

Canada's advantages and challenges

Canada occupies the second largest land mass in the world. Our population is concentrated close to the Canada-U.S. border and along the Trans-Canada Highway. We face seasonal and distance challenges. We have overcome monumental barriers within our own borders. Now, in a global market, our geography works in our favour. We have sophisticated east-west corridors across the continent. We have deep water ports capable of handling the world's largest vessels. Although transportation costs may seem hefty, we have advantages compared to many parts of the world.

The World Economic Forum ranks Canada among the top five countries worldwide for roads, rail, air transport, pipelines and ports. From among all the NAFTA countries, Canada has the shortest routes

to Bombay and significantly shorter routes to China and to the EU than the U.S. Even the Port of Churchill is closer to the EU than many eastern U.S. sea ports. We can ship exports at far less cost and we are positioned to land imports for North America cheaper and faster than any other country. We have multiple access points over land to the U.S., the world's biggest market with major populations on the east and west coasts.

Gateways, especially Prince Rupert, are closer to Asia and Europe than anywhere else in North America. We enjoy geographic advantages on both coasts and our railways and highways bind us from Vancouver to Halifax. Canada's air corridors are less congested than others, especially routes over the North Pole.

Canada's strategic global location



Adapted from Vickerman & Associates LLC

Canada has advantages over the U.S. and Mexico in shipping times. If you are part of a strong transportation network, you will have more options. If you grow pulse crops, you will increase profit margins by moving your product through Prince Rupert. In light of the strong Canadian dollar, if you grow vegetables in Eastern Canada, Europe may deserve another look.

Like many other trading nations, we are investing in our transportation infrastructure.

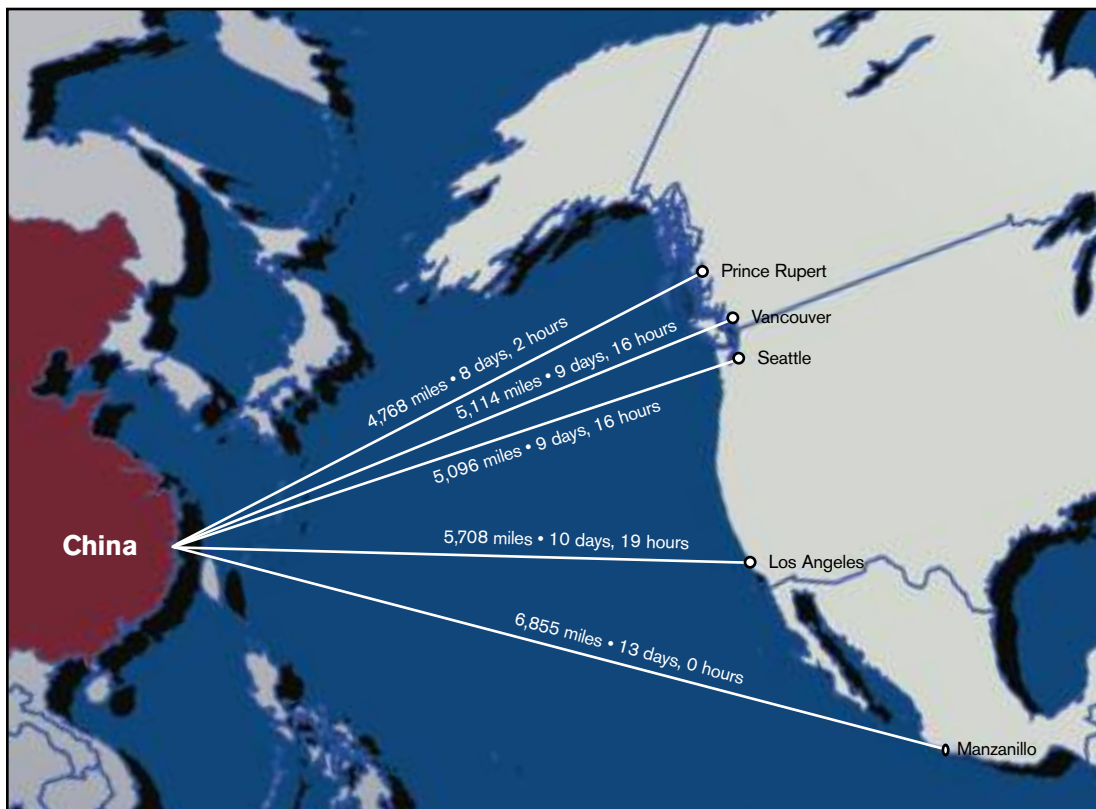
- The Trans-Canada Highway is being twinned through Prince Rupert and parts of the Rockies.
- Major dredging is being done at the Fraser River Port.
- Ontario's 407 highway now has electronic, open-road tolling, weight in motion, weather

monitoring, and video and highway advisory radio abilities.

- Enhancements to the Windsor-Detroit border crossing include customs pre-clearance.
- Some \$3B has been allocated for airport upgrades at Vancouver, Calgary, Edmonton, Winnipeg and Toronto's Pearson airport.

Canada's Asia Pacific Gateway project focuses on making Canada the most competitive exit and entry point in North America for Asian and Canadian goods, services and investment. Funded in partnership by the governments of Canada and British Columbia, the \$4B investment extends beyond transportation infrastructure to include cultural and educational initiatives. In early 2007, the federal government committed an additional

Distances and transit times along major shipping routes⁸



⁸ Conference Board of Canada, "Addressing Gaps in the Transportation Network", October 2007.

