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THE CURRENT STATE OF TRANSPORTATION IN CANADA: ROAD, RAIL, WATER AND AIR

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THE CURRENT STATE OF TRANSPORTATION IN CANADA: ROAD, RAIL, WATER AND AIR

INTRODUCTION

Transportation in Canada is the joint responsibility of all three levels of government, whose efforts are coordinated by the Council of Ministers Responsible for Transportation and Highway Safety. Generally speaking, the federal government oversees international and interprovincial transportation, the provincial governments are responsible for intraprovincial transportation and the municipal governments manage urban transportation. There is intergovernmental cooperation on certain initiatives, such as the National Critical Infrastructure Assurance Program (NCIAP) and the Chemical, Biological, Radiological and Nuclear (CBRN) Response Project in 2004. Transport Canada is the principal federal department in charge of transportation; it collaborates with other departments and agencies such as the Department of Fisheries and Oceans, Environment Canada, Industry Canada, Infrastructure Canada, the Canada Border Services Agency and National Defence.

In addition to the Canadian government, foreign governments, international bodies and industry representatives have key roles in Canadian transportation policy and programs. For example, Canada works with the United States, the European Commission, NATO, and the International Civil Aviation Organization (ICAO), among others, in the areas of environment and transportation safety and security to identify best practices and to bring systems in line with each other. Examples of industry helping to deliver federal transportation programs include Operation Lifesaver Canada and Direction 2006, which are rail safety programs co-sponsored by the Railway Association of Canada.

Federal investment in transportation is the smallest component of total government spending on transportation in Canada. Provincial/territorial and local governments' spending typically outweighs that of the federal government three to one. Federal spending, primarily on the part of Transport Canada, Industry Canada and Infrastructure Canada, comprises mainly operating and maintenance expenses, subsidies and transfers to the provincial/territorial governments.

This document provides information on the state of transportation in Canada, with respect to each of the four major modes of transportation: road, rail, water and air. It focuses on information relevant to six areas:

- *Federal government role*. This section gives a general overview of federal involvement in infrastructure, operations and policy-making in each mode of transportation, with a particular focus on the role of Transport Canada. It also reports the major sources of federal government expenditures and revenues. No net figure is calculated, however, as it is not possible to account for all expenditures and revenues attributable to each mode based on the information available.

- *Industry statistics*. To the extent that they are reported by Transport Canada, commercial transport users are listed and their revenues are provided.

- *Traffic*. Recent measures of mode usage, in terms of users, passengers and/or cargo, are provided in this section.

- *Safety and security*. Accident statistics are reported in this section along with brief descriptions of recent federal initiatives to improve safety and security.

- *Environment*. While air pollution from transportation has been declining, greenhouse gas (GHG) emissions from transportation have increased over the last decade. Today transportation generates roughly one-quarter of total GHG emissions in Canada. The available statistics on GHG emissions from each mode are presented with a description of current federal environmental initiatives.

- *Policy and other emerging issues*. Current legislative measures in transportation are highlighted in this section, as well as other potentially relevant issues.

ROAD TRANSPORT

A. Federal Government Role

Only the Alaska Highway and the parts of the National Highway System within national parks (totalling approximately 1,100 kilometres) are owned and managed by federal government departments. The rest of Canada's road network of 1.4 million two-lane equivalent kilometres is under provincial jurisdiction. Although the federal government has little formal responsibility for the infrastructure, it nonetheless participates in highway infrastructure development. Federal participation in highway investments is generally funded through Transport Canada and Infrastructure Canada. Transport Canada's more substantial role is to promote highway safety, develop policy for the National Highway System and regulate the interprovincial and international freight and passenger carrier industries.

Direct spending by the federal government on roads in Canada from 2000 to 2005 is presented in Table 1, along with federal revenues from road users. Federal spending on road transport comprises operating, maintenance and capital expenditures as well as direct grants, subsidies and other contributions. Examples of federal operating, maintenance and capital expenditures include funding for certain bridges in Quebec, the development of road safety policy, and spending on road maintenance by Parks Canada and the National Capital Commission. Road subsidies and other contributions include highway agreements, grant programs, transition programs and payments to compensate for the elimination of the *Western Grain Transportation Act*. Federal revenues include tax revenues from road users and a road safety fee that was collected only in 2003-2004.

Table 1
Federal Government Road Expenditures and Revenues
($ Millions)

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Expenditures	$327	$393	$456	$430	$539
Revenues	$4,168	$4,136	$4,252	$4,458	N/A

Source: Transport Canada, *Transportation in Canada 2004: Annual Report*, 2004, Tables A3-2, A3-3 and A3-4.

In recent years, the federal government contributed about 3% of total government expenditures on roads. Subsidies typically accounted for more than half of that total federal contribution in the last ten years, except from 2000 to 2002 when they accounted for about 40%.

The remaining 97% of total government spending on roads, nearly $19.7 billion in 2003-3004, was split roughly equally between the provinces and local governments.

B. Industry Statistics

Canada's road network is used by commercial trucking companies, bus carriers (both intercity and urban) and other passenger transportation providers as well as private users. The trucking industry comprises for-hire, private, owner-operator and courier trucking companies. Of the more than 62,000 trucking companies in Canada in 2003, not including companies whose business is not trucking but that provide their own trucking services internally (e.g., Canadian Tire), the majority were owner-operators. The total revenues of the trucking industry were estimated at $54.7 billion that year, which are broken down among the industry segments in Table 2.

Table 2
Trucking Revenues, 2003
($ Billions)

	# of Firms	Revenues
Couriers	17,500	$5.7
For-Hire Trucking	9,600	$24.3
Private Trucking	N/A	$24.7*
Owner-Operator	35,100	N/A
Total Industry		$54.7

* Estimate of operating costs of hauling own product, rather than revenues.

Source: Transport Canada (2004), p. 53.

The bus industry is made up of approximately 1,500 firms and is characterized by cross-sector ownership, as many bus companies offer a mix of services. For example, most intercity operators such as Greyhound and Groupe Orléans also offer charter services. In 2003, the total revenues for the bus industry were estimated at $4.7 billion ($7.5 billion including contributions from all levels of government), which are broken down by industry segment in Table 3. Transit operators earned the highest gross revenue, to which was added a greater amount of government funding. Contributions from all levels of government made up 54% of transit operators' total revenues in 2003, yielding an average revenue shortfall per urban transit passenger of $2.02.

Table 3
Bus Revenues, 2003
($ Millions)

	Revenues
Urban Transit	$2,317
School Bus	$1,233
Charters/Tours	$552
Intercity	$319
Other*	$298
Subtotal	*$4,719*
Government Contributions**	$2,774
Total	$7,493

* Other passenger services and parcel express delivery.
** Federal, provincial and municipal contributions to operating and capital of urban transit.

Source: Transport Canada (2004), p. 57.

C. Traffic

1. Freight Traffic

The fleet of road freight transportation vehicles comprised some 600,000 trucks in 2003. The trucks are classified by weight, with medium trucks weighing between 4,500 and 15,000 kilograms and heavy trucks weighing more than 15,000 kilograms. Heavy trucks logged approximately three times the total distance that medium trucks did in 2003, at 18.6 billion kilometres and 6.2 billion respectively (Table 4). Eighty percent of total truck kilometres driven in 2003 were in the provinces of Ontario, Quebec and Alberta.

