



CENTRE FOR
TRADE &
INVESTMENT
POLICY

RESEARCH REPORT

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Building on advantage:

Improving Canada's trade infrastructure

JOHN LAW
CARLO DADE

CANADA WEST FOUNDATION



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The Canada West Foundation focuses on the policies that shape the West's quality of life. Through our evidence-based research and commentary, we provide the objective, practical solutions. For more than 40 years, we have been a passionate advocate for western Canada.

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CENTRE FOR
TRADE &
INVESTMENT
POLICY

The Centre for Trade & Investment Policy focuses on the economic importance of trade and investment to Canada's current and future prosperity and provides a powerful voice for western Canadian trade policy priorities.

EXECUTIVE SUMMARY

If trade is the oxygen of the Canadian economy, then infrastructure is the lungs.

Without the ability to move goods efficiently to and from foreign markets we will suffer. This is not a distant worry. Canada's system for moving goods to market is under strain and may be inadequate to meet growing future global demand.

And demand for the commodities produced in Canada will grow. New trade agreements have been signed with larger agreements on the horizon. A new global middle class in China and elsewhere is projected to surge from 1.8 billion consumers today to close to five billion by 2030. China alone is expected to account for more than \$52 trillion US in world trade flows by 2050.¹ This is not simple population growth; it is growth of consumers. It is the difference in demand from those earning \$10 US a day or more versus those subsisting on \$1 US a day. The world has never witnessed growth of this speed and magnitude. Though our trade related infrastructure has largely served us well to this point, is it capable of allowing Canada to meet the demand and reap the opportunities from what lies ahead?

The good news is that for all of the weaknesses, Canada's trade infrastructure is not that bad off and is certainly not as challenged as most of its competitors. Canada also does not face the 'build everything from scratch' challenge that many of these

competitors face. Maintaining this advantage requires sustained and strategic investments of attention and resources in our trade competitiveness, capacity and productivity – our trade advantage. Though they are not grand, these investments of time and resources are critical. Not making them, not focusing attention now, will allow our competitors to close the gap leaving only a future 'crisis' to prompt action.

Between opportunity and crisis Canada faces a choice.

We can act now to build on advantage, seize opportunity, create jobs and lay the basis for long-term prosperity. Or, we can wait until a crisis of lost opportunities, jobs and markets compels us to act and leaves us with only more difficult choices. These choices will, of course, also be more expensive than if we act now.

The choice is as simple as it is obvious and urgent.

¹ Badkar and Ro, 2011



Making the right choice is made easier by the encouraging fact that Canada has had successes in responding to trade-related infrastructure challenges in the past. This moment demands that we draw from those successes, as well as from new ideas from our competitors, to build a more robust framework for managing our trade infrastructure.

Seizing advantage means building on what we have created to forge an integrated, sustained and strategic approach to develop and manage trade-related infrastructure. This approach also has to reflect the modern realities of trade infrastructure where the private sector is the dominant funder, owner and user of trade-related infrastructure. Giving the private sector a voice and role that matches its importance will help establish the predictability needed to support sustained private investment. It will also ensure that government investment is leveraged to maximum benefit.

In recent years, both the Canadian government and private sector have quietly focused on trade and infrastructure. But the country must do more. We have a narrow window in which to act before we lose opportunity and our competitors catch up, or, in the case of the United States, wake up.

To meet emerging competitive challenges we can no longer be content to simply be better than most of our competitors; we must rise to become among the best in the world. That can only be done by making, and then maintaining, trade-related infrastructure as one of our highest priorities.

We have shown the courage in our country's history. We should dedicate that courage to its future.

A national dialogue to forge consensus and initiate action on trade-related infrastructure is urgent. This report recommends the following actions:

- 1. Set as an aspirational goal to galvanize public attention**, moving Canada into the top 10 in the World Economic Forum and World Bank rankings on trade infrastructure and logistics.
- 2. Establish a permanent national public-private body** that would, among other duties develop an on-going, long-term but flexible infrastructure plan and pipeline of projects linked to the country's trade agenda.
- 3. Introduce more substantive private sector participation** into trade infrastructure planning and management through the use of this new permanent national public-private body.
- 4. Introduce a focus on innovation** as a key criterion in the design and selection of trade infrastructure projects.
- 5. Develop a co-ordinated federal-provincial-private sector campaign** to market Canada's infrastructure advantage abroad.
- 6. Carve out an explicit portion of existing federal infrastructure funds** for trade-related infrastructure.
- 7. Use federal infrastructure spending to help offset the costs that municipalities incur** from the development of trade-related infrastructure to help build public support for these projects.

