

What people are talking about

- the deteriorating condition of our roads and how improvements should be paid for
- traffic congestion and delays in cities and across borders
- road safety
- public concerns that there are too many trucks on the road
- how to attract, train and keep professional drivers
- the high level of Canadian fuel taxes
- the need to consistently apply and monitor safety regulations across jurisdictions and among truck operators
- the need for uniformity of truck weights and dimensions among jurisdictions



The availability of consumer goods is an important factor in our quality of life in Canada, and most of what is available is made possible by trucks.

“Truck driver” is the most common male occupation in Canada, according to the Government of Canada Census.

Delivering the goods

Shipping by Road

Trucking is a dynamic, fast-paced business and a major segment of the Canadian economy. Thousands of trucks and specialized equipment – such as semi-trailers, refrigerated vans, tankers and dump trailers – carry almost everything we use. In fact, 75% of our total spending each year on freight transportation is for shipping by truck.

Trucking is ideal for short distances (i.e., less than 500 kilometres), and when rapid, flexible delivery is at least as important as cost. It has also become important for long-distance shipments of manufactured and consumer goods and is key to serving trade between Canada and the US. Door-to-door capability allows trucks to provide the local pick-up and delivery leg for freight that is shipped by other modes.

Trucking has grown rapidly over the past several decades: Canada’s road system developed, technology made better trucks, and new trucking services were custom-tailored to match growing and changing customer demands. Today, commercial trucks account for some 30% of the traffic on the Trans-Canada Highway.

In the 1990s, the trucking industry changed significantly. Many new firms entered the business, and competition steepened. New trade agreements meant more north-south traffic. The result

Trucking Industry



was a painful restructuring, and some major trucking companies disappeared entirely. Ultimately, it has created a stronger, leaner, and highly competitive industry.

Commercial trucking is made up of “for-hire” companies, which carry freight for a fee, and private carriers, which use their own “in-house” fleet as the company’s distribution system. There are an estimated 10,000 for-hire trucking companies in Canada. Examples of large carriers are Canadian Freightways, Trimac, J.D. Irving, and Reimer. Couriers, which concentrate on small packages and envelopes, are a part of for-hire trucking. Private carriers are common in short-distance trucking; they play a relatively minor role in long-distance trucking. Private carriers also sell their services in the for-hire marketplace where it fits in with their own operations, to maximize vehicle utilization. Since most private trucking occurs as part of some other business (e.g., Molson and Safeway), truck industry data exclude and therefore understate the importance of trucking.

Compared to other modes, entering the trucking business is fairly straightforward, so it follows that there are a number of



Trucking has changed

Modern trucking employs a range of technologies to improve service. This includes satellite-based systems for shipment tracking, on-board computers to monitor fleet operations and keep costs in check, and paperless computer systems to expedite border crossings and Customs clearance.

Today’s truck driver uses a computer, talks to customers, and is a safety advocate and often a one-person security force. Good driving skills are a plus, too!

independent owner-operators who provide their own vehicles. There are an estimated 40,000 companies in all, employing 60,000 drivers, or one-quarter of all commercial drivers in Canada.

Trucking activity is concentrated in Ontario, which is home to half of Canada’s 100 largest trucking firms. Nearly two-thirds of all transborder truck trips cross the Ontario-US border. Transborder traffic is growing rapidly: in 1996 it accounted for 41% of all truck traffic in Canada, up from 30% in 1990.

Truck weight and length limits may vary by province or state. Trucks crossing borders must obey the rules of the area with the most restrictive limits, which may mean a smaller payload and more trucks to move the same amount of freight. The trucking industry and



What is logistics?

Today’s companies make and sell goods on a global scale. Production facilities may be located near customers, or, just as likely, where land is cheap and labour costs are low. Raw materials or markets may be thousands of miles or even continents apart.

“Logistics” was originally a military term used to describe the process of supplying troops with food and weapons. The goal of logistics in business is to get the right goods to the right place at the right time – and at the lowest overall cost.

Supply-chain management is the integrated process of controlling the total flow of goods and information from supplier to customer. The global scale of trade and transportation has created a new type of company: the logistics firm. Made possible by today’s communication technologies, the logistics firm handles all facets of transportation and distribution, from the point of production to the final destination. Previously, the producer might have used many companies: one for the truck pick-up of a shipment at the warehouse, a second to book space on a ship, a third to pack goods into a container, a fourth to arrange Customs documentation, and various others to load, transport, unpack, distribute, and handle insurance, financing, money transfers, and so on. The new logistics companies, which have often evolved as subsidiaries of transportation companies, are growing at double-digit rates.

governments are working to coordinate truck dimensions in different jurisdictions.