Table 4
Truck Freight Activity, 2003

	Fleet	Vehicle Kilometres	Annual Average
Medium Trucks	322,000	6.2 billion	19,000
Heavy Trucks	278,600	18.6 billion	67,000
Total Industry	600,600	24.8 billion	41,000

Source: Transport Canada (2004), p. 60.

Trucking traffic was approximately 185 billion tonne-kilometres in 2003, up more than 100% from 84.6 billion in 1993. Six commodities made up over 80% of for-hire trucking volumes in 2003. These were manufactured products, food products, forest products, metal and steel products, automobile and transport products and plastic/chemical products. Among the provinces, Ontario had the highest share of all segments of the trucking market: intraprovincial (36%), interprovincial (34%) and transborder (45%).

In 2003, the transborder flow was the largest segment of truck traffic and the fastest growing. Increasing by an average of 11.4% per annum, transborder traffic grew at twice the rate of domestic truck traffic during 1993-2003. Transborder trade by truck, valued at $346 billion, made up nearly two-thirds of the total value of Canada's total trade with the United States ($556 billion) in 2004.

2. Passenger Traffic

Transport Canada reports that the Canadian bus industry, including urban transit, charter/tour, school bus, intercity and other types of companies, carries over 1.5 billion passengers each year. The vast majority of these passengers are transported by urban transit buses.

The rest of the passenger road traffic was generated by the 17.5 million light vehicles registered in Canada in 2003. These vehicles were each driven 16,300 kilometres on average that year. While there was approximately one vehicle for every two people nationwide, the proportion of vehicles to people was higher on average in Alberta, Saskatchewan and Yukon and lower in Newfoundland and Labrador and the other two territories.

D. Safety and Security

The accident rate in road transportation, presented in Table 5, was at a 10-year low in 2003. That year, the number of road casualty collisions (i.e., collisions involving personal injury) had declined by 2% over 2002 and there was a 5.6% decrease in the number of fatalities.

Table 5
Road Transportation Safety Statistics

Accidents* / Rate per 10,000 Vehicle Registrations	
2003	156,764 / 83.1
2000	158,569 / 88.7
Five Year Avg. (1998-2002)	155,455
Fatalities / Rate per 10,000 Vehicle Registrations	
2003	2,766 / 1.5
2000	2,927 / 1.6
Five Year Avg. (1998-2002)	2,915

* Excluding those where only property was damaged.

Source: Transport Canada (2004), p. 21 and Table A4-5.

Road Safety Vision 2010 (RSV 2010) is Canada's current national road safety plan. It was adopted in 2000 by the Canadian Council for Road Safety Administrators and subsequently approved by Transport Canada and the provincial and territorial governments. RSV 2010 is intended to raise awareness of road safety issues, improve relations among safety agencies, strengthen enforcement and improve data collection at the national level. Its specific target is to reduce the number of road users who are killed or seriously injured: the plan aims for a 30% reduction from 1996-2001 levels by 2008-2010. Sub-target areas include reductions in fatalities or serious injuries due to seat belt disuse, impaired driving and commercial vehicles.

Two new safety regulations were expected to apply to motor carriers in 2005. The *Motor Carrier Safety Fitness Certificate Regulations* would delegate to provinces and territories the responsibility to monitor the safety performance of all extra-provincial motor carriers licensed in their jurisdiction, and the *Hours of Service Regulations* would provide more opportunity for drivers of motor carriers to rest. According to Transport Canada's Web site, the *Motor Carrier Safety Fitness Certificate Regulations* will come into force in January 2006. The status of the *Hours of Service Regulations* is unclear at this time.

With respect to road transport security, the focus appears to have been on intermodal containers in 2004. Transport Canada commenced a Canada-U.S. Cargo Security Project for containerized cargo security with participation from Public Safety and Emergency Preparedness Canada and the Canada Border Services Agency.

E. Environment

Road transportation contributed the largest share, some 72%, to total GHG emissions from transportation in Canada in 2002. While road freight activities became increasingly efficient over the 10 previous years, generating only 53% more emissions as activity increased by 103%, road passenger travel did not. GHG emissions from road passenger travel grew 12%, roughly the same rate as road passenger travel activity (measured in passenger-kilometres).

There are currently many federal initiatives that attempt to curb the environmental impact of road transportation. Natural Resources Canada and Environment Canada are responsible for many of these, but the following are examples of Transport Canada initiatives:

- The multi-modal *Moving on Sustainable Transportation Program* (MOST) has supported projects that create education, awareness and analytical tools needed to promote sustainable transportation. It was launched in 1999 and will continue until 2007. Most projects are related to road transportation and $715,000 was allocated to new projects in 2004.
- The *Urban Transportation Showcase Program* is a $40-million initiative under the *Government of Canada's Action Plan 2000 on Climate Change*; it evaluates the effects of "integrated" strategies on GHG emissions, air pollution and other environmental impacts of urban transportation. Transport Canada implemented this program in five municipalities in 2004.
- Transport Canada's ongoing *Advanced Technology Vehicles Program*, under the *Government of Canada's Action Plan 2000 on Climate Change*, assessed 94 different makes and models of vehicles for fuel efficiency, emissions and safety performance between 2001 and 2004. Over one hundred special events were held to raise public awareness of advanced technology vehicles.
- The multi-modal *Freight Efficiency and Technology Initiative*, which is under the *Government of Canada's Action Plan 2000 on Climate Change*, is a five-year cooperative effort between Transport Canada and Natural Resources Canada to reduce transportation-related GHG emissions by 2 megatonnes. Road transport received funding for more than 10 demonstration projects under the associated *Freight Sustainability Demonstration Program*.

F. Policy and Other Emerging Issues

The major source of federal government revenue from roads is the excise tax on fuel. Given that the revenue is far greater than the amount that the federal government spends on roads, the provinces and the municipalities have been lobbying for some time for a share in it. The federal government responded in Budget 2005 by implementing the pledge to share up to $2 billion of fuel tax revenues with municipalities starting in 2005-2006. Another Budget measure that could potentially aid the provinces was the commitment to renewing the Canada Strategic Infrastructure Fund, the Municipal Rural Infrastructure Fund and the Border Infrastructure Fund.

Another emerging issue that will affect road (and in fact all other forms of transborder) transportation in the near future is the U.S. Western Hemisphere Travel Initiative. Announced on 5 April 2005, the initiative will require all Canadian travellers to and from the United States to have a passport or other secure, accepted document to enter or re-enter the United States by 1 January 2008. This initiative could result in reduced surface border crossings on the part of leisure travellers and new or additional delays for commercial transportation companies, both of which would have a negative impact on the economy.

The Minister of Transport recently announced an expansion of the National Highway System (NHS) following a report and recommendations by the National Highway System Review Task Force. The addition of some 11,000 kilometres to the NHS marks the second expansion since the NHS was officially created in 1988; the first added 2,700 kilometres in 2004. The expanded NHS comprises over 38,000 kilometres of paved two-lane roads, freeways, multi-lane arterials and gravel roads in three categories:

- *Core Routes*: key interprovincial and international corridor routes identified in 1988 and 2004, as well as links to key intermodal facilities and major border crossings that connect with "core" highways;
- *Feeder Routes*: key linkages between the Core Routes and population centres, economic centres, intermodal facilities and important border crossings; and
- *Northern and Remote Routes*: key linkages to Core and Feeder routes that provide the primary means of access to northern and remote areas, economic activities and resources.

