

WHITE PAPER SERIES

**Shaping Canada's Economic Future:
A Western Canadian Coordinated
Transportation Strategy**

AUGUST, 2015

MESSAGE FROM WESTAC

WESTAC recognizes that the success of Western Canada's economy is dependent upon the region's ability to export its products around the world.

Throughout the region, the infrastructure and transportation systems vary considerably from one jurisdiction to another, yet are integrated and interdependent. Maintaining seamless, efficient transportation is vital to the West's resource and manufacturing sectors.

But to ensure the uninterrupted flow of export products and to meet the challenges of internal trade, the transportation sector requires constant care, attention and innovation. Strategically spending on infrastructure and coordinating efforts to benefit the entire region continue to be important to the region's competitiveness.

Experience and history show that trade volumes fluctuate and growth in demand for transportation services is not linear. Despite fluctuations in demand, it is prudent to invest for long-term growth. In the over forty years that WESTAC has been championing transportation and infrastructure in the West, we have developed understanding of a few invariable facts:

- the transportation system is the backbone of a healthy and prosperous Canadian economy;
- investing in and planning for the future of Western Canada's transportation network is always a good bet;
- collaboration and coordination always achieve the optimum results;
- demand will continue for Western Canada's high quality, reliable exports.

This paper, ***Shaping Canada's Economic future: A Western Canadian Coordinated Transportation Strategy*** is a further step in the process. It is offered to build on the success of the Gateway and Corridors Strategy and for ongoing consideration as to how to align individual and common priorities to realize the economic potential of the West.

Disclaimer:

WESTAC aims to provide information and stimulate discussion on a wide range of transportation topics. The views expressed herein do not necessarily reflect the official policies or positions of WESTAC Members.

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FOREWORD

The purpose of this paper is to articulate the benefits of a Western Canadian¹ Coordinated Transportation Strategy, outline potential policy priorities and suggest principles for infrastructure investment. It represents the first step in an extended process to facilitate greater coordination among Canada's provinces, territories, federal and municipal governments, and industry.

The Strategy has three fundamental principles for infrastructure investment:

1. Investment should benefit the broader region.
2. Improvements should promote better use of the existing system to extend capacity and enhance performance.
3. Investment in the transportation system should be strategic and supported by an evidence-based approach.

The Strategy also outlines policy priorities both generally and by mode that help develop a stronger transportation network.

¹ Western Canada "the Region" encompasses British Columbia, Alberta, Saskatchewan, Manitoba, Yukon, Northwest Territories and Nunavut.

1. CONTEXT

1.1 WORKING TOGETHER TO ACHIEVE A BETTER TRANSPORTATION SYSTEM

A robust transportation system is vital to the Region for a number of reasons:

- the Region is vast with limited population
- it is dependent on exporting and importing primary, intermediate and manufactured goods over long distances
- the western provinces and territories have massive wealth and diversity of natural resources in global demand
- global markets for these products are highly competitive
- economic development, jobs and investment tend to gravitate to wherever there is first-class transportation infrastructure

Recognizing these realities, this paper builds on A Vision for Transportation in Canada² and recognizes that meeting the needs of Canada's growing population and economy over the next 20 years will require strengthened transportation systems to link industries to markets, people to services, and to meet the highest safety and security standards.

Coordination and collaboration among all levels of government and the transportation industry is essential to promote strategic and integrated investment decisions that make the best use of all modes of transportation and provide shippers and travelers with competitive and reliable transportation options.

Nationally significant transportation improvements can also open up new frontiers (as they have in the past – see box), unlocking the Region's significant resource potential, supporting manufacturing activity and fueling trade growth that will help power Canada's economy.

² *Ministers Responsible for Transportation Highway and Safety, Ministerial Statement, September 2013.*

Investment in transportation infrastructure is once again needed — a major opportunity exists to put in place the platform for sustained economic growth for the nation.

BUILDING THE NATION

A major opportunity exists to capitalize on the Region's potential as a platform for economic growth – not just for the provinces and territories but for the overall growth of the Canadian economy.

Canada's three epochs of transportation:

The age of nation-building (1870 - 1970) saw the construction of the transcontinental rail and highway systems, among other feats such as the Great Lakes St. Lawrence Seaway system. Development of the nation's air, port, road, rail and pipeline infrastructure linked the country over vast distances and laid the foundation for growth.

The second age of transportation (from 1970 to about 2000) During these 30 years the capacity of the system was absorbed as increasing volumes of trade flowed through the system. The early vision and leap of faith it took to build this complex multimodal logistical network paid huge economic and regional development dividends. It also enabled Canada's trade-dependent economy to flourish.

The third era of transportation (this century) poses new challenges as well as opportunities. In some parts of the country, major corridors of trade that generate our economic wealth are nearing, or are at capacity while global trade is expanding. In other parts, such as the north and remote areas, there are significant infrastructure gaps where investment is required to extend the existing transportation network to unlock "stranded" resources, support economic development and connect communities.