INTRODUCTION

The live lobster fished off the East Coast of Canada is world famous. It is in demand in the U.S., Europe and increasingly in emerging Asian markets, such as Korea and China. In fact, China is now the second largest market for direct exports of lobster, according to the Lobster Council of Canada.

Yet, the full potential of the export opportunity is being missed because we can't move enough of it to market in a timely fashion. With only two airports in Eastern Canada capable of flying out lobster on wide-body aircraft, the capacity is just not there during the peak seasons of November-December and May-June.

Instead, the live lobster has to be trucked to much larger airports in the U.S., such as Boston, where it is repackaged and flown to the market. But the additional shipping time – as long as eight hours – means the mortality rate goes up and the profits go down.

“It hits the bottom line when they show up dead,” says Patrick McGuinness, president of the Fisheries Council of Canada.

In Radisson, Sask., farmers Jack and Laura Reiter face a similar frustration. With a healthy crop of wheat on its way, the Reiters still haven't been able to unload the remainder of last year's bumper crop.

Although they have enough money banked to avoid a financial crisis, “It does influence things like equipment purchases,” says Laura Reiter. Younger farmers, she said, are not as lucky. With some drawing on a line of credit to plant their crops, many faced default when loans came due in February.

As of August, nearly 17 million tonnes of grains and oilseeds were not delivered, according to federal statistics. That amounts to tens of thousands of dollars in product for each farmer that is tied up, creating cash flow challenges for many – which in turn leads to a ripple effect on local economies.

Levi Wood, President of the Western Canadian Wheat Growers Association, says Canada needs to think about the impact of delayed grain deliveries on the country's reputation as a supplier. He noted that Japan turned to U.S. suppliers last year when Canadian grain could not be delivered. “That's a market you don't want to lose,” said Reiter.

As of August, nearly 17 million tonnes of grains and oilseeds were not delivered... That is tens of thousands of dollars in product for each farmer that is tied up, creating cash flow challenges for many – which in turns leads to a ripple effect on local economies.

“We aren’t the only game in town,” adds Wood. “They aren’t buying Canadian wheat because it’s Canadian wheat.” Rather, clients are looking for low-cost reliable suppliers.

These two supply challenges are a glimpse into the increasingly precarious position of our trade infrastructure. From coast to coast, Canada produces goods that people want. And thanks to the rise of the global middle class, it is not just consumers in the U.S. and Europe who can now pay for these products. But we are not the only source for many of them. In the context of supply chain reliability, by which we are judged, Canada’s ability to produce quality products that are in demand will be rendered irrelevant if we cannot address the issues of deliverability. We risk losing our markets – and ultimately our well-being – to eager and ready competitors.

Thirty cents of every dollar our economy generates comes from exports. About 5.9 million Canadians are employed directly or indirectly in merchandise trade and one in five jobs is tied to exports. Those jobs create an estimated \$279 billion in wages and salaries across the country. Foreign visitors add another \$15 billion and 602,800 tourism-related jobs. In short, the movement of goods, money, ideas and people to and from Canada truly touches, and benefits, every corner of the country.

Thirty cents of every dollar in our economy comes from exports...and one in five jobs is tied to exports.

On the other hand, lack of infrastructure costs us. Canadians lose an estimated \$50 million dollars a day due to lack of pipelines to move oil and gas to Asia and Europe.² Two days of this lost revenue would allow for a doubling of annual grants from the Alberta Climate Change and Emissions Management Corporation. Roughly, in two weeks these lost revenues would pay for the new hospital in Corner Brook. Or, in a little over a month they could cover the tab for the new commuter transit line in Ottawa or, in three months, replace the Champlain bridge in Montréal.

We must generate revenue to pay for that which is crucial to our well being and that money comes from moving products, services and commodities to and from markets. Well-developed, reliable and efficient infrastructure allows Canadian businesses to succeed in doing this in a hyper competitive global trade environment. Good trade infrastructure can reduce transportation costs, create global supply chain advantages and demonstrate Canada’s reliability as a supplier. On the other hand, bottlenecks can lead to lower profits, lost market opportunities and fewer jobs.

To capture economic benefits from trade, Canada needs the airports, roads, ports, railroads and other infrastructure that move products and people. These items are what are generally thought of as “trade-related infrastructure.” But trade-related infrastructure also encompasses the full range of assets that play a significant role in the movement of goods, money, ideas and people to or from Canada. It includes physical infrastructure, such as ports, railroads, airports, bridges, telecommunications and roads, as well as logistics, such as customs efficiency, shipment arrangements and timeliness, and services. It also includes the human capital and other soft infrastructure that is the intelligence of the system.