All Feeder and Northern and Remote routes are new in 2005, and some 600 kilometres were added to the existing Core Route network. Although the NHS routes are mostly under provincial/territorial jurisdiction, they are eligible for federal contributions from certain programs such as the Strategic Highway Infrastructure Program.

Given that a 1997 study commissioned by the Council of Ministers Responsible for Transportation and Highway Safety found that the estimated cost of bringing the NHS up to some minimum standards would be over $17 billion, the Canadian Trucking Alliance has suggested that increased federal investment in highways is needed. It recommends that an infrastructure fund be started with current road user taxes and charges to meet the costs of upgrading the highways and land borders with the United States. The Canadian Trucking Alliance expects that the benefits of upgrading the highways would far exceed the costs (up to $360 million per annum for 25 years) through reducing fuel costs, travel/shipping times, and personal injuries and deaths from collisions.

RAIL TRANSPORT

A. Federal Government Role

Virtually without exception, railway companies in Canada own the land, infrastructure and equipment used for their operations.(1) Therefore, having sold Canadian National Railways in 1995, the federal government's role is principally to regulate the service, rates, network rationalization and safety of railways within its jurisdiction under the *Canada Transportation Act*, the *Rail Safety Act* and other statutes.

Direct federal spending on rail in Canada in 2003-2004 is presented in Table 6. Expenditures comprise operating, maintenance and capital expenditures as well as direct grants, subsidies and other contributions. Examples of operating, maintenance and capital expenditures include funding for safety policy and analysis in multimodal and rail transport. Expenditures are small compared to direct federal government subsidies, grants and contributions, which have made up nearly 95% of federal government spending on the rail industry since 1998-1999. The payments to VIA Rail, a Crown corporation, represent some 80% of federal government spending on rail in most years.

Table 6
Federal Government Rail Transport Expenditures and Revenues
($ Millions)

	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Expenditures	$283	$363	$313	$315	$255
Revenues	$14	$14	$15	$19	$15

Source: Transport Canada (2004), Tables A3-2, A3-3 and A3-4.

In most years, the federal government contributes the vast majority of the total government spending on rail. Provincial governments' spending on rail is often linked to ownership and operation of a provincial railway. Municipal governments' spending on rail is likely related to either commuter rail operations or public safety investments.

The only direct sources of government revenue from the rail industry are excise taxes and user fees. Federal fuel tax revenues from rail users may amount to more than $70 million per annum, but are not included in the calculations as they are not officially reported

(1) One notable exception is BC Rail in British Columbia. The provincial government retained ownership of the land (right of way) when it sold the infrastructure and equipment to CN Rail in December 2003.

by Transport Canada. User fees for the federal fleet of grain hopper cars generated $15 million in government revenue in 2004-2005, which was credited to the Consolidated Revenue Fund. In 2005, the federal government announced the decision to transfer the federal hopper car fleet to the Farmer Railcar Coalition. While the government expected to make a final decision on the transfer of the cars and all related terms and conditions in the spring of 2005, these have not yet been made public.

B. Industry Statistics

In 2004 there were 38 federally regulated railways and 41 provincially regulated railways in Canada, which was more than double their number in the 1990s. The Class 1 railways, Canadian National (CN), Canadian Pacific (CP) and VIA Rail (VIA), are necessarily federally regulated because they provide interprovincial services. Regional and shortline railways make up the rest of the industry and are within provincial jurisdiction by default unless they opt to be subject to federal regulation, which many do. The doubling of the number of railways is largely attributable to the coming into force of the *Canada Transportation Act* in 1996, which facilitated the transfer of track from Class 1 railways to new shortline railway companies. As a result, CN and CP's share of the track network fell from 90% in the early 1990s to about 70% in 2004.

Although most railway activity in Canada is freight activity, year-round passenger rail services are offered by VIA (some in conjunction with Amtrak), CN, Ontario Northland and the Quebec North Shore & Labrador Railway. Seasonal (tourist) passenger rail services are offered by the Great Canadian Railtour Company between Vancouver, Jasper and Calgary.

The Class 1 railways (CN, CP and VIA) accounted for nearly 90% of the industry revenues between 1993 and 2003 (Table 7). Overall, Class 1 revenues grew by 17% over this period, driven by CN and CP. VIA's revenue, however, declined by 14% over the period despite steady growth in revenue since 1998. Regional railway revenues declined by 5% between 1993 and 2003. Shortline railway revenues grew by more than 300% over the same period – from $94 million in 1993 to $405 million in 2003, corresponding to an increase in market share from 1.5% to 5.1%. VIA accounts for about 88% of passenger revenues in Canada, earning $415 million in 2003.

Table 7
Railway Revenues, 1993 and 2003
($ Millions)

	1993	2003	Percent Change
Class 1	$6,374	$7,427	17%
CN	*$3,417*	*$4,002*	*17%*
CP	*$2,477*	*$3,010*	*22%*
VIA	*$480*	*$415*	*(14%)*
Regional	$491	$467	(5%)
Shortline	$94	$405	331%
Total Industry	$6,959	$8,299	19%

Source: Transport Canada (2004), Table A6-3.

C. Traffic

1. Freight Traffic

Rail freight traffic levelled off at around 318 billion tonne-kilometres between 2002 and 2003 after steady increases from 1990 to 2002. The breakdown of activity between the Class 1 and regional and shortline carriers, together referred to as Class 2 carriers, is provided in Table 8.

Table 8
Railway Activity, 2003
(Tonne-Kilometres)

	2003	Percent Share
Class 1	294 billion	92.5%
Class 2 (regional and shortline)	24 billion	7.5%
Total Industry	318 billion	100%

Source: Transport Canada (2004), p. 45.

A total of 273 million tonnes of freight were loaded in Canada in 2004, 55% of which were loaded in western Canada. The principle commodities loaded in western Canada were coal, fertilizer materials, forest products and grain. In eastern Canada, the main commodities loaded were iron ore, other ores and mine products, forest products and intermodal (container) shipments. Rail shipments of chemicals, metal products, automobiles and petroleum products were also significant. Intermodal shipments, which grew at an average annual rate of 7% between 1996 and 2003, experienced the steadiest growth among all types of shipments.

In the last five years, approximately 18% of the total volume of rail shipments (16-18% in terms of total value) originated from or were destined to the United States. Automotive shipments were the largest in terms of value for both imports and exports in 2004. Forest products were the second most valuable export, and chemicals were the second most valuable import. The greatest shares of export and import value crossed the border in Ontario.

International trade by rail comprised 83 million tonnes of rail-marine movements in 2003. Rail-marine exports generally exceed imports by a large margin, as was the case in 2003 at nearly 74 million tonnes and 9 million tonnes, respectively. Accordingly, due to a significant decline in the volume of exports between 1996 and 2003, the total volume of rail marine movements dropped by 16% over this period, in spite of a modest increase in the volume of imports. Coal and grain together made up just over 50% of exports in 2003, down from 68% in 1997, while 90% of imports were intermodal movements in 2003, up from 75% in 1997.