1.2 THE REGION IS AN ENGINE OF ECONOMIC GROWTH

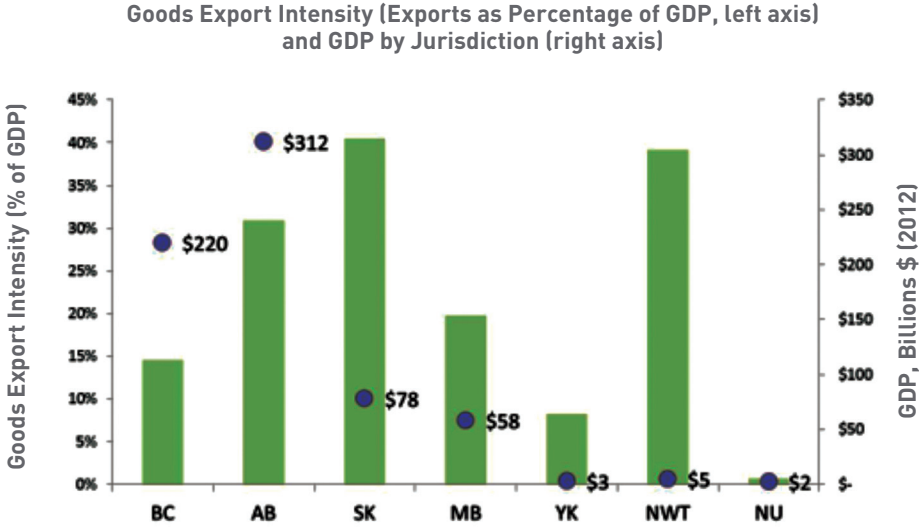
Western Canada is strategically important to Canada’s economic future. The Region has a diverse manufacturing sector and is home to a massive store of natural resources that are in demand around the world. The sheer scale and diversity of these resources – food, energy, fertilizers, metals and minerals, to name a few – represents opportunities to develop revenue streams to sustain the Region’s economy. Resource development can act as a catalyst to broaden the economic base, create jobs and foster investment in new technologies and expanded manufacturing.

The Region, contributing \$678 billion to Canada’s gross domestic product (GDP), some 37 percent of the national total, is particularly dependent on trade. In 2012, the value of international trade in goods and services to and from the Region was \$365 billion, representing more than 20 percent of Canada’s GDP and 54 percent of the Region’s GDP.

Trade in goods alone between the Region and the rest of the world was \$274 billion in 2012 of which goods exports, including natural resources, comprised more than 63 percent (see chart below). Another \$347 billion of trade in goods occurred within the Region (see Trade Flows, pg 6).

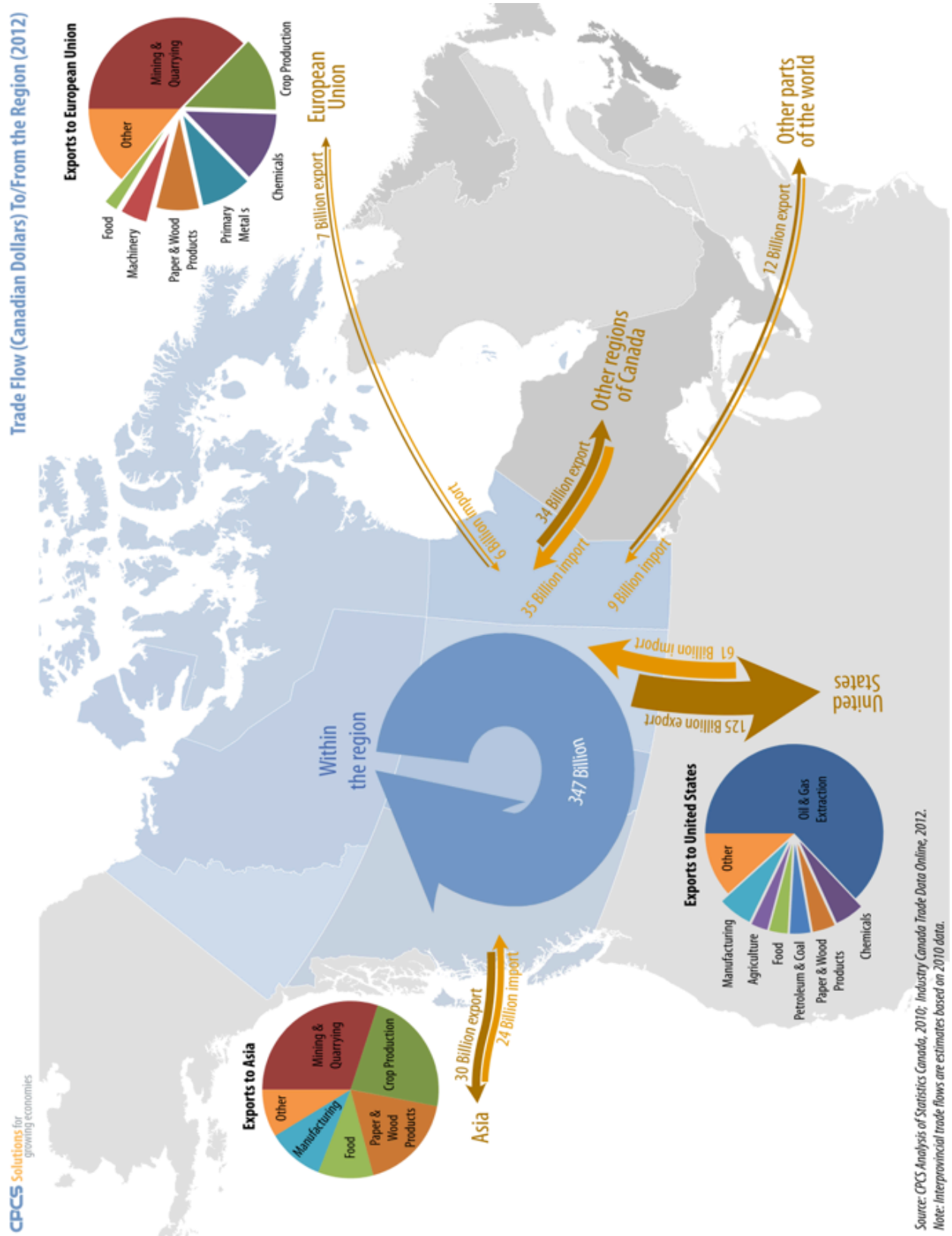
Trade with Asia is now 20 percent higher than in 2008. The Region’s export sectors, including many natural resource commodities, are poised for growth. The opportunity is large.

