return on investment, and that rationalization may require write-offs and special payments, annual savings may be somewhat reduced in the short run from the levels shown.

Ferry Travel

Governments will phase out subsidies to ferry services over a 10-year period.

- *Infrastructure costs:* Transport Canada spending will decrease by 10 percent, with full cost-recovery from travellers. New charges to users will total $47 million, or $37 million more than the special tax/fee (fuel tax) that the charges replace.

- *Environmental costs:* Environmental charges will stimulate a 20 percent reduction in ferry emissions. Travellers will pay $17 million for the damage they cause to the environment.

Direct vehicle/carrier subsidies will fall by $85 million by 2000, leaving $28 million for subsidy for operations that year. East-coast ferry services, which require more subsidies than those on the west coast, will be the most affected by the transfer of taxpayer-supported ferry costs to ferry travellers.

Our recommendations will encourage increased efficiency:

- charges to ferry travellers will rise by 40 percent ($110 million);
- savings to others will total $149 million; and
- ferry costs will fall by 9 percent ($39 million).

Total Intercity Travel

With our recommendations in place, there will be a transfer of costs from taxpayers to travellers using the passenger transportation system. Allowing for the replacement of the least competitive half of rail passenger-kilometres by car, bus and air travel:

- *Users:* Travellers will pay $6.0 billion per year more in infrastructure charges, $1.4 billion in environmental damage charges and $200 million in accident charges. Travellers will save $3.4 billion in special taxes (mostly fuel taxes) and more than $300 million in vehicle/carrier costs. Total net costs for travellers will therefore increase by $3.9 billion.
- *Others:* General taxpayers will save $6.5 billion per year in subsidies for transportation infrastructure (mostly roads and airports). In addition, general taxpayers will gain $1.4 billion because of charges for environmental damage, some of which may be used to compensate for environmental damage losses. The public will gain about $150 million in reduced environmental damage. Others will also save $200 million in health care for accident victims. After subtracting $3.4 billion in revenues because special taxes on travellers no longer exist, and after including $500 million saved due to discontinuing subsidies to trains and ferries, the general taxpayer/general public saves $5.3 billion.

Conclusion

Our illustrative estimates in this chapter have been intended to provide:

- an impression of the extent to which the change in how Canadians pay for transportation would raise costs to Canadians when they travel — on illustrative routes and in general — at the same time that it reduces costs to Canadian taxpayers; and
- an impression of the potential for reducing overall costs as a result of implementing our recommendations.

With all our recommendations in place, there will be annual savings in most types of transportation costs that could be in the order of:

- $500 million in infrastructure costs;
- about $150 million in environmental damage costs; and
- $800 million in vehicle use and carrier costs.

Total cost of intercity passenger travel would fall by 3 percent, or $1.4 billion per year.

ENDNOTES

1. As set out in Endnote 1 to Chapter 3, for individual routes, cross subsidies as well as special transportation taxes/fees are potential negative components of others' costs.

   When users pay more than the vehicle/carrier costs (or — in the 2000 D case — than the infrastructure costs) associated with the route used, the excess is considered a contribution from users to others (other travellers). When this occurs, the base of the others bar is shifted below the zero line by an amount equal to the sum of revenues from special taxes and fees (a negative component of others costs) and of negative cross subsidies (cross subsidies available for other travellers).

   For example, for bus travel on the Toronto to Montreal route (Table 18-2 and Chart 18-2), in the 2000 S-Q case the others bar starts at –4, the sum of –1 from special taxes and –3 from cross subsidy.

   Only the positive components of others' costs are shown as explicit segments of the bar. For Toronto to Montreal bus travel, the positive components sum to 1, which is the vertical height of the bar above its –4 base.

   In a few cases for the individual routes, the negative components exceed the positive components of costs borne by others, resulting in negative net costs. In such cases, the top of the others bar, which indicates net costs borne by others, is below the zero line. For example, again for Toronto to Montreal bus in the 2000 S-Q travel case, Table 18-2 shows net costs borne by others of –3. The top of the others bar for bus travel in Chart 18-2 S-Q thus lies below the zero line at –3.

   As well, for car travel in certain of the 2000 D cases, the only non-zero component of others' costs appears in the infrastructure row, and is negative if infrastructure users on this route are paying "extra" to cover costs of lower volume routes. In other words they are covering a cross subsidy to car travellers on lower volume routes. In such cases, the others' costs are represented by a line that lies below the zero line at the level of (negative) net others' costs on this route. For example, the –5 infrastructure costs, and net costs, for others in Table 18-2 for car travellers from Toronto to Montreal in the 2000 D case, is represented by a line in Chart 18-2 lying below the zero line at –5.

2. The $35 shortfall below average cost does not mean that the carrier would be better off dropping the service. Rather, jet operations of this length do not contribute as greatly to airline fixed costs and profits as do longer journeys. There is competition from car, bus and train, as well as from other air carriers on routes of this type. Therefore, it is not surprising that profitability might be below the system average.

3. Growth of 30 percent to the end of the decade amounts to about 3 percent annually, consistent with what is believed (in the absence of national statistics) to have occurred in total car traffic during the 1980s; and consistent also with Transport Canada's prediction for domestic air passengers to 2000.

4. The annual number of ferry passengers grew between 1980 and 1988 by 10.5 percent on the east-coast services and by 46 percent on west-coast services.

5. These types of traffic have seen inconsistent fluctuations in the last two decades. For both, passengers carried increased in the late 1970s and early 1980s. A gradual decline followed in train traffic, with a sharp reduction in traffic following the service cuts in 1990. Bus traffic has also declined substantially since 1982.

6. This system average reduction of 15 percent differs from the 10 percent reduction assumed for the higher volume intercity routes shown in Tables 18-1, 18-2 and 18-4. The latter primarily reflects assumed reduction in average operations costs per passenger on given services. The assumed system average reduction, however, is also substantially influenced by the anticipated improvement in average load factor (passenger-kilometres per available seat-kilometre) across the system as a whole. This will result from the discontinuation of cross subsidized services, and particularly from schedules and the use of equipment better matched to lower volume routes.