2. Passenger Traffic

Rail intercity passenger traffic declined 7% in 2003 from 2002. VIA, the Class 1 passenger carrier, experienced a 4.8% decline in passengers, while the Class 2 passenger carriers (Algoma Central, Ontario Northland and the Quebec North Shore & Labrador Railway) carried 37% fewer. The decline in Class 2 passenger traffic is largely explained by the halt in BC Rail's operations in 2002. The relative shares of 2003 intercity railway activity are provided in Table 9 below.

Table 9
Inter-City Railway Activity, 2003
(Passengers)

	# of Passengers	Percent Share
Class 1	3,789,000	96%
Class 2 (regional and shortline)	169,300	4%
Total Industry	3,958,300	100%

Source: Transport Canada (2004), Table A6-29.

D. Safety and Security

The rail accident rate increased in 2004 over 2003 and there was an increase in fatalities, as shown in Table 10. The overall accident statistics primarily reflect non-main track derailments and trespasser accidents, while two-thirds of the rail fatalities were due to trespassing incidents. Trespass-related accidents increased by 52% in 2004 over 2003. Given that the rail accident rate was still lower in 2004 than it had been in the 1990s, Transport Canada analysts concluded that the number of accidents had more to do with an increased level of rail activity than a decreased level of safety.

Table 10
Rail Transportation Safety Statistics

Accidents / Accident Rate (per million train-miles)	
2004	1,128 / 12.4
2003	1,032 / 11.5
Five Year Avg. (2000-2004)	1,053.6
Fatalities / Accident Rate (per million train-miles)	
2004	99 / 0.8
2003	77 / 1.1
Five Year Avg. (2000-2004)	92

* Railways under federal jurisdiction only.

Source: Transport Canada (2004), Table A4-1.

Examples of current rail safety initiatives include the following:

- The *Direction 2006 Initiative* is a collaborative effort of Transport Canada, the Railway Association of Canada, provincial and municipal governments, rail companies and their unions, law enforcement agencies and other safety agencies. It aims to reduce by half the grade crossing collisions and trespassing incidents by 2006. Between 1996 and 2004, the initiative had achieved a 35% reduction in grade crossing collisions, and trespassing incidents had fallen by 21.5%.

- Through the ongoing *Grade Crossing Improvement Program*, Transport Canada has invested over $100 million in safety enhancements at crossings at grade across Canada since the early 1990s.

- Since 31 March 2001, Transport Canada has been auditing the Safety Management Systems of federally regulated railways.

In 2004, rail bombings in Madrid pushed rail security to the forefront of public consciousness. As a result, within Canada:

- Rail transport security was jointly reviewed by Transport Canada and the Rail Association of Canada;

- Best practices and experiences in rail security were shared via teleconference among industry operators across the country; and

- Representatives of the Class 1 railways met at the Railway Intelligence Forum specifically to discuss security.

In an international effort to improve rail security, Transport Canada exchanged information on the subject with the Transportation Security Administration of the United States and commenced the aforementioned Canada-U.S. Cargo Security Project for containerized cargo

security, with participation from Public Safety and Emergency Preparedness Canada and the Canada Border Services Agency. Finally, the National Security Policy that was tabled in Parliament in April 2004 could lead to enhanced rail security if background check requirements for rail workers are improved and extended. The attacks on the London subway in July 2005 and the more recent threats to the New York subway system will likely sustain the focus on rail security into the future.

E. Environment

In 2002, rail transportation contributed 6 megatonnes of GHG emissions, or 3% of the total generated by transportation in Canada. This represents a 16% decline in GHG emissions from rail since 1990, despite a 28% increase in rail activity. Technological change, new operating practices and rationalization of CN and CP fleets are thought to have contributed to the industry's reduced GHG emissions.

Current federal initiatives aimed at improving the environmental performance of rail transport include the following:

- The multi-modal *Freight Efficiency and Technology Initiative* includes a *Freight Sustainability Demonstration Program* under which three new rail transport projects received funding in 2004.

- Under the *Freight Incentives Program*, which is part of the *Freight Efficiency Program* introduced in 2004, Transport Canada provides funding for the implementation of efficiency-enhancing technologies. One of the three projects chosen in the first round in 2004 was a rail project in Quebec.

- Amendments to the *Sulphur in Diesel Fuel Regulations*, under the *Canadian Environmental Protection Act 1999* and administered by the Minister of the Environment, were published in October 2004. They introduced limits for sulphur in rail diesel fuels and bring the Canadian requirements in line with regulations passed in the United States in June 2004.

F. Policy and Other Emerging Issues

Two bills that would affect rail transportation if passed are currently before Parliament. Bill C-44, the Transportation Amendment Act, was introduced in March 2005. It is very similar to Bill C-26, which died on the *Order Paper* with the prorogation of the 2nd session of the 37th Parliament. Bill C-44 proposes a number of amendments to the rail provisions in the *Canada Transportation Act* (CTA), including the following:

- It creates a mechanism for dealing with: railway noise complaints; the modification of provisions relating to the setting of rates payable by shippers for transport of goods; and the modification of provisions dealing with the transfer and discontinuance of operation of railway lines.

- It establishes a mechanism for resolving disputes between public passenger service providers and railway companies regarding the use of railway company equipment and facilities.

- It adds a new Part V.1 to the CTA that establishes an approval mechanism for the construction or alteration of international bridges and tunnels and provides for the regulation of their operation, maintenance and security.

- It transfers the legislative arrangements for railway police from the CTA to the *Railway Safety Act*.

- Finally, it provides a legislative framework to consolidate the current powers of VIA Rail Canada Inc. by enacting a specific Act governing the Crown corporation, including its mandate to provide passenger rail service in Canada.

At the time of writing, Bill C-44 had not proceeded beyond first reading in the House of Commons.

The second bill that would affect rail transportation if passed is Bill S-6, An Act to amend the Canada Transportation Act (running rights for carriage of grain). It is identical to Bill S-18, which died on the *Order Paper* with the election call at the end of the 3rd session of the 37th Parliament. The proposed amendment contained in this bill provides that the Minister of Transport – and not the Canadian Transportation Agency – be the authority that receives and decides on applications from a "guest" railway for running rights for the carriage of grain over a "host" railway's track. That would provide an opportunity to overrule the Agency's determination in 2002 that such running rights should be awarded only if there was actual evidence of a market failure or abuse. At the time of writing, Bill S-6 was in the debate stage at second reading in the Senate.

The Railway Association of Canada recommends that the federal government reduce the tax burden on the rail industry to make it more competitive. Specifically, the Association advocates harmonizing taxes on the inputs to the Canadian rail industry with those on the U.S. rail industry and the Canadian trucking industry. Federal taxes on rail transport inputs include capital, income (including capital cost allowance), fuel and property taxes.

AIR TRANSPORT

A. Federal Government Role

Following the sale of Air Canada in 1989, the federal government's remaining operational role in air transportation was infrastructure-related. In that regard, the National Airports Policy of 1994 led the federal government to embark on a system-wide program of transfer and divestiture. Most of Canada's largest airports and those serving provincial capitals were *transferred* to private airport authorities representing local interests. These airport authorities manage and operate the airports on a not-for-profit basis while the federal government maintains ownership of the land and buildings and its role as regulator. The airport authorities are expected to pay rent to the federal government for use of the airport land and infrastructure over the term of the lease. Canada's regional and small airports were slated for *divestiture*, or sale, to provincial and local governments for a nominal fee. Many small and regional airports that were not purchased were decommissioned, except certain remote and/or arctic airports which Transport Canada continues to administer.