Exports underpin our standard of living and quality of life.



Source: Analysis of Industry Canada, Trade Data Online and Statistics Canada, CANSIM Table 384-0038. Bars = export intensity; dots = GDP

FIGURE 1: TRADE FLOWS TO, FROM AND WITHIN THE REGION



The Region possesses an abundance of natural resources (see pg 8) and is home to:

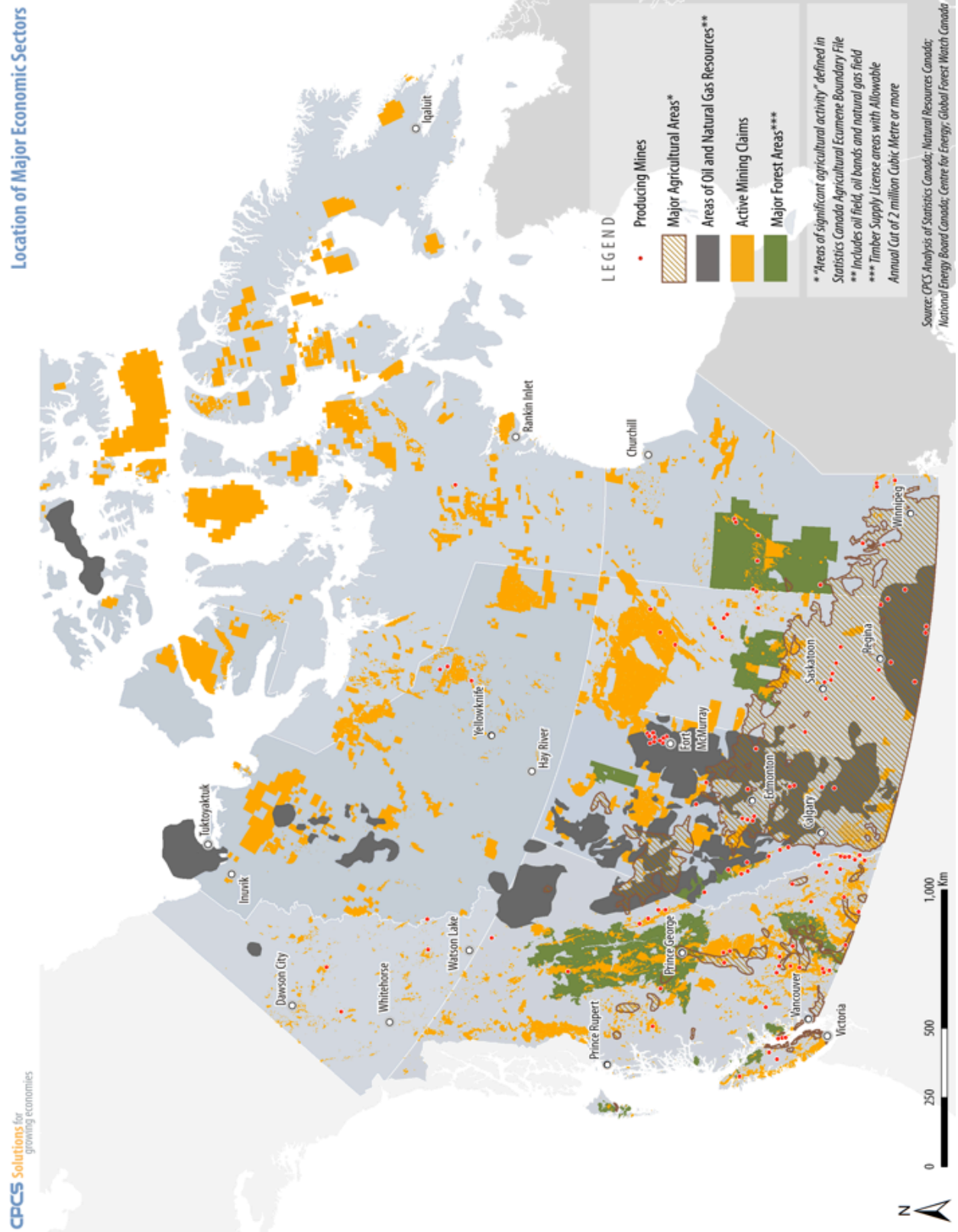
- one of the world's largest exporters of wheat, the largest exporter of canola and the leading producer of specialty crops in Canada
- the world's largest potash producer and 30 percent market share of global potash production
- the world's richest source of uranium deposits
- the second largest global supplier of steelmaking coal
- globally significant base metal and precious metal deposits, and a world-class diamond mining industry where Canada is the third largest producer by value
- the second largest petroleum reserves in the world
- the third largest North American natural gas accumulation (35 percent of Canada's remaining marketable resources of natural gas and oil are in the North)