A full examination of these factors is beyond the scope of this report. This document references these factors and relationships, but focuses primarily on issues in trade infrastructure covering the physical assets necessary to move products and cargo to market.

² \$50 Million a Day” Canadian Chamber of Commerce. September 17, 2013.

KEY FINDINGS

1. Canada's trade-related infrastructure has had a strong foundation

CANADA'S INTERNATIONAL RANKINGS ON LOGISTICS AND OVERALL INFRASTRUCTURE

WORLD BANK LOGISTICS PERFORMANCE INDEX, 2012 ³	RANK	WORLD ECONOMIC FORUM: QUALITY OF OVERALL INFRASTRUCTURE, 2014
Singapore	1	Switzerland
Hong Kong	2	Hong Kong
Finland	3	U.A.E.
Germany	4	Finland
Denmark	5	Singapore
Netherlands	6	Netherlands
Belgium	7	Austria
Japan	8	Iceland
United States	9	Japan
United Kingdom	10	France
Austria	11	Germany
Canada	12	Portugal
France	13	Spain
Sweden	14	Luxemburg
Luxembourg	15	Denmark
Switzerland	16	United States
U. A. E.	17	Belgium
Australia	18	Sweden
Spain	19	Canada
Korea, Rep.	20	Malaysia
Norway	21	Bahrain
Italy	22	Barbados
South Africa	23	Korea
China	24	Taiwan
Ireland	25	Oman

Our trade success to date is no accident. It is the result of hard work and smart investments by Canadians, combined with policy support from all levels of government.

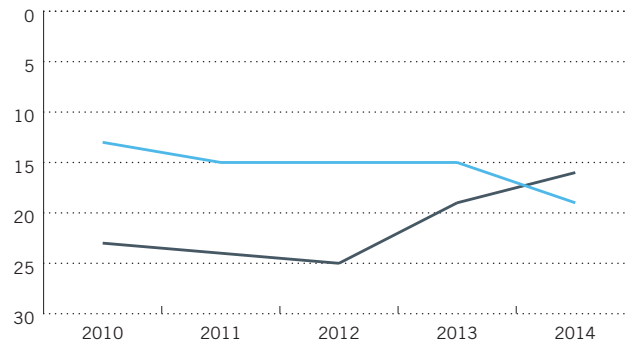
Canadians have benefited from the government's progress in breaking down global trade barriers, as well as from trade agreements, like the North American Free Trade Agreement (NAFTA). The government is still expanding and deepening Canada's access to markets, most recently with agreements like the Canada-EU and Canada-Korea trade agreements. Canadians also rely on past infrastructure investments in a national railway system, the lower Fraser River, the St. Lawrence Seaway, and the Trans-Canada Highway.

Recent developments building on those investments, like the Asia-Pacific Gateway and Corridor Initiative (APGCI), and the creation of inland ports such as CentrePort Canada in Winnipeg and the Global Transportation Hub in Regina, have helped move products more efficiently to market. This helps us keep pace with rising international demand and remain competitive in North America.

There are, however, signs that Canada's infrastructure advantage is slipping. Several bottlenecks in recent years have resulted in billions of dollars in costs and lost opportunities. Incidents, such as the 2013-14 challenge in getting grain to international markets, oil pipeline capacity shortfalls, and congestion at the Detroit-Windsor border, have had a significant financial impact on Canadians and has adversely affected Canada's international reputation for reliability.

³ The Logistics Performance Index measures perceptions of a country's logistics based on customs clearance efficiency, quality of trade-related infrastructure, ease of arranging competitively priced shipments, logistics services quality, ability to track & trace consignments, and frequency of shipments reaching consignees within scheduled time.

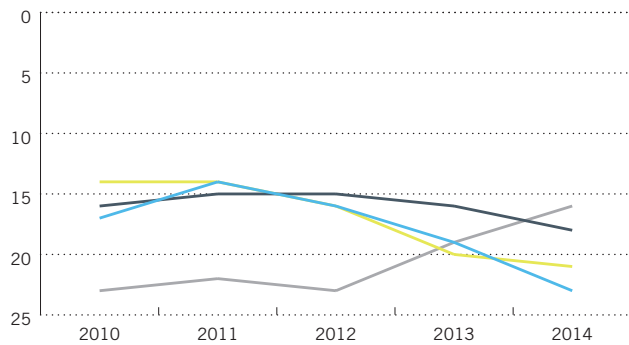
OVERALL INFRASTRUCTURE QUALITY



Source: Global Competitiveness Index and Canada West Foundation

- Canada
- U.S.