Then, in 1995, Transport Canada sold the civil air navigation system to Nav Canada, a private, not-for-profit corporation. Transport Canada retains responsibility for the regulation and safety of the air navigation system.

With respect to air carriers, Transport Canada primarily regulates safety and security. Transport Canada also concerns itself with efficiency in the airline industry. For example, when Air Canada purchased Canadian Airlines, Transport Canada appointed individuals to monitor the progress of the industry restructuring. Other federal agencies, such as the Competition Bureau and the Canadian Transportation Agency, are generally in charge of investigating competitive issues and complaints in air transportation and other transport industries.

Federal government spending on air transport in recent years has included both operating and maintenance expenditures as well as subsidies. For example, Transport Canada still operates many small airports in Canada, and the federal Canada Air Transport Security Authority (CATSA), which was created in 2001, provides security screening services. Subsidies include one-time payments, such as those for security enhancements at Canadian airports, compensation paid to Canadian airlines for lost revenues during the airspace closure on 11 September 2001, and ongoing programs such as the Airports Capital Assistance Program. These expenditures and subsidies are clearly dedicated to air transport in Transport Canada's annual report from 2004, and are provided in Table 11.

Table 11
Federal Government Air Transport Expenditures and Revenues
($ Millions)

	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Expenditures	$356	$364	$474	$605	$724	$785
Revenues	$311	$290	$310	$801	$686	$670

Source: Transport Canada (2004), Table A3-2, A3-3 and A3-4.

By and large, federal revenues from air transport come from cost recovery initiatives and rental payments for the National Airport System (NAS) airports. The Air Travellers Security Charge was put in place in 2002 to pay for the federally provided passenger and baggage screening at Canadian airports and is the largest source of government revenue from air transport. Fuel tax revenue is potentially a significant source of government revenue from air transport but is not included in the amounts set out in Table 11 as no data on it are available.

B. Industry Statistics

The Canadian air passenger market is served by a range of air carriers offering different kinds of services.

- Air Canada, which emerged from bankruptcy protection in September 2004 after 18 months of restructuring, and its family of carriers provide the most extensive network of domestic and international air services in Canada.
- Three point-to-point "low-cost carriers" that operated during 2003-2004 were WestJet, Canjet and Jetsgo. (Jetsgo ceased operating in March 2005.)
- "Leisure" carriers, travelling mainly to seasonal tourist destinations, include the larger Air Transat and Skyservice Airlines and two smaller, newer companies, Zoom Airlines and Harmony Airways.
- Services to Canada's north are often provided by combination passenger/cargo carriers such as Air North, Calm Air, Canadian North and First Air.
- Airlines such as Bearskin Airlines in Ontario, Hawkair in British Columbia and Provincial Airlines in eastern Canada serve local and niche markets.
- All-cargo airlines in Canada have a combined fleet of about 50 aircraft and include AllCanada Express of Ontario, Kelowna Flightcraft of British Columbia and Morningstar Air Express of Alberta.
- There are also many thousands of business, commercial and recreational flyers in Canada.

Transport Canada reports that total air transport revenues declined in 2003. Passenger revenues declined by 12% in due to reductions in demand and in prices that year, both in the order of 6%. The drop in demand was attributed to the war in Iraq and the SARS outbreak. Domestic air fares fell by the largest amount, a drop that was attributed to increased competition from low-cost carriers. The Air Canada family, including Air Canada, Air Canada Jazz, Air Canada Vacations and Jetz, earned revenues of $7.6 billion between 1 October 2003 and 30 September 2004. Over the same period, WestJet earned just over $1 billion. The 2003-2004 revenues of Jetsgo and CanJet, both private companies, are not public information.

Air cargo revenues, earned by both passenger and cargo airlines, also fell in 2003. Domestic revenues dropped by 16% and the combined revenues from the international and transborder sector fell by 45%.

C. Traffic

1. Freight Traffic

High-value, time-sensitive items such as machinery and electrical equipment, aircraft and transport equipment and other manufactured goods make up the majority of air cargo volumes. The number of tonnes of cargo carried by Canadian air carriers peaked in 2000 and then declined in every year up to 2003. Domestic cargo makes up nearly two-thirds of the total volume carried, as shown in Table 12. The breakdown in 2002 and 2003 of cargo volumes was not provided by sector to maintain the confidentiality of the carriers' proprietary data as the number of carriers declined.

Table 12
Air Cargo Volumes, 2000-2003
(Tonnes)

	2000	2001	2002	2003
Domestic	510,808	491,763	Confidential	
International	335,001	297,862		
Total	845,809	789,625	786,607	642,876

Source: Transport Canada (2004), Table A9-11.

Air transport's share of the total value traded with the United States was 5.8% in 2004, down from 6.2% in 2003. Its share of the total value traded with countries other than the United States, however, grew to 22.6% in 2004, up from 21.2% in 2003.

2. Passenger Traffic

Canadian air passenger traffic by sector is provided in Table 13, which shows that air traffic was profoundly affected by the 11 September 2001 terrorist attacks, SARS and the war in Iraq. While domestic air travel began to recover in 2003, the transborder and international sectors did not rebound until 2004, at which time both the domestic and international air sectors surpassed their high from 2000. Although transborder air travel grew significantly in 2004 over 2003, it remained below the level it had reached in 2000.

Table 13
Enplaned and Deplaned Air Passengers
(Thousands)

	2000	2001	2002	2003	2004
Domestic	26,001	24,994	23,862	24,434	26,462
Transborder	20,824	18,568	17,575	12,930	18,574
Other International	13,177	13,196	12,930	12,661	14,952
Total	60,002	56,757	54,367	53,903	59,988

Source: Transport Canada (2004), p. 93.

D. Safety and Security

The number of aviation accidents was down by 16.5% in 2004 from 2003, and there was a decrease in fatalities (Table 14). The rate of aviation accidents also declined from 2003 to 2004. Historically, recreational aviation accounts for the majority of aviation accidents and air taxis make up approximately half of commercial aviation accidents.

Table 14
Aviation Transportation Safety Statistics

Accidents / Accident Rate per 100,000 Hours Flown	
2004	241 / 6.3
2003	289 / 7.6
Five Year Avg. (1999-2003)	295.6 / 7.6
Fatalities	
2004	34
2003	60
Five Year Avg. (1999-2003)	55.6

* Canadian-registered aircraft, other than ultralights, based on the *Canadian Aviation Regulations*.

Source: Transport Canada (2004), p. 21.

Since 1999, *Flight 2005* has served as Canada's civil aviation safety framework. The goals of the framework were to reduce the five-year averages of fatal and non-fatal accidents by 25% and increase public confidence in flight safety to 90% by 2005. Both of these targets have been exceeded. Transport Canada also incorporated some measures for the (traditionally very safe) business aviation industry segment into *Flight 2005*. These are in the form of the Business Aviation Operational Safety Standards System, which sets out performance-based rules allowing businesses to develop a safety system best suited to their own operations.

A recent legislative safety initiative was the May 2005 amendment to the *Canadian Aviation Regulations* that required holders of maintenance and air operator certificates to establish a Safety Management System. This new regulation is designed to encourage aviation organizations to innovate in meeting safety requirements.