Natural Resources Canada estimates that resource companies plan to invest \$650 billion in hundreds of Canadian projects over the next decade.³ Much of this investment will occur in the Region. For example, the energy sector is poised for major growth. Alberta's oil sands have 175 billion barrels of oil reserves. Nunavut and the Northwest Territories have access to one-third of all petroleum resources in Canada with an estimated 11.8 billion barrels of oil and 116 trillion cubic feet (tcf) of natural gas. In the Northwest Territories, more than 7.7 billion barrels of oil and 55.2 tcf of natural gas reserves exist inland in the Mackenzie Valley corridor.

The agri-food sector is also experiencing growth. For example, Saskatchewan accounts for 23 percent of Canada's agri-food exports and plans to increase exports to \$15 billion by 2020 (from \$11 billion in 2012).

³ *Economic research estimates that these projects would add \$1.4 trillion to Canada's GDP and create an average of 600,000 jobs a year (Informetrica).*

FIGURE 2: A DIVERSE RESOURCE BASE



1.3 THE ENGINE WILL STALL WITHOUT ROBUST TRANSPORTATION INFRASTRUCTURE

The Region's multimodal transportation system is the most extensive in Canada (see map pg 11), notwithstanding the relatively limited transportation infrastructure in the North. This system is highly interconnected by strategic trade corridors that link points of production and markets at home and abroad (see pg 12). Most regional exports involve several modes of transportation to reach their markets. As an exporting nation of bulk commodities, Canada's economy is heavily reliant on railways for getting natural resources to ports for delivery to overseas markets.

Inland ports such as CentrePort Canada in Winnipeg and the Global Transportation Hub in Regina are also providing innovative, efficient single-window access to key markets in North America and abroad.

There is, however, a growing gap between transportation demand and supply. Significant expansion of road, rail, airport and marine terminal infrastructure will be required to handle forecasted export growth.

The system is vulnerable. A disruption in any part of the multimodal transport system can negatively impact the overall supply chain performance. For example, unusually cold winter weather combined with a bumper wheat crop in 2013-14 led to severe delays in the movement of grain. Initiatives to address the problem created unintended consequences for many other components of the supply chain.

Whether characterized by increased transport costs, longer transit times, congestion, lost or damaged cargo and/or reduced reliability, impediments to the performance of the Region's multimodal transportation system make shippers – and thus the regional economy – less competitive, impacting regional prosperity and livability.