There is ongoing concern in the trucking industry that fuel tax rates in Canada weaken our competitive position. The federal diesel fuel tax rate (4 cents per litre), is about twice that of the US rate. There is similar concern about provincial diesel fuel tax rates, which average 12.8 cents per litre (weighted by fuel sales).⁴ These rates have been reduced in some provinces recently, but state fuel taxes in the US are generally much lower.

The Canadian trucking industry and other road users have also been questioning the discrepancy between the amount of diesel and gasoline fuel taxes collected by the federal government, and what is spent to maintain roads.

What people are talking about

- domestic competition among railways and with trucks
- customers wanting better, lower-priced services
- the needs of the bulk shipper being served by only one railway
- how to create a business climate that will encourage railways to improve their systems
- opportunities to create shortline railways to maintain rail service in communities instead of abandoning track
- improving Canadian rail's competitive position in relation to US railways
- significant job losses due to downsizing



290 million tonnes a year. Goods carried in containers – some 20 million tonnes per year – now earn significant revenues, and this is the big growth area; it has grown more than 50% since 1991.

Shipping by Rail

Rail is highly efficient for carrying heavy loads over long distances. One rail car can carry 110 tonnes, about four times what a truck can carry. Bulk commodities such as grain, coal, sulphur, potash, chemicals and forest products continue to be the backbone of the rail industry, with traffic volumes of some

Canada's rail industry is made up of two major companies and some 50 smaller ones. Canadian Pacific Railway and Canadian National (CN) operate freight systems across the country. Together, they generate \$8 billion a year in revenues, or 92% of the industry total. The largest regional railway is BC Rail, which operates 2,314 kilometres of mainline track within British Columbia.

There is also a growing number of shortline railways. For example, OmniTRAX operates almost 2,000 kilometres of track in three separate railways, including the Hudson Bay Railway, which connects with the Port of Churchill. OmniTRAX also owns and operates this port, which is one of Canada's



⁴ Transportation Table on National Climate Change Process, "Foundation Paper on Climate Change" (December 1998).

outlets for grain exports. RailAmerica, another owner of several shortlines, with more than 4,300 kilometres in Canada is also expanding. Shortline railways haul anything from natural resources to consumer goods, depending on their location.

Both CN and Canadian Pacific Railway have networks extending into the US. Canadian Pacific Railway owns two US railroads – the Soo Line and the Delaware & Hudson – and has also extended its system to provide



The end of an era

The social fabric of many of Canada's regions has been woven by their resources. In Atlantic Canada, it has been the fishery. On the Prairies, it has been grain. In British Columbia, it has been forestry, mining and fisheries. Today, the global competition that has brought about changes in the way resources are harvested, priced and shipped has disrupted those ways of life. On the Prairies, that change has altered the very landscape.

Small wooden elevators that dotted the Prairie landscape along thousands of kilometres of rail branchlines are being replaced by fewer but more efficient, high-throughput concrete terminals. Once there were 5,500 Prairie elevators; today there are just 1,000, and more reductions are expected. When a local elevator closes and the rail line shuts down, farmers must truck their grain farther to reach another elevator. But the road system was not built to handle the weight that rail accommodates, and the added trucking

connections to the US Midwest and New York, and as far south as Kentucky. In 1999, CN acquired the Illinois Central Railroad, giving it a continental reach from the Pacific and Atlantic coasts in Canada, south to New Orleans on the Gulf of Mexico.

Through the 1990s, Canadian railways have made significant progress in doing more with less. Competition from other railways and from trucks and ships has risen steadily. Customers also demand from the railways the faster, lower-priced services that they need to survive in world markets. Squeezed in the middle, railways have had to make dramatic reductions in their workforce, shed surplus track and

damages the roads. The community views the loss of its rail line as devastating, since rail service is often regarded as a right – as important as its schools and hospitals. When grain handling moves to larger centres, so too does the farm family's many purchases and use of community services. Diverting those dollars threatens the existence of many small Prairie towns.