Canada's approach toward aviation security has evolved substantially since 2001. In 2004, Transport Canada backed legislative and regulatory changes relating to aviation security and worked with industry stakeholders on a number of security initiatives. Examples of these include:

- *Legislative and regulatory measures*. The *Public Safety Act*, which received Royal Assent in May 2004, had a substantial impact on aviation safety primarily through amendments to the *Aeronautics Act* in 2004. Regulatory developments in aviation security were numerous and included the introduction of a regulatory framework for a new airport screening program for non-passengers and amendments to flight crew procedures and training. Under the *CATSA Aerodrome Designation Regulations*, federal screening services were extended to two smaller airports: Mont Tremblant International Airport in Quebec and Red Deer Regional Airport in Alberta.

- *Other domestic initiatives*. Although the Cabin Security Enhancement Contribution Program ended in 2004, Transport Canada continued its Aviation Transportation Security Clearance Program, which is intended to reduce processing times. As well, Transport Canada and industry partners promoted an Air Cargo Security Awareness Campaign and a security training program for air cargo handlers, air carrier representatives and the travelling public in 2004.

- *International initiatives*. On the international front, Transport Canada agreed to the G8 Secure and Facilitate Travel Initiative in 2004, which is intended to make international commerce more efficient while at the same time enhancing security. Transport Canada also participated in other initiatives and agreements organized by ICAO, the European Civil Aviation Conference, the U.S. Department of Homeland Security and the U.S. Department of Transportation.

E. Environment

Air transportation was the (distant) second-largest contributor to GHG emissions from transportation in Canada in 2002 at 7% of the total. Between 1990 and 2002, air transport GHG emissions increased by 18%; air transport activity, however, appears to have increased by substantially more. Commercial passenger air transport, arguably the largest segment of the industry, grew by 57% (measured in passenger-kilometres) between 1990 and 2000. The reduction in GHG emissions per unit of industry output can be explained, at least in part, by the deployment of newer and more fuel-efficient aircraft. Another trend observed in the last decade is the use of larger aircraft with higher load factors, which has the effect of reducing the per passenger (or per cargo tonne) environmental impact of air transport.

Transport Canada's multi-modal environmental initiatives, some of which are discussed in previous sections, target environmental impacts from air transport as well. For example, as a part of the freight transportation component of the *Government of Canada Action Plan 2000 on Climate Change*, Transport Canada reached an agreement in principle with the Air Transportation Association of Canada in 2004 that the industry would reduce GHG emissions voluntarily. The target, a 24% improvement in air transport energy efficiency over 1990 by 2012, was formalized in a memorandum of understanding in June 2005. Under the Freight Efficiency and Technology Initiative, which is also part of *Action Plan 2000*, funding for efficiency-enhancing technologies has been provided to two air carriers in recent years.

Transport Canada also participates in international environmental initiatives. In 2004, the department became a sponsor of the U.S. Federal Aviation Administration's Center of Excellence for Aircraft Noise and Aviation Emissions Research. As a sponsor, Transport Canada expects to benefit from having access to leading-edge information on how to deal with noise, air and water pollution created by air transport. Transport Canada also took part in the ICAO Committee on Aviation Environmental Protection, which focuses on the noise and air pollution caused by aviation.

F. Policy and Other Emerging Issues

In July 2004, Transport Canada completed a study on regional and small airports. The objective was "to identify systemic drivers and key factors that influence the current and future financial state of regional and small airports and understand the impact of divestitures on

the communities served by these airports."[2] The study concluded that most airports located in a market of less than 15,000 people were running operating deficits. As these airports are purely the responsibility of local entities after divestiture, ongoing deficits may result in higher airport fees or airport closures for some communities.

Bill C-47, An Act to amend the Air Canada Public Participation Act, was read for the first time on 2 May 2005. The purpose of this bill is to amend the existing legislation to ensure that Air Canada's successor corporations are subject to official language requirements. The *Air Canada Public Participation Act* continues to apply to Air Canada itself, but the post-bankruptcy parent company of Air Canada, ACE Aviation, and the new corporate entities it owns are currently not subject to official language obligations. If passed, the bill would make Air Canada's post-bankruptcy corporate structure subject to the same requirements as previous incarnations of the airline.

Transport Canada announced the new rent policy for NAS airports in May 2005. As a result of the new policy, airport authorities are expected to benefit from $8 billion in rent relief over the course of their existing leases (typically 60-year terms) and a more equitable distribution of the rent burden. The Air Transport Association of Canada responded to the announcement by suggesting that the policy does not produce broad or significant enough relief from current rent payments to improve the competitiveness of air transport in Canada.

On the international front, Transport Canada is considering entering into negotiations to update the present Bilateral Air Services Agreement with the United States as well as negotiating increasingly liberal agreements with other countries. The Minister of Transport referred certain questions relating to the concept of air liberalization in the Canadian market to the House of Commons Standing Committee on Transport to support the policy development. The Committee commenced its study in March 2005 and expected to continue it during the fall of 2005.

The Minister of Transport recently announced plans to raise foreign ownership limits on Canadian airlines to 49% from 25%. The move, which the Minister hopes to present to Cabinet by the end of 2005, is expected to strengthen the domestic industry.

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(2) Transport Canada, *Regional and Small Airports Study* (TP 14283B), available at: http://www.tc.gc.ca/programs/airports/RSAS/Docs/TP14283ENG.pdf.

MARINE TRANSPORT

A. Federal Government Role

Under the National Marine Policy of 1995, which was incorporated into the *Canada Marine Act* in 1998, the federal government's role with respect to marine infrastructure was significantly reduced. First, Transport Canada's responsibilities for managing and operating Canada's major ports were delegated to Canada Port Authorities. Like the airport authorities, these are not-for-profit, non-share private capital corporations representing local interests. Regional/local ports were slated for divestiture to other government stakeholders (federal or provincial) or local interests. Transport Canada continues to administer certain remote ports in the regional/local category, unless local stakeholders become interested in taking them over. Other regional/local ports have been demolished or Transport Canada has otherwise terminated its interest where local interest was lacking. The port divestiture program will continue until 2006.

Of Canada's 1,240 small craft harbours, Transport Canada will retain the 750 core fishing harbours; the rest (including low-activity fishing harbours and recreational harbours) are to be divested. At the retained fishing harbours, Transport Canada has encouraged the creation of local non-profit harbour authorities to maintain and manage them. Fishing harbours that do not have enough fishing activity to generate interest in forming a local harbour authority are also to be divested. The small-craft harbour divestiture program is expected to continue for several more years, after which the remaining public small-craft harbours that are not managed by a local harbour authority will be demolished.

The *Canada Marine Act* also provided for the transfer of the operation, maintenance and management of the Canadian portion of the St. Lawrence Seaway to the St. Lawrence Seaway Management Corporation (SLSMC). The SLSMC is a non-Crown, not-for-profit corporation, but it has recourse to the Crown to recover operating deficits when required.

With respect to marine operations, federal involvement is mainly through policy development and services to commercial and recreational mariners. Transport Canada is the lead department responsible for maritime safety and security policy, and many others have a significant role. Pilotage through Canada's coastal and inland waterways is provided, on a for-fee basis, by four regional pilotage authorities – the Atlantic Pilotage Authority, the Laurentian Pilotage Authority, the Great Lakes Pilotage Authority and the Pacific Pilotage

Authority – which are Crown corporations. The Canadian Coast Guard, which became a Special Operating Agency under the Department of Fisheries and Oceans (DFO) in 2004, delivers a number of marine services. These include Aids and Waterways Services, Marine Communication and Traffic Services, Icebreaking Services, Search and Rescue Services, Environmental Response Services and Fleet Management Services.