INFRASTRUCTURE CHALLENGES FACING THE REGION

Capacity Constraints:

- road congestion in and around major urban centres, and connectivity with industrial parks and intermodal areas near urban/suburban areas
- insufficient rail and port capacity to handle trade growth
- constrained border infrastructure capacity and physical impediment to the fluidity of trade across Canada-U.S. road border crossings; harbours are not equipped to handle larger vessels

Lack of Access/Connectivity:

- a significant share of the Region's resources are not accessible and communities not reachable by adequate transportation; underdeveloped/non-existent Northern air, road and port infrastructure constraining economic development and compromising community connectivity

Resiliency and Sustainability:

- weather events, including flooding and avalanches leading to the temporary shutdown of affected roads, sections of rail lines and border crossings
- risks to the transportation system from natural hazards such as earthquakes
- permafrost degradation causing structural failures in roads and airport runways resulting in reduced reliability of winter access routes critical for resupply of fuel, materials and food
- negative environmental externalities resulting from transportation activity, including emissions
- insufficient infrastructure to move water to drought-stricken areas
- longer open water seasons in the Arctic increasing the viability of northern marine routes and highlighting the need for port infrastructure

The 11 million inhabitants in the Region rely on transportation every day. A system is needed to source goods produced elsewhere for essential northern resupply and for mobility. Commodity exports must compete at prices set by international markets and for which transport costs often represent a significant share of the total landed cost of the product at its destination.

Remote parts of the Region, including the North, have significant untapped natural resource development opportunities. Until these resources can be accessed and transported to market competitively, they will generate little value for the Region and Canada.

Market access is critical to Canada's ability to create jobs, economic growth and vibrant communities. As a trading nation, Canada's multimodal

supply chains must be capable of providing efficient and cost-competitive access to rapidly growing markets in Asia, as well as to traditional markets in the U.S. and Europe. To meet this global challenge new and expanded transportation networks are needed.

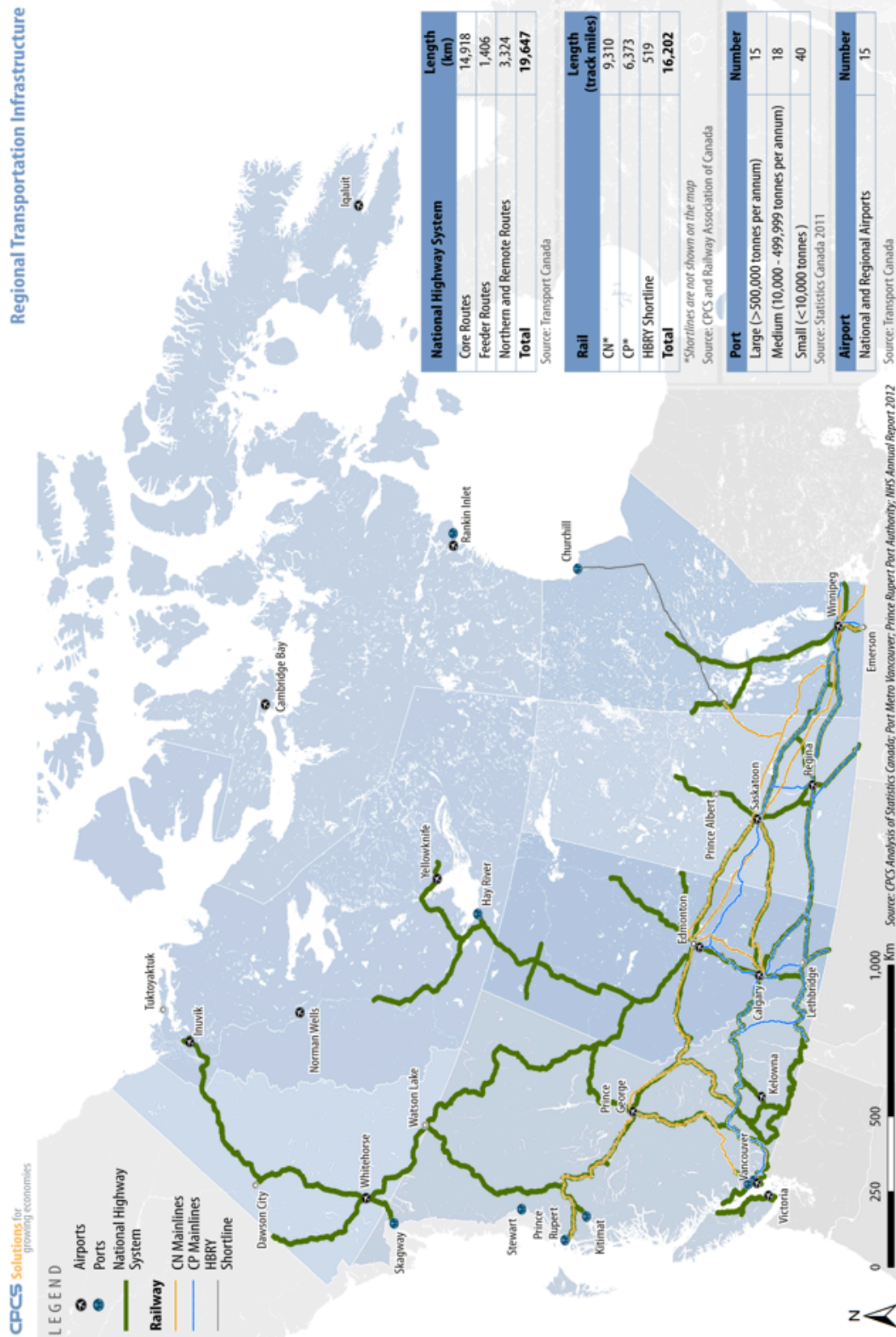
Other countries, such as Australia, have similar natural resources as Canada. In many cases, Australian resources are at a competitive advantage due to their greater proximity to tidewater and Asian markets.