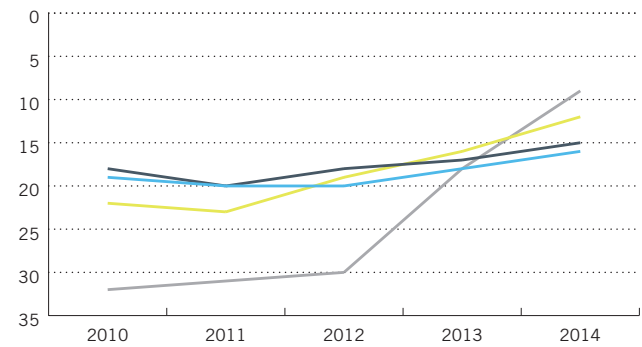
CANADA INFRASTRUCTURE COMPETITIVENESS RANKINGS



Source: Global Competitiveness Index and Canada West Foundation

- Quality of roads
- Quality of rail infrastructure
- Quality of port infrastructure
- Quality of air transport infrastructure

U.S. INFRASTRUCTURE COMPETITIVENESS RANKINGS



Source: Global Competitiveness Index and Canada West Foundation

- Quality of roads
- Quality of rail infrastructure
- Quality of port infrastructure
- Quality of air transport infrastructure

Canada's trade-related infrastructure has had a respectable – but not remarkable – ranking in global comparisons. This reflects the perception that our infrastructure has performed well overall in meeting demand in previous decades. The World Bank Logistics Performance Index, which surveys logistics professionals, ranks Canada 12th on six dimensions of trade, including customs performance, infrastructure quality, and timeliness of shipments. In the past four years, Canada has fallen into steady decline, according to the survey-based World Economic Forum's Competitiveness Index. In 2010, it ranked 9th on quality of overall infrastructure. By 2012, it had dropped to 15th but remained ahead of the U.S. In the most recent 2014 ranking, however, Canada dropped to 19th and fell behind the U.S.

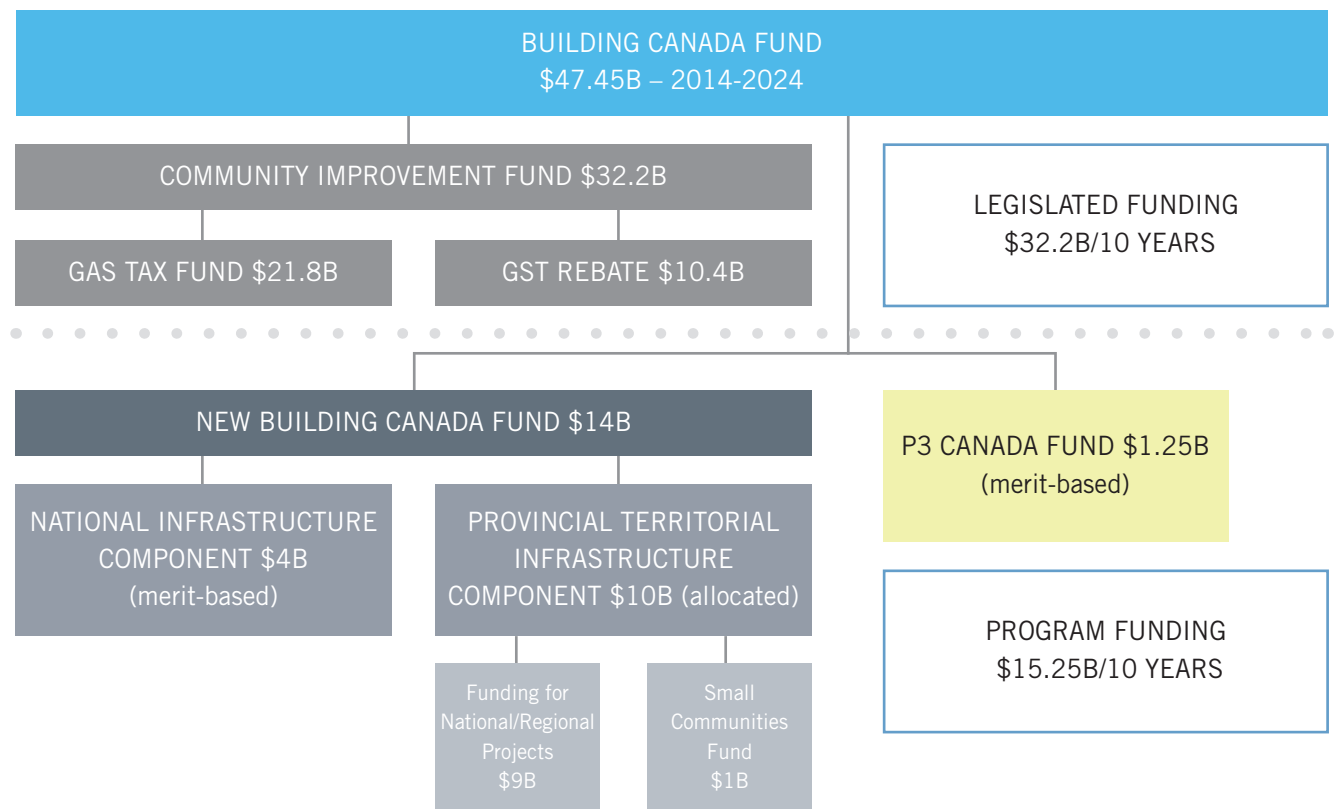
2. Canada has the basis upon which to build