Transport Canada and DFO are the main federal sources of spending on marine transport, although from time to time Industry Canada contributes through its regional development agencies. The direct spending of all federal government sources combined is provided in Table 15. This total includes direct expenditures on maritime operations and maintenance as well as subsidies, grants and contributions. Operations and maintenance includes the Canadian Coast Guard, ports and harbours, and marine safety and policy. Subsidies include payments for ferry services, grants from regional development agencies and transfers to ports.

Table 15
Federal Government Marine Transport Expenditures and Revenues
($ Millions)

	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
Expenditures	$796	$811	$763	$784	$833	$903
Revenues	$80	$71	$70	$69	$71	$59

Source: Transport Canada (2004), Table A3-2, A3-3 and A3-4.

The federal revenues reported in Table 15 comprise user fees for marine services (ports, harbours and navigation) and payments from the Canada Port Authorities for using the port infrastructure. It does not include federal fuel tax revenues generated by marine users, as these figures are not available.

B. Industry Statistics

Canadian-flag operators provide domestic and transborder shipping services, while foreign-flag operators (some Canadian-controlled) carry most international trade at major ports. Algoma Central Corporation, Upper Lakes Group and Canada Steamship Lines were the three largest operators of domestic freight services in eastern Canada and the Arctic in 2004. Tugs and barges dominate domestic shipping on the west coast; Washington Marine Group and Rivtow Marine Inc. are the two largest tug and barge companies in British Columbia. The

western Arctic is principally served by the tug and barge fleet of Northern Transportation Company Limited. In the eastern Arctic, Nunavut Sealink and Supply Inc. and Nunavut Eastern Arctic Shipping were the carriers of dry cargo, and Woodward Group and Northern Transportation Company Limited were the carriers of bulk fuel on contract with the Nunavut government.

Transport Canada does not report the revenues of shipping companies serving the domestic market, probably because the figures are not publicly available. Many of the companies are privately owned (e.g., Upper Lakes Group and Canada Steamship Lines); others are part of a larger group of companies (e.g., Rivtow Marine Inc. and Woodward Group) that does not break out its financial data by subsidiary. Algoma Central Corporation is the one publicly owned company that has readily available financial information; it reported revenues of $261 million in 2003.

International shipping is carried by companies offering “bulk” and “liner” services. Homogeneous cargo is generally carried by time-charter arrangements on foreign-flagged bulk carriers operating in a competitive market. Heterogeneous cargoes are generally carried on liners, which operate on a fixed schedule with fixed rates. Container vessels dominate this market, which is served by both independent shipping companies and members of shipping conferences.

Marine passenger services in Canada are offered by ferry and cruise operators. There are private and/or public ferry operators in every province and two territories of Canada on inland and/or coastal waterways. There are significant differences in the services offered and vessels used depending on the scale and location of the operation; British Columbia Ferry Services Inc. is the largest. International cruise lines serve both the east and west coasts of Canada, offering either “luxury” or “pocket” (ships carrying fewer than 150 passengers) seasonal cruise products.

C. Traffic

1. Freight Traffic

Freight traffic handled at Canada’s ports in 2003 was up 9% over 2002 and amounted to 443 million tonnes of cargo (Table 16).

Table 16
Marine Traffic Handled by Type of Port, 2003

	Million Tonnes	Percent Share
Canada Port Authorities	227	
Halifax	*14.2*	
Montréal	*20.3*	
Prince Rupert	*4.0*	
Quebec City	*20.3*	
Saguenay	*0.44*	
Saint John	*25.9*	51%
Sept-Îles	*22.7*	
Thunder Bay	*7.8*	
Toronto	*1.8*	
Vancouver	*67.9*	
Fraser River	*13.7*	
Other	*28.0*	
Transport Canada Ports	66	15%
Other Ports*	149	34%
Total	443	100%

* Ports owned and operated by other federal agencies or other governments, and private facilities.

Note: Figures may not add due to rounding.

Source: Transport Canada (2004), p. 69.

The international sector had the largest traffic flow in both 2002 and 2003, followed by the transborder sector and then the domestic sector.

- *International trade*. Canada's 183.2 million tonnes of international marine traffic flow (excluding traffic to/from the United States) was valued at $92.2 billion in 2003. More than half of it flowed between Canada and Japan, China, South Korea, the United Kingdom and Western Europe, and more than half of the total was exported. The commodities Canada exported in large quantities to other foreign countries included coal, iron ore, containerized freight and wheat. Crude petroleum was by far Canada's largest import, followed by containerized freight.

- *Transborder trade*. The two main corridors of Canada-U.S. maritime trade were on the Atlantic and within the Great Lakes; together, they account for nearly three-quarters of the total maritime trade between the two countries. A total of 123.5 million tonnes, valued at $15.2 billion, flowed between the two countries in 2003, of which two-thirds were exports from Canada. Crude petroleum, stone, limestone, sand and gravel and gasoline were among the commodities exported in the largest volumes; coal, iron ore, fuel oil and stone, limestone, sand and gravel were among the commodities imported in the largest volumes.

- *Domestic trade*. Nearly 40% of the 68.3 million tonnes of domestic traffic flow in 2003 used the Great Lakes-St. Lawrence Seaway system, followed by the Pacific and then the Atlantic regions. Three-quarters of domestic flow comprised crude petroleum, pulpwood and chips, stone, limestone, sand and gravel, iron ore and concentrates, logs and other wood, fuel oil and wheat.

Freight traffic using the St. Lawrence Seaway was approximately 43.5 million tonnes in 2004, up more than 5% from 2003. Iron ore, grain, general cargo and coal were the commodities shipped through the Seaway in the greatest quantities in 2004.

2. Passenger Traffic

International passenger traffic at Canada's ports is largely due to the seasonal cruise ship industry. Cruise ships ply the west coast to and from Alaska in the summer and the east coast and the St. Lawrence Seaway in the fall. In 2004, the preliminary estimate of international cruise traffic showed 6% growth over the previous year, totalling nearly 1.4 million passengers at five major Canadian ports (see Table 17).

Table 17
International Marine Passenger Traffic, 2003-2004

	Vancouver	Montréal	Quebec City	Halifax	Saint John	*Total*
2003	953,376	33,600	59,000	170,425	83,946	*1,300,347*
2004	929,976	40,000	62,000	212,000	138,622	*1,382,598*

Source: Transport Canada (2004), p. 78.

Ferry services in Canada carried an estimated 38.8 million passengers and 16.3 million vehicles in 2003. Of the many ferry operators in Canada, British Columbia Ferry Services Inc. (a former provincial Crown corporation) carried the most passenger and vehicle traffic in 2003, with 21.4 million and 8.3 million respectively. Inland ferry services in British Columbia carried the second-largest volumes of passengers (7.2 million) and vehicles (3.3 million). The Quebec government's Société des Traversiers du Québec carried the third-largest volume of passengers (5.2 million) and vehicles (2.6 million).