What can be done? A federal grain handling and transportation review has studied the various options. Shortline railways are one option. Instead of abandoning rail lines that have lost an important part of their grain traffic because of elevator closures, lines are being transferred to shortline operators that have lower cost operations and can continue the services. The federal government has made it easier to establish shortlines, and they are growing in importance.

streamline their operations (e.g., serve fewer points with more cars per train, and use advanced technology to control train movements). The next round of productivity gains are coming from investments in more powerful locomotives and larger rail cars that carry more weight, and in new communications technology.

Borders have disappeared, and the market for rail freight transportation is now North American. Any differences in costs, such as fuel taxes, wage rates, and regulatory compliance costs, affects the competitive balance between carriers in different jurisdictions.



What is a shortline railway?

Shortline railways gather traffic from within a small geographic area and forward it to large mainline railway companies. Typically, shortlines are formed when the mainline railway sells off part of its track to another operator to reduce costs, but works together with the shortline railway to continue rail service.

Shortlines normally operate at a lower cost, often provide better service than their mainline cousins, and have fewer employees who do a broader range of jobs. For example, a shortline engineer may pick up rail cars from a warehouse, do his or her own locomotive repairs, and then discuss new business opportunities with a customer.

As US railways and ports try to increase their traffic, there is growing concern that Canadian cargoes could be diverted to the US system, because our system is at a cost disadvantage. Some of this is related to geographic differences and traffic densities. Also, input taxes in Canada (e.g., employment, property, fuel and sales taxes) are 50% higher than they are in the US. Locomotive fuel taxes, for example, which are levied in most provinces, have no US equivalent. Some of the tax differences are offset by the better social and other programs in Canada, such as employment insurance, but the Canadian rail industry continues to work to close the gap in costs.

A concern among shippers is a lack of competition in regions where only one railway serves a farm, a mine site, or a port, such as Halifax. But to survive and be able to support their enormous investment in track and equipment, railways must move large volumes of traffic. For some freight, trucks can compete with rail, but it is not always practical.

North American railways own and maintain their own track and operate train services on their lines, but there are calls for “open access,” which would force railways to allow others to operate trains on their tracks. There is much debate about this.

Shipping by Air

The fresh flowers at your local florist may have come to Canada last night by air cargo from Holland, or your new shoes jetted in from Italy. Today we are consumers in a truly global marketplace, and we want the best of everything the world has to offer – right now. If one source can't provide it, the customer will find another source that can. Business has obviously had to adjust its mindset and the way it meets expectations; from mass production to mass customization – getting the right product to the right place at the right time, all at the right price.

There has been dramatic growth in the global air cargo business. Air cargo has doubled every 10 years since 1970 and it shows no signs of slowing. Canada now imports and exports some \$60 billion worth of goods by air each year, nearly one-tenth of Canada's goods trade. Fully half of that trade is with the US.

The air cargo industry is traditionally made up of postal, courier and freight forwarder cargoes. Freight forwarders consolidate the small shipments of a number of different shippers, and then bargain better prices from air carriers and pass on some of the savings to shippers.



What people are talking about

- *airport and other improvements needed to support further growth in air freight*
- *the need for pre-clearance through Customs for air freight, as is done for passengers*

Today, the lines between air cargo segments are blurred. Companies such as UPS and FedEx, which traditionally provided courier services, now control 60% of the US domestic air cargo market, compared to just 5% in 1977. That success has come from giving customers what they want – door-to-door, overnight service, irrespective of the commodity or size of the shipment – all arranged with a phone call or e-mail transaction.

In Canada, the top nine air cargo companies, including Purolator and Loomis, control 80% of the market and deliver 1.5 million packages each business day. Canadian companies have also formed strategic alliances with foreign firms to provide customers with service to international locations. With growth in many countries running between 20% and 45% a year, the opportunities are enormous.

Providing these high-quality services puts significant pressures on the air and ground transportation networks. Good airport facilities, efficient ground transport, congestion-free roads, and fast, 24-hour Customs clearance are all essential to the around-the-clock deliveries now demanded by business.

One barrier to more efficient movement of air cargo destined for the US is the need to clear US Customs at the US port of entry. Potential delays add to the cost and uncertainty for shippers trying to serve American customers in a highly competitive market. If a pre-clearance system for transborder cargo could be put in place at Canadian airports, similar to the system already in place for passengers destined for the US, it would improve service and create opportunities for cargo moving through our airports.