The significant levels of investment required to invest in infrastructure requires partnerships. Thus, investment by all levels of government – provincial, territorial, federal and the private sector – railways, ports, terminals and airports, is imperative.

Extending the existing network into resource rich areas will unlock significant economic potential that will contribute to growth of the Region and Canada and improve the lives of all citizens.

FIGURE 3: THE REGION'S TRANSPORTATION SYSTEM

Regional Transportation Infrastructure



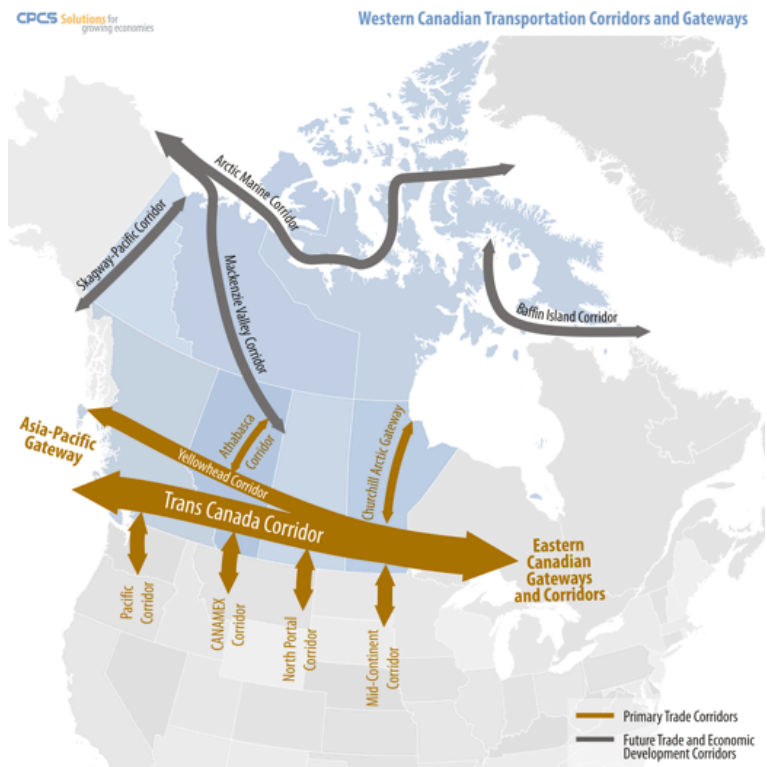
Trade Corridors

Transportation corridors connecting the U.S., Asia and Europe continue to support the majority of the Region's trade. Approximately 70 percent of the Region's exports go to the U.S., 18 percent to Asia, 4 percent to the European Union, and the remaining 8 percent is shipped to the rest of the world. By far the most significant share of these exports originates in the western provinces that are connected to markets via east-west and north-south corridors in Western Canada.

Other regional corridors, including those in the North, are less developed but have the potential to enable economic development in largely unconnected, untapped markets, particularly for natural resource opportunities, some of which are nationally significant. Northern corridors also have the potential to improve access and resupply operations in remote communities, facilitate trade in the coming decades in an ice-free Northwest Passage.

The term corridor is broad and multimodal. When determining specific infrastructure priorities within the Region's road, rail, port, pipeline and airport network it should be recognized that different corridors are important for different reasons and have varying infrastructure needs. Alberta's energy economy is highly dependent on pipelines, for example, whereas grain exports from the Prairie Provinces are rail dependent. Northern corridors today do not experience the same traffic volumes as those in Western Canada but are important for economic development and as a key component of the North's social and economic fabric.

Corridors must connect not only east-west and south but also north.



1.4 SUPPORTIVE POLICIES AND OPERATIONAL PRACTICES HELP POWER THE ENGINE

Regions with access to efficient, safe, competitive and sustainable transportation infrastructure and services have a competitive advantage in attracting investment, creating jobs and realizing their economic potential. Having the infrastructure in place, however, is not sufficient. Policies and operational practices must support infrastructure development.