The decision by the federal government to launch the New Building Canada Plan (NBCP) represents the most significant infrastructure investment development in Canada, in terms of its size, scope and potential impact. The NBCP also provides a platform upon which to build.

The 10-year, \$53-billion NBCP was originally announced in the 2013 federal budget.

The NBCP encompasses over \$53 billion in investments, including over \$47 billion in new funding over 10 years starting in 2014–15, for provincial, territorial and local infrastructure, including:

- \$32.2 billion through a Community Improvement Fund consisting of an indexed Gas Tax Fund and the incremental Goods and Services Tax Rebate for Municipalities to build roads, public transit, recreational facilities and other community infrastructure.
- \$14 billion for a New Building Canada Fund to support major economic projects that have a national, regional and local significance.
- \$1.25 billion for a renewed public-private partnership (P3) Canada Fund to support innovative ways to build infrastructure projects faster through public-private partnerships.
- \$6 billion in federal support to provinces, territories and municipalities under current infrastructure programs in 2014–15 and beyond.



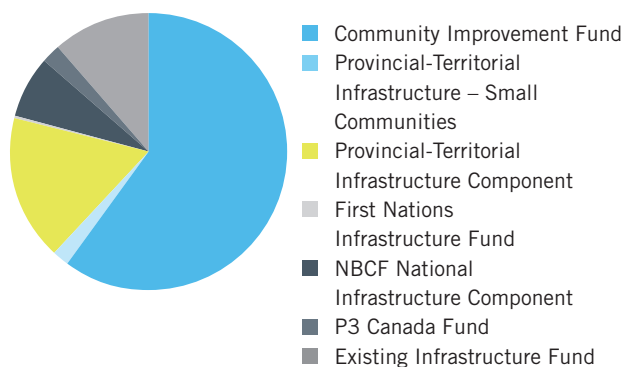
Source: Infrastructure Canada.

In addition, over the next 10 years, the Government will make significant investments in First Nations infrastructure including: approximately \$7 billion for roads, bridges, and energy systems. Overall, the NBCP, combined with other federal infrastructure investments will result in \$70 billion in federal infrastructure funding over 10 years.

The NBCP is intended to finance projects that promote economic growth, job creation and productivity. The overwhelming majority of the money under the new plan, though, is earmarked for municipal investment.

The Community Improvement Fund (CIF) comes largely from the federal Gas Tax Fund (GTF) (\$21.8 billion) and the GST rebate (\$10.4 billion) and is earmarked for projects selected by municipalities. The list of eligible project types under the GTF has been expanded from 11 to 18 and includes projects that could be considered trade-related infrastructure. These include local roads and bridges if they are tied to developments like the Global Transportation Hub or CentrePort, short-line rail and sea shipping, highways, connectivity and broadband, and regional and local airports. The \$10-billion Provincial and Territorial Infrastructure Component (PTIC), under the New Building Canada Fund, has the same potential to fund important trade-related infrastructure.

NEW BUILDING CANADA PLAN (NBCP) FUNDING



Source: Infrastructure Canada

The \$4-billion National Infrastructure Component (NIC) has the greatest potential to fund trade-related infrastructure. Of this, \$155 million is earmarked for the First Nations Infrastructure Fund, leaving \$3.85 billion for large, strategic infrastructure projects of national significance that support job creation, economic growth and productivity. Projects are selected by merit, based on federal priorities, which include:

- Generating or facilitating incremental economic activity
- Reducing potential economic disruptions or foregone economic activity
- Generating productivity gains for the Canadian economy, or
- Providing benefits that extend beyond the provinces or territories where the project would be located.

There are seven categories under the NIC, four of which – highways, public transit, local airports and disaster mitigation – are also found in the GTF and PTIC. To these categories, the NIC adds rail and port infrastructure, and intelligent transport systems.