Canada's airlines and airports have traditionally focused on the passenger market, so we have not developed the cargo airlines that might be expected in a large, trade-oriented nation. But there is interest in establishing carriers to capture this growing business. The federal government opened the doors in 1998, with rule changes that make it easier for all-cargo air services to operate in Canada. The development of that part of the sector is being monitored, however, to ensure that all-cargo services don't undermine the scheduled services of Canadian passenger airlines, which use cargo to supplement their revenues.



Shipping by Water

Where nature provides the right-of-way, transportation by water is a highly efficient and low-cost way to ship freight, particularly for heavy cargoes over long distances. Canada's natural waterways and deep harbours have made our system of commercial shipping possible, but substantial investments are needed in handling systems, docks, terminals, and sometimes locks, canals and dredging to complete the marine system.

Canada's port system handles 375 million tonnes each year, three-quarters of which is moved to or from foreign ports. Vancouver leads the way with 72 million tonnes (1998), three times the volume of the next-largest port. Most Vancouver traffic is coal, grain, sulphur, potash and forest products exported



**Leading container ports:
1998 traffic – millions of TEUs**

World leader / US leader

Singapore	15.1
Long Beach, CA	4.1

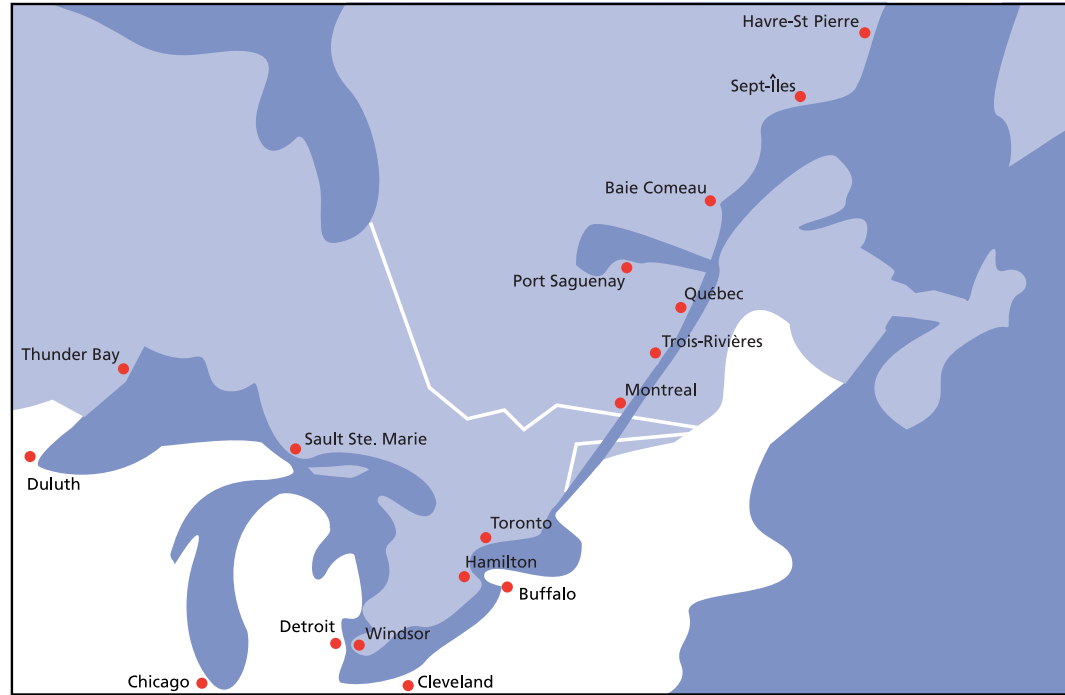
Canadian ports handling containers

Montreal	0.93
Vancouver	0.84
Halifax	0.44

to more than 100 countries. Montreal is the largest container port. Its container traffic is largely to or from the US, as it is the leading Atlantic coast gateway for the European container trade. Vancouver is also a major container port, and volumes are growing steadily.