SUPPORTING INFRASTRUCTURE DEVELOPMENT

In particular, policies may need to be modified to address challenges in the following areas:

Safety & Environmental Responsibility

- railway and tanker safety
- local response capabilities to incidents
- polluter pay principle
- system resiliency and safety to deal with climatic changes

Investment Climate

- common policies to balance investment risks between private enterprise and public agencies
- consistent regulatory approval processes

Freight & Passenger Trade Flows

- reduce general “thickening” of the U.S./Canada border
- harmonizing regulations across the Region
- facilitating 24/7 transportation facility operations and technology improvements to increase flow of people and goods
- bilateral air transport and open skies agreements

Public Support

- engender support for transportation gateways and trade corridors among elected local officials and the public
- build partnerships with First Nations and Aboriginal communities that will enhance the socio-economic conditions of their communities

2. THE COORDINATED TRANSPORTATION STRATEGY

This paper proposes that by taking a coordinated, strategic approach a more robust transportation system can be created. The paper puts forth a framework for how investment decisions can be coordinated at the regional level. It also recognizes that coordination between the provinces and territories, the federal government and other providers of infrastructure (railways, ports, airports and terminals) is required, in terms of creating supportive policies and investing in infrastructure. The following three principles are suggested as the new way to promote systems thinking and coordination for the benefit of the entire Region.

THREE FUNDAMENTAL PRINCIPLES

1. Investment should benefit the broader region
2. Improvements should promote better use of the existing system to extend capacity and improve performance
3. Investment in the transportation system should be strategic and supported by an evidence-based approach

The underlying strategy is to identify regionally significant improvements that, while local, have value beyond a single jurisdiction and support future trade and traffic demand.

2.1 THREE FUNDAMENTAL PRINCIPLES TO GUIDE INVESTMENT

1. Investment should benefit the broader region

The Region's multimodal transportation system and its gateways and trade corridors are highly integrated. A bottleneck or limitation in one part of the system impacts the performance of the overall network. Investments to address location specific issues can improve the performance of the end-to-end supply chain. Provincial and territorial government investment decisions should consider the degree to which they benefit the broader region. Individual jurisdictions will, of course, continue to invest in projects within their borders.

It may be difficult for one jurisdiction to justify investment in a specific local project when a significant share of the direct benefits seemingly accrue outside that jurisdiction. Nevertheless, a strong case can be made to demonstrate how collaboration among the western provinces and territories and the federal government can benefit the broader Region.

2. Improvements should promote better use of the existing system to extend capacity and improve performance

Since transportation infrastructure needs in the Region may be seen as exceeding available government funds, the focus should be on "sweating the assets" to improve throughput. Technology (e.g., Global Positioning Systems, Intelligent Transportation Systems) should be utilized to obtain objective data, monitor supply chain performance and improve intermodal connectivity.

For example, initiatives to address traffic congestion by spreading out demand to off-peak periods should be considered prior to additional investment

in capacity-constrained infrastructure. Possibly this could be done by extending local warehouse operating hours at ports to improve utilization of existing facilities.

3. Investment in the transportation system should be strategic and supported by an evidence-based approach

Strategic Investment Criteria

Given the infrastructure challenges identified earlier, the investment criteria are proposed as follows:

- **Improve economic and trade competitiveness**
Investments that improve the efficiency, safety and competitiveness of the regional transportation system, are nationally significant, or have the potential to encourage economic development and trade.
- **Target capacity bottlenecks**
Investments that increase overall capacity of nationally significant parts of the Region's multimodal transportation system and that provide a basis for future economic development.
- **Provide connectivity**
Investments that provide transport connectivity and improved access to rural/remote areas with significant resource and community economic development potential and that facilitate existing trade and help capture new markets.
- **Enable system resiliency and sustainability**
Investments that mitigate disruptions to transport operations and supply chains due to weather events or natural disasters minimize negative externalities and improve reliability.

3. Investment in the transportation system should be strategic and supported by an evidence-based approach (cont)

Evidence-based approach

Public sector investments in transportation guided by analysis of anticipated benefits and costs to provide evidence that the investments will yield the greatest economic as well as social, environmental, and other benefits of regional and national significance.

This approach analyzes demand for transportation and the anticipated impact that existing and future trade flows will have on the Region's multimodal transportation system. It should likewise take into account transportation system performance, particularly as related to the efficiency, safety and competitiveness of the system to serve key regional economic sectors and trades.

Infrastructure investment enables trade and quality of life, be it the movement of people or goods. Not to invest means failure to grow and develop the social and economic fabric of our society.

FROM PRINCIPLES TO ACTION

To illustrate how the three principles could be implemented, multimodal transportation improvements could be tested as follows:

1. Investment should benefit the broader region

Investments, while local, have benefit and support beyond a single jurisdiction

2. Improvements should promote better use of the existing system to extend capacity and improve performance

Improvements realign the existing system to meet current and future needs. For example, by:

- using technology to improve productivity, supply chain visibility and to reduce emissions
- improving intermodal connectivity
- implementing 24/7 operations where possible to extend capacity
- improving maintenance procedures

3. Investment in the transportation system should be strategic and supported by an evidence-based approach

Investment is strategic, demonstrated by meeting one or more:

- improves economic and trade competitiveness
- targets a capacity bottleneck
- provides connectivity/improved access to markets and rural/remote resources
- enables system resiliency and sustainability

2.2 SUPPORTIVE POLICIES ARE PART OF THE SOLUTION

Transportation policies and regulations should be developed within a multimodal context. It is important that governments and infrastructure providers cooperate on long-range forecasts to identify the demand for transportation and then develop policies based on multimodal and integrated solutions.