Natural and geographic advantages

National Railway System	Canada Port Authorities	National Highway System	National Airport System	Pipelines
50,000 route kilometres, 60 per cent in four western provinces	18 port authorities, over 200 smaller harbours and regional ports and 1000 small ones	900,000 km including 25,000 km in the NHS, 60 per cent in the four western provinces and roughly one-third paved.	26 in NAS and 1800 facilities, these 26 handle 98 per cent of freight	95,000 km of large transmission pipelines and 400,000 for smaller gathering and distribution

\$2.1B to a national fund for infrastructure at gateways and border crossings.

Nova Scotia is promoting an Atlantic Gateway to position Halifax and other regional ports as preferred points of entry and exit for goods between Asia and North America. The Atlantic Gateway will take advantage of capacity constraints at west coast ports in North America, ports in the U.S. northeast and India trade through the Suez Canal.

On the west coast of Hudson Bay, the Port of Churchill is an Arctic seaport that can load Panamax-size vessels. Churchill is the closest ocean port to the vast grain growing area of Western Canada and has a 140,000-tonne elevator on site. The port unloads over 100 rail cars a day and loads over 1,200 metric tonnes per hour into vessels. Churchill is ideal for shipping products to

and from Europe, Russia, Africa, Latin America and the Middle East. While the current shipping season runs from mid-July to the beginning of November, warmer oceans could significantly increase the amount of time that the port is open.

Thunder Bay is the largest outbound port in the Great Lakes – St. Lawrence Seaway system, an inland waterway that stretches 3,700 kilometres into the heart of North America. A one-way voyage through the Seaway to Thunder Bay takes about five days. Both the Port of Thunder Bay and the Seaway system operate 24 hours a day, seven days a week, from the end of March through late-December, with the shipping season extended as weather permits. The port is served by the Canadian National and Canadian Pacific railways and major Canadian trucking companies.



Port of Halifax

Is there a Northwest Passage?

Yes, there is. There are many passages through the Canadian Arctic archipelago. In most cases, the draft is shallow and the ice is heavy, so only a few combinations can be navigated. Now, the ice is melting and the sea is warmer. For the first time in history there is a clear passage open to ships with no icebreaker required.

This passage is called "The Canadian Arctic Waters." Within the next 10 to 20 years, climate change could make the Northwest Passage a major shipping lane that holds economic promise for the Canadian shippers.

We're not the only ones with our eyes on the Northwest Passage. A number of countries don't recognize Canada's claim to sovereignty over the waters. The U.S., Japan, Russia, Norway, Denmark and the members of the EU see it as an international sea route available to any sea-going nation. Canada says it is an extension of the northern mainland on the same shelf. When the ice is present, the northernmost region of our country looks like a solid land mass and has been treated as such by northern people and wildlife.

In 2007, the Government of Canada announced that the Canadian Forces would develop a new deep water port at Nanisivik on Baffin Island and a northern army training base at Resolute as part of Canada's commitment to defend its sovereignty over the Arctic. Both bases are located at strategic points along the Northwest Passage.

Cutting edge tracking and transport technologies can change the way we do things

Although we have maintained and, in some cases, improved the system, economic shifts in Canada and around the world demand a world class system to keep up.

An unprecedented increase in freight is straining our west coast ports. Vancouver's inbound traffic doubled between 1998 and 2005 and grew another 30 per cent in 2006. An increase in the number of

trucks in urban corridors, at border crossings and in other transportation hubs restricts the efficient movement of goods. As traffic increases, so does public pressure to cut down on noise, traffic bottlenecks and pollution.

Radio-frequency identification (RFID) technology retrieves data using devices called RFID tags or transponders. An RFID tag can be applied to or incorporated into a product, animal or person for identification purposes. It is used in supply chain management to track shipments, control inventory and make sure containers move to their destinations. Using RFID in border systems promotes faster transit and better economic relationships.

Growing consumer demand for traceability can be facilitated by RFID. In North America, tags are placed on livestock so that an animal can be traced back to its herd of origin. Spain uses a similar system to track eggs sold in liquid form. Where agriculture is concerned, product traceability and country-of-origin labelling are key considerations.

Transport technologies

In California, the PierPASS program handles inbound containers during off-peak hours. Carriers pay a premium to keep terminals open in the evenings and on Saturday. Intermodal terminals and local roads are less crowded. More than 40 per cent of container traffic generated by the ports of Los Angeles and Long Beach is moving off-peak.

Hybrid aircraft called airships are in the initial stages of commercial development. Filled with helium and powered by airplane engines, they are used in remote areas to explore diamond mines. The University of Anchorage is considering their use as short haul vehicles.

Development costs make automated highways a longer term initiative. Other ideas like using highway medians as avenues for automated freight movement are being discussed in Europe.

Final thoughts

Over the next 20 years, the patterns of trade will be shaped by advances in technology, evolving consumer trends and the supply chain strategies.

Unstable energy prices have pushed oil over US\$100 a barrel. Short supply of rail cars, containers and professional drivers has added to increasing transportation costs. Transportation is important to your business plan. Growing consumer demand for green products and border security issues add another layer of complexity.

Successful businesses consider the entire value chain when preparing for the future. Looking at transportation options is just as important as planning your production and market mix or processing schedules. Using logistics professionals, selling local or closer to where you operate or moving facilities to where the consumer is, can all be considered. To make the most of your options, it is important to be informed, networked and involved.

Food for thought

Our transportation infrastructure is a vital part of our nation's health, identity and sovereignty and vital to our growth and prosperity of the agriculture industry. We have many natural advantages and an enviable global position. How can we work together to shape a promising future as a key player in the world economy?

A solid transportation system that delivers efficiently, on time, on budget, to the highest expectations of the customer is fundamental to our ability to compete for domestic and international market share. Other countries are positioning to take advantage of these opportunities. By understanding the system, you can plan your business and tap into Canada's natural advantages. By networking and being involved, you can have a positive impact on the future.