The St. Lawrence Seaway, which connects the Great Lakes with the Atlantic Ocean through a series of locks and canals, permits ocean-going vessels to access the interior of the continent. Today, more than 50 million tonnes of grain, iron ore, coal and steel are moved on this important bi-national system, providing more than 60,000 jobs in Canada and the US. After 40 years of government operation, the Canadian portion of the St. Lawrence Seaway was commercialized in 1998 under the responsibility of a new public/private organization. The Crown

The Great Lakes/St. Lawrence Seaway System

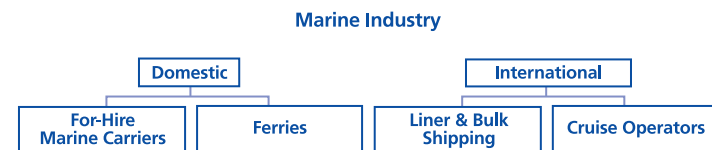


retained ownership of all the infrastructure, while the not-for-profit St. Lawrence Seaway Management Corporation assumed the management role.

On the Pacific coast, the tugboat industry is an important part of domestic and Canada-US water transportation. A fleet of tugboats and barges serves the coastal forest industry

and carries sand and gravel, limestone, cement and petroleum products. Tugs are also used at all Canadian ports to dock ships, and on the Mackenzie River and in the Arctic to supply remote communities.

Canadian flag vessels (i.e., ships registered in Canada and using domestic crews), serve domestic and transborder trade on the Great



Lakes, the Pacific and Atlantic coasts, and northern areas such as the port of Churchill. This fleet, some 175 vessels (over 1,000 gross tonnes), carries 98% of the trade moving between Canadian ports, and 55% of waterborne trade with the US.

Despite our significant overseas trade, less than 1% of it is transported by Canadian flag vessels. Our overseas waterborne trade is moved by foreign fleets of bulkers (e.g., grain ships and oil tankers) and liners, which are specialized ships for containers and non-containerized “break-bulk” or packaged cargo.

International liner shipping has long been dominated by shipping cartels, called “conferences”, which operate on specific trade routes. Canada is served by several shipping conferences on both coasts. Conferences offer services based on published schedules at collectively agreed rates and conditions of service. Such anti-competitive practices would normally not be permitted under the Canadian *Competition Act*. However, since conferences have played an important role in foreign trade and have provided stability in shipping services, they are exempted from certain competition rules by the *Shipping Conferences Exemption Act (SCEA, 1987)*.

The *SCEA* is being reviewed, however, in light of recent US ocean shipping reform. New US

legislation, effective May 1999, permits US shippers to make confidential contracts with individual shipping lines, something typically not previously allowed. The review must determine whether the *SCEA* is still relevant – some in the industry believe that the US changes signal the end of conferences – and whether the US system will put Canadian shippers and our transportation system at a disadvantage.

Another major development is the *Canada Marine Act, 1998*. Under the *Act*, ports previously administered by Transport Canada operate in one of three categories: Canada Port Authorities (i.e., those considered vital to domestic and international trade); regional/local ports; and remote ports (i.e., those in isolated northern regions). Canada Port Authorities operate as agents of the Crown for port business activities and are managed by boards of directors that include local representation. Regional and local ports come under private or local government control. Remote ports will continue under federal responsibility.

The new arrangement for ports is considered by many to be a major step forward, as it allows ports to be more innovative and respond more directly to market opportunities. Some in the industry believe that it isn't a big enough step – that more is needed to strengthen the position of our ports

What people are talking about

- *concern among shippers that locally run ports will lead to higher costs*
- *public concern about conflicting land use in port cities*
- *the competitive position of our ports versus US ports*
- *the role of marine pilots*
- *cost recovery from services such as navigation aids and other Coast Guard services*
- *the cost and environmental impacts of dredging deeper channels*



Ocean shipping and hub ports

Vessels can carry enormous loads on each voyage – the largest grain ship can carry 120,000 tonnes, which is the equivalent of 1,200 railway cars. Modern container vessels can take as many as 6,000 TEUs.

To keep these expensive vessels fully utilized, shipping companies call at fewer ports, where they establish high-volume hubs. Ports require top-calibre facilities and equipment, deep channels, and highly productive labour. Excellent truck and rail connections are also needed, to handle the inland distribution.

against competing US ports, which have a greater range of financing options. In many cases, US ports even have the right to collect taxes.

The *Canada Marine Act* also provided for a review of the pilotage system. By law, pilots are required aboard commercial vessels to provide safe navigation when entering designated coastal waters and port areas. But there is concern in the industry that pilotage costs are too high and the rules too restrictive. Changes to the *Act* could, for example, allow ship's officers who have knowledge of local waters to navigate without a pilot. It is also argued by some that with today's sophisticated navigation systems (e.g., Global Positioning Systems technology), pilots may not be needed in certain situations. Others are concerned that relaxing current rules could compromise safety. Any changes resulting from the review will have safety as a key consideration.