There is much to like about the NBCP generally, and the NIC component in particular. It attempts to set a strategic economic focus and it targets reducing economic disruption. Money is provided on project merit and, perhaps most importantly, it recognizes the significance of the private sector in providing vital infrastructure. It will contribute up to 25 per cent of the cost of qualifying private-sector infrastructure investment. It will contribute up to 50 percent to provincially owned highways and major roads, as well as public transit projects.

There are, however, issues with the NBCP. First, the allocated funding of \$3.85 billion over 10 years pledged to the NIC may be insufficient for the size of the country, the range of projects to be supported or what other countries are allocating. While it is in line with past spending and contemplates leveraging other funding contributions, the large scale of trade infrastructure projects has the potential to quickly consume available NIC funds. The new bridge linking Windsor-Detroit and the Champlain Bridge in Montreal, for example, were highlighted as strategic priorities and funded outside of the NIC. Their forecasted costs of \$2 billion and \$3-\$5 billion respectively are examples of how quickly funds could be consumed. Such mega-projects make the NIC look very small. The larger issue is that we have not yet answered with any degree of certainty whether the NIC funding will sufficiently enhance Canada's required supply chain capacity. The work of the federal and provincial governments on demand analysis for infrastructure could be expanded, enhanced and more directly integrated in the planning process.

A CANADIAN SUCCESS STORY

The Western Transportation Ministers Council (WTMC)

One of the key elements that contributed to the success of the previous suite of federal infrastructure programs and the federal Gateway policy framework came from the Western Transportation Ministers Council (WTMC). The transportation ministers from the four western provinces came together to articulate a common regional approach to infrastructure and policy needs; the goal was to drive a national strategy in support of revitalizing Canada's deteriorating transportation infrastructure. Prior to the launch of the Asia-Pacific Gateway and Corridor Initiative (APGCI), the WTMC prepared a transportation infrastructure strategy to establish an economic network in which each province identified important infrastructure requirements, including ones outside of its own jurisdiction that could help support regional trade enhancement. The report identified key bottlenecks and trade infrastructure priorities with the goal of creating a co-ordinated approach to infrastructure renewal, including consistent criteria as a means of encouraging greater intergovernmental and private sector partnerships.

Second, unlike the Asia Pacific program, there is a gap in assessing how projects fit with other proposed projects, both within the NIC and the other funds and components. This is because projects are selected on a rolling basis. Even though the NIC is built on the federal gateways policy and does consider internal alignment as a factor, the decision-making process could be greatly improved by making the NIC more strategic. This could be achieved either by having projects considered comparatively or by having the NIC become more specific in its call for submissions, perhaps through analysis by the International Trade and Transport ministries in consultation with the private sector.

Third, the stated strategic objectives are too broad to assure a positive impact on trade. Only two of the seven criteria of the NIC specifically mention trade – rail and ports – although trade is inferred in the Intelligent Transportation Systems criterion. A portion of the NIC should be carved out specifically for trade-related infrastructure, separate from projects such as the Canadian Opera Company in Toronto. In addition, demands for infrastructure funding in response to severe climate events will put added pressure on NBCP.

Fourth, private sector, government linkages need to be increased. While the government is an important source of funding for trade-related infrastructure, it is no longer the most important actor. Railroads, ports and commercial facilities associated with trade are largely private sector endeavors. Finding ways to link government policies and private sector spending is crucial. While the NIC encourages such linkages, it would be useful to introduce ways to more fully involve the private sector as an active partner in the project nomination and selection process.

Canada's Strategic Infrastructure Fund Projects List contains \$25 million for the Canadian Opera Company in Toronto.

While there are many positive adjectives that can be applied to opera, 'strategic infrastructure' is not among them.

A CANADIAN SUCCESS STORY

The Asia-Pacific Gateway and Corridor Initiative (APGCI)

Canada's \$1 billion 2006 APGCI was a well-received effort to improve the efficiency and capacity of western Canada's trade infrastructure network and improve trade linkages with Asia. It had two specific strategic objectives: (1) to increase British Columbia's share of North American west coast container traffic; and (2) to reduce transit times through the western transportation corridor.