D. Safety and Security

The number of marine accidents (shipping accidents and accidents aboard vessels) was down by 12% in 2004 from 2003 (see Table 18), and the accident rate declined slightly. An increase in fatalities, however, put the total for the year over the five-year average.

Table 18
Marine Transportation Safety Statistics

Accidents*	
2004	431
2003	485
Five Year Avg. (1999-2003)	462.8
Fatalities	
2004	27
2003	19
Five Year Avg. (1999-2003)	23.4
Accident Rate (per million vessel-kilometres)**	
2004	17.9
2003	20.5
Five Year Avg. (1998-2002)	18.3

* Accidents involving Canadian-registered vessels.

** Accident rate only for vessels over 15 gross registered tonnage.

Source: Transport Canada (2004), p. 21 and Table A4-12.

Transport Canada's *Marine Safety Strategic Plan 2003-2010* is the current strategic plan for marine safety after *The Way Ahead* ended in 2002. The plan targets reductions in the 1998-2002 averages of fatalities, injuries and accident rates by 2010. By 2004, Transport Canada reported that significant progress had been made towards reducing the number of fatalities, but little or no progress had been made with the other targets.

Since Canadian small vessels engaged in fishing activities typically make up the highest proportion of total vessels involved in shipping accidents (52% in 2004), Transport Canada promotes small commercial vessel safety and regulation under its Marine Safety Small Vessel Monitoring and Inspection Program. Transport Canada distributed a safety guide to operators of these vessels in 2004, and upcoming amendments to the *Small Vessel Regulations* are expected to further enhance safety in this segment of marine traffic. Regulatory issues and operator certification and training are being addressed by the Canadian Marine Advisory Council, which includes representatives from both industry and government.

Some other safety-related activities of Transport Canada in 2003/2004 include:

- Inspection of 1,173 foreign-flagged vessels in accordance with the Memoranda of Understanding on Port State Control, to which Canada is a signatory;

- Commencement of monitoring and/or reviewing the audits of Marine Transportation Safety Management Systems carried out for Transport Canada by classification societies; and

- Takeover of the Office of Boating Safety, marine navigation services, pollution prevention and response and navigable waters protection from the Canadian Coast Guard/DFO in December 2003.

With respect to marine security, there were a number of developments in 2003-2004 and even more recently. Transport Canada is the lead department in marine security, but many other federal departments are closely involved. Some of these are mentioned in the descriptions of recent maritime security initiatives listed below:

- *Legislative and regulatory*. The *Marine Transportation Security Regulations* came into force in 2004, bringing the International Maritime Organization (IMO) International Ship and Port Facility Security (ISPS) Code into effect. The provision for federal grants for port security under the *Public Safety Act* resulted in the $115-million Marine Security Contribution Program. This program will fund security enhancements to meet the ISPS Code over the next three years.

- *The National Security Policy*. The policy, announced in April 2004, contained a six-point plan for marine security, which came with funding of $308 million, to:
  - Clarify and strengthening accountability for marine security;
  - Establish Marine Security Operations Centres;
  - Increase the on-water presence of enforcement agencies (i.e., Canadian Forces, RCMP, Canadian Coast Guard);
  - Invest in secure communications technologies;
  - Pursue greater cooperation with the United States; and
  - Strengthen security at ports and other marine facilities.

  In accordance with the policy, two Marine Security Operations Centres were established (in Halifax and Victoria) to monitor compliance with the ISPS Code. These centres are managed by National Defence with support from Transport Canada. The Marine Security Contribution Program mentioned above is also consistent with the National Security Policy.

- *Budget 2005*. The February Budget contained $300 million in new spending dedicated to marine security. The funding will support:
  - Action by Transport Canada and the Canada Border Services Agency to increase security at ports and marine facilities;
  - Increased enforcement and emergency response on the part of the RCMP;
  - Efforts by an RCMP-led interdepartmental team to enhance security throughout the Great Lakes-St. Lawrence Seaway system; and
  - Work by the Department of National Defence to increase security on the North American perimeter.

- *Other*. Consultation on the Marine Facilities Restricted Area Access Clearance Program commenced in 2004. This program would extend background check requirements for port workers and was originally scheduled to be in place in early 2005. The program is still under development, however, and is now called the Marine Transportation Security Clearance Program.

E. Environment

Domestic marine transportation contributed an estimated 8 megatonnes to GHG emissions in Canada in 2002 – a growth of 3% since 1992. Although marine transport generates only about 3% of total GHG emissions from transportation, it is eligible for some of Transport Canada's multi-modal environmental initiatives. For example, under the freight transportation component of the *Government of Canada Action Plan 2000 on Climate Change*, funding for efficiency-enhancing technologies has been provided for two marine transport initiatives in recent years through the Freight Efficiency and Technology Initiative.

One important change in 2004 was that the responsibility for conducting environmental assessments with respect to projects under the *Navigable Waters Protection Act* was transferred from DFO to Transport Canada. As well, in 2004, the joint study by Canada and the United States on the potential infrastructure needs of the St. Lawrence Seaway and the associated environmental (as well as engineering and economic) implications continued. The study is scheduled to be concluded in 2006.

F. Policy and Other Emerging Issues

Transport Canada completed a statutory review of the *Canada Marine Act* in 2003 which, among other things, identified some financial concerns with regard to the ports operated and managed by Canada Port Authorities. The *Canada Marine Act* requires that Canada Port Authorities be financially self-sufficient, and it strictly limits federal assistance and caps borrowing from private lenders, making capital investment at major ports difficult. Bill C-61, An Act to amend the Canada Marine Act and other Acts, was introduced in June 2005 to address this problem by making federal infrastructure money available to Canada Port Authorities.

In late 2006, the existing *Canada Shipping Act* is expected to be replaced by its updated and streamlined successor, the *Canada Shipping Act, 2001*. Substantial reform of over 100 regulations was necessary in advance of the new Act's coming into force; public consultations on the proposed amendments were by and large completed in 2004.

CONCLUSION

While preserving its policy role, the federal government has been reducing its operational role in transportation infrastructure for well over a decade. Private-sector, albeit not-for-profit, corporations are the new managers and operators of major facilities formerly under federal operation and management, including ports, airports, the civil air navigation system and the St. Lawrence Seaway. Except for a select few located in remote areas, regional ports and airports are in the process of being sold to local interests or decommissioned where local interest is lacking. Commercializing the transportation system in this way was motivated by the promise of efficiency gains through reduced government expenditure, increases in private capital investment and greater involvement of local stakeholders and transport users.

Highways, being almost exclusively outside of federal jurisdiction, traditionally have had sporadic federal involvement in infrastructure. Given that the federal government collects more in tax revenues from road users than it spends on the roads, this is the mode in which other governments and users are calling for a greater federal role.

Trends confirm that transportation safety initiatives are generally working, as safety has been improving over time in each mode. Conversely, although Canadian transportation has historically been very secure, transportation security continually presents new challenges for the federal government. The increased threat of international terrorism since 2001 has forced Transport Canada, and other federal departments, to assess and improve security programs on an ongoing basis.

Given Canada’s commitments under the Kyoto Protocol, reducing greenhouse gas emissions from transportation present another challenge for the federal government. Transport Canada, Natural Resources Canada and Environment Canada have a number of current programs that aim to curb such emissions. Many of these focus on road transport, which is the largest contributor to greenhouse gas emissions from transportation.