⁵ There is also a 40-kilometre commercial pipeline in Alberta which carries sulphur.



The pluses of pipelines

Pipelines are challenging to construct, because they often have to pass through remote areas with harsh climates, and cross rivers and steep terrain. But they are proven as a safe way to transport Canada's large daily production of oil and gas: there have been no fatalities on operating pipelines in the 1990s.

Today, pipeline companies do more than transport oil and gas. Because of new competition, companies are entering new areas and developing innovative services – a pipeline company may even one day be your electricity provider.

Shipping by Pipeline

Pipelines are an important part of our transportation system, linking remote oil and gas producing areas to refineries and to domestic and export markets. There are more than 540,000 kilometres of underground pipelines in Canada – 10 times the length of our rail system and more than half the length of all of our roads.

Transmission pipelines carry natural gas and liquid petroleum products to local distribution companies or large industrial plants.⁵ Products travel through pipelines, some wider than 1 metre in diameter, under pressure created by

What people are talking about

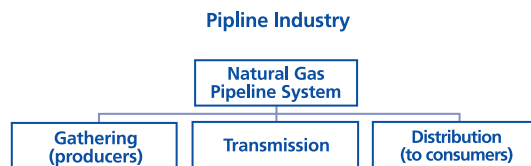
- possible overbuilding of pipelines, exceeding the demand for oil and gas
- public concern about pipelines and safety and the environment
- relations between pipeline operators and landowners granting pipeline rights-of-way

compressors or pump stations. Natural gas is moved at 20 kilometres an hour, and various liquid petroleum products are shipped in batches that travel at about 5 kilometres an hour. Pipeline infrastructure (i.e., steel pipe, terminals and pumping stations, storage facilities and acquisition of rights-of-way) requires enormous investments and can be challenging to build. But once they are built, pipelines are the most cost-effective way to transport oil and natural gas. To move oil from Alberta to refineries in Ontario by pipeline is typically 10% of the cost of the oil. By contrast, the cost of shipping natural gas is two to three times the cost of the gas because of higher compression and transport costs.

Just as Canadian grain farmers depend on roads and railways, our petroleum industry could not exist as it is today without pipelines.

They carry 95% of all crude oil and natural gas production, and supply two-thirds of Canada's energy, including the natural gas to heat more than half of all homes. Nearly all of our oil and gas exports, some \$15 billion in 1997, are carried by pipeline to the US.

There was unprecedented activity in the pipeline industry in the late 1990s that was forecast to double capacity within just a few years. The 3,100-kilometre, \$4.5 billion Alliance Pipeline project will link production in Fort St. John, BC and northern Alberta with the large US Midwest market. The project's main partners are Enbridge Inc. in Alberta, Westcoast Energy Inc. in BC, and Fort Chicago Energy Partners. Other oil and gas expansion projects are planned by TransCanada PipeLines Ltd., Suncor Energy, Enbridge, Foothills Pipe Lines, and Maritimes & Northeast Pipeline, among others.



Safety first

Safety has always been a cornerstone of Canadian transportation policy, and it remains a key government priority. The federal government is responsible for air, marine and interprovincial rail and pipeline safety, as well as for the safety of dangerous goods transportation in all modes. It has worked with the provinces to develop a National Safety Code for trucking, a set of 15 standards covering licensing, training, hours of service, and vehicle maintenance. The provinces are responsible for road safety within their own boundaries, and the federal government has delegated responsibility for interprovincial road safety to the provinces.

Through Transport Canada, the federal focus is on developing practical safety programs and effective regulations. This broad safety involvement includes safety inspection, monitoring and compliance with regulations, research and development, developing motor vehicle standards, and public safety awareness education.

Similar activities are carried out by many other stakeholders with responsibility for transportation safety, including provincial/territorial and local governments. But it's not only governments that place a high priority on safety. Private transportation companies, labour organizations, and others, such as insurance companies, make safety a key element in their operations. As a result, Canada has one of the best transportation safety records in the world.

Accident investigation is separated from safety regulation and enforcement to avoid conflict of interest. The Transportation Safety Board, an independent federal body, enhances safety nationwide by investigating air, marine and rail accidents to determine causes and recommend safety improvements. Road accident investigation is a provincial/territorial responsibility. In all modes, safety has been improving over time, despite increased traffic.