The initiative contained several elements that contributed to its success:

- **A specific program purpose** – It focused on improving Canada's capacity to trade with Asia.
- **Collaboration** – It was a consensus-based process that involved the four western provinces, local governments and private sector stakeholders.
- **System-based** – Investments were made with the goal of creating an efficient transportation network across the western provinces.
- **Financing** – It provided incentives to co-ordinate public and private investments, and leveraged participation from multiple stakeholders. Funding decisions were made on the basis of economic need and return on investment.
- **International promotion** – Funding was earmarked to promote the western Canadian gateway in Asia, helping to ensure that companies and governments overseas knew the advantages and benefits of doing business with Canada

National Policy Framework for Strategic Gateways and Corridors

The success of the APGCI led to the creation of a national policy framework to guide future gateway and corridor strategies. The framework includes two other strategic trade gateways – the Ontario-Quebec Continental Gateway and the Atlantic Gateway. The framework established a set of five policy lenses to guide investments:

- 1. International commerce strategy.** Gateway and corridor strategies must align with Canada's most important challenges and opportunities in global commerce.
- 2. Volumes and values of national significance.** Strategies must involve transportation infrastructure that carry significant levels of trade.
- 3. Future patterns in global trade and transportation.** Strategies must be based on empirical evidence and analysis. They must also address major trends in international transportation.
- 4. Potential scope of capacity and policy measures.** Strategies should also address issues of integration and interconnectivity across modes of transportation, between investment and policy and across the range of stakeholder groups.
- 5. Federal role and effective partnerships.** The federal government will work with other governments and the private sector towards a coherent infrastructure vision and a "systems-based" approach to gateway and corridor strategies.

Provincial investments also have the potential to boost trade-related infrastructure. One recent positive example in infrastructure investment is the Province of Manitoba's five-year infrastructure plan with dedicated funding. In 2013, the province enacted a one per cent increase in the provincial sales tax (PST) and devoted it to funding investments in core infrastructure. This doubles the percentage of the province's PST earmarked for infrastructure. The tax gives the province close to \$5.5 billion over five years for infrastructure spending. The core Manitoba plan focuses heavily on what can be described as trade-related infrastructure. Municipal infrastructure will receive \$1.5 billion and \$320 million will go to flood mitigation. Of the \$3.7 billion to be spent on roads, bridges and highways, \$1.8 billion was identified in the plan for improvements in trade corridors. The Manitoba infrastructure plan is a positive signal of the ability of government to dedicate revenues to infrastructure in the face of political opposition. The Five-Year Plan identifies two major trade corridors and improvements that will aid the province's inland port.

There have also been a number of reports and studies on the importance of infrastructure for Canada's economic well being. These include work by Canadian Chamber of Commerce referenced earlier in the report, works by Westac, the Van Horne Institute, the Conference Board and private sector contributions such as the Six Principles by the Manitoba Heavy Construction Association in Appendix B. In addition to government initiatives and policies, this research has informed the public debate to the point where consensus on key actions, let alone the need for such actions, should not be difficult.

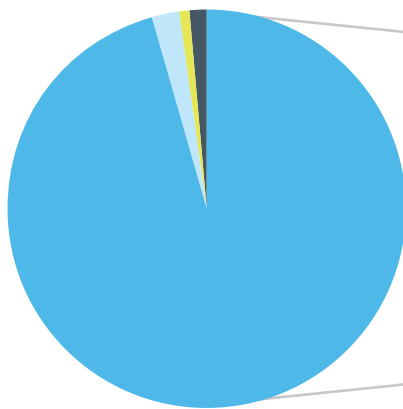
3. The private sector is the major force in trade-related infrastructure

Increasingly, trade-related infrastructure is being undertaken either wholly, or largely, by the private sector.

Port Metro Vancouver assumed the full cost of the recent \$400-million expansion of the port and the more than \$300-million expansion of grain shipment terminals. Even related municipal infrastructure, such as road expansion, had significant private-sector funding. Of an estimated \$591 million in such expenditures, \$365 million or 62 per cent has come from all levels of government. The remaining \$226 million or 38 per cent has come from the private sector, including almost \$165 million from the Port itself. If one factors in the \$400 million the Port is spending on infrastructure within the port itself and the additional \$300 million private companies are spending on grain and other facilities within the port, then the percentage of public versus private spending on trade-related infrastructure shifts radically: more than 73 per cent of the funding is coming from the private sector.

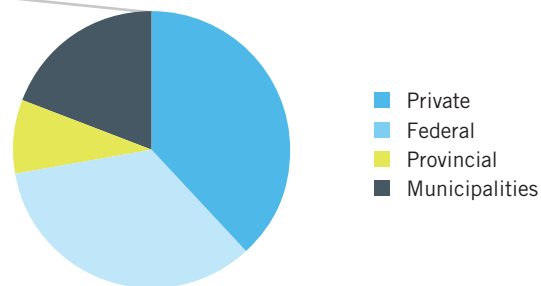
Pipelines vital to moving what is arguably Canada's most valuable export are also financed entirely by the private sector. In fact, the only major infrastructure project either underway or on the horizon that is truly national, in that it directly touches a majority of the provinces, is the Energy East Pipeline Project. The project is, for all intents and purposes, financed by the private sector. In normal circumstances, pipeline companies wait to secure commitments from producers before building the pipeline. In this case, the Alberta government chose to speed up the normal process by committing to buy 100,000 barrels per day of capacity on the pipeline for 20 years.