Based on consultations with governments, railways and gateway ports, the following were identified as policy priorities for the Region.

General

- improving the effectiveness of border security and customs without compromising the efficiency and fluidity of trade across borders
- promoting better integration of land use and transport in the infrastructure planning and investment process
- enhancing regulatory approval processes to facilitate timely decisions and speedier implementation of required infrastructure investments
- enhancing the framework for effective engagement with First Nations and Aboriginal peoples (an area where the territories have demonstrated success), community and environmental groups during the planning and environmental review processes, and beyond
- developing northern transportation infrastructure policies that recognize the importance of connecting the North to the rest of Canada and the world

The current review of the Canada Transportation Act provides an opportunity to advance these policy priorities.

Rail Sector

- recognize the increasing movement of crude oil by rail and establish safeguards as necessary to ensure public safety including regulations, policies related to liability and compensation, polluter pay and adequacy of insurance
- encourage railways and their partners to collaboratively address disruptions in rail service

Highway Sector

- harmonize vehicle weights and dimension regulations across provinces and territories and designate oversize/overweight corridors where appropriate
- coordinate policies regarding infrastructure expansion (e.g., resource roads) and recognize that a national approach is required to develop land-based access in the North

Marine Sector

- facilitate 24/7 transportation facility operations and access as well as increased use of technology to improve utilization of existing assets as precursor to additional investment in infrastructure
- continue developing marine policy for the North in recognition of its increased international value and use

Air Sector

- expand and enhance bilateral air transport and open skies agreements, where economic benefit to Region can be demonstrated
- recognize the uniqueness of the North in national aviation regulations - one size does not fit all

2.3 INVESTING IN THE FUTURE TOGETHER

The Region's transportation system is a complex mix of public, quasi-public and privately owned infrastructure, operations and services:

- Provinces and territories are involved in direct operation and funding key components of the system such as roadways and airports.
- Other levels of government, namely local governments and the federal government, are also involved in transport infrastructure, whether it be through direct ownership or funding partnerships with the provinces and territories.
- Most freight railways and port terminals are privately owned and services are operated on a commercial basis.
- Ports in Prince Rupert and Vancouver are federal entities which operate at arms length from the federal government while the port in Churchill is privately-owned.

In recent years, in recognition of the benefits of enhanced investment in the transportation system — particularly to economic productivity and export competitiveness — governments have “upped their game” by dramatically increasing their investment levels in the system. For example, all of the western provinces have increased their annual allocations to highways and roads. Additional investment is required.

Each province and territory uses different models, mechanisms and preferences to fund infrastructure investments. These differences should not hamper collective efforts for the Region.

LEVERAGING PUBLIC AND PRIVATE INVESTMENTS

- **CentrePort** (Manitoba): provincial and federal infrastructure funding is attracting private sector logistics and warehousing investment.
- **Global Transportation Hub** (Saskatchewan): federal and provincial contributions have leveraged investments by wholesalers, distributors, transporters and logistics handlers.
- **Highway 2 and 41 Avenue SW Intermodal Access Project** (Alberta): three levels of government invested in improved access for trade moving by rail and road, enabling the relocation of an intermodal yard by the railway.
- **Roberts Bank Rail Corridor Program** (British Columbia): three levels of government plus the private sector collaborated to develop rail and road infrastructure by investing in accordance to their respective authorities. The outcome was improved local traffic flows and road safety, and enhanced efficiency and safety of rail operations.

Other examples of partnerships:

- **Resource Access Road Framework:** signals Yukon's intention to work with the resource sector, particularly the mining sector, to jointly solve access issues for mineral development.
- **Connecting the North to the country's networks:** Nunavut and Manitoba have agreed to explore the potential for an all-weather road to connect to one another.

Funding constraints will make it difficult for any single party to maintain and expand the transportation system without investment from railways, airports, ports, terminals and all levels of government.

Together we must all step up to the challenge of growing the transportation capacity needed in the Region. By leveraging investments to provide greater benefit, faster, to enable business and economic growth.

Increased investment and alignment of priorities will unlock the Region's significant resource potential, support manufacturing activity, and fuel trade growth that will power Canada's economy for decades to come.

Together, all levels of government and transportation infrastructure providers (railways, ports, airports and terminals) have accomplished a great deal. Through foresight, perseverance and resiliency major transportation successes have shaped the nation. But, in a competitive global market, much more is needed.

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