**PORT METRO VANCOUVER:
TOTAL INFRASTRUCTURE SPENDING
IN AND OUTSIDE OF THE PORT**



Source: CWF calculations from Port Metro Vancouver data. Municipalities includes Translink.

**PORT METRO VANCOUVER:
INFRASTRUCTURE SPENDING
OUTSIDE OF THE PORT**



Source: CWF calculations from Port Metro Vancouver data. Municipalities includes Translink.

The private sector also plays an important role in fostering innovation in the design, building and operation of infrastructure. Innovation has been shown to be an important contributor to the efficiency and hence competitiveness of the movement of goods. For example, standardization of rail gauges made feasible longer-haul rail and deployment of two-way radios allowed for increased on-time delivery. Both of these innovations significantly lowered the revenue per tonne mile, a measure of railroad efficiency. The private sector has been a major source of innovation in building physical infrastructure, with such techniques as modular construction.

The value of the private sector's capacity to bring innovation to infrastructure design and building is reflected in the adoption of public-private partnership programs (PPPs) by the Canadian federal, provincial and municipal governments. Examples can be found around the world. And PPPs are not an isolated example. In Canada, the federal government made an explicit effort in the development of early infrastructure programs, such as the Asia-Pacific Gateway and Corridor Initiative and the Gateways and Border Crossings Program, to accommodate private sector involvement for this reason. Allowance for private sector participation, partnership and innovation is one of the positive features that has been retained in key trade infrastructure-eligible programs within the suite of Building Canada Fund programming.

Similarly, the Infrastructure Australia model, which is described in Appendix A, is built on the assumption that the private sector is a proven catalyst for innovation in the development and operation of trade infrastructure. It is one of the reasons why the composition of the governing board of Infrastructure Australia is predominantly private sector. This link between private sector input and innovation is not unique to trade infrastructure; it has been a feature of procurement processes for building construction and supply chain projects for some time.

Overall, Canada has reason to be proud of its trade-related infrastructure. We now have the opportunity to build on our advantage to be among the best in the world. This will provide the competitive edge Canadian firms need to access new global opportunities.

4. Canada needs to build on its infrastructure advantage to compete in rapidly evolving global markets

New market opportunities are opening up as demand surges from the rising global middle class markets and new trade deals are negotiated. At the same time, competition is intensifying in Canada's traditional export markets, such as the U.S., as well as in the domestic market. Not all factors involved in global trade are within our power to influence. Those that are include the quality of our products, their cost and how we move them to market. The ability to move products quickly, inexpensively and reliably is as critical as the products themselves.

Emerging markets offer significant potential for Canadian firms. Global demand for the commodities produced in Canada has been growing for years and will grow rapidly in the future. This demand is driven by a rising global middle class, primarily in Asia. This new class of consumer has both enough income to increase consumption and the power to exercise choice in what they consume and where it comes from. The number of these consumers is projected to grow from 1.8 billion today to five billion by 2030 – an unprecedented, long-term growth in demand. To put these numbers into perspective, the recent rise in demand has been driven by an increase in the global middle class over the past 10 years of “only” 700 million new consumers. In the near future, that growth will be in the order of three billion, or four times the past decade's growth. By 2030, the world's population is expected to grow by two billion, but the size of the global middle class will grow by three billion.

The ability to move products quickly, efficiently and reliably is as critical as the products themselves.

To its credit, the federal government is showing a vigorous commitment to promoting trade. It is negotiating trade agreements with major economic powers, like the European Union (EU), South Korea and Japan. It has developed a Global Markets Action Plan aimed at helping businesses succeed in foreign markets. It has eliminated certain tariffs and lowered taxes to help reduce business costs and encourage investment. It is also building ties through official visits and foreign direct investment. The western provinces have also undertaken a robust and aggressive trade agenda. Recently signed and anticipated trade deals with the EU, South Korea and Japan have the potential to generate tens of billions of dollars annually in trade.

New trade agreements with major markets such as Korea, the EU and Japan will open up markets with hundreds of millions of consumers, creating opportunities to increase trade. For example, the agreement with the EU will rapidly eliminate tariffs on seafood exports which are as high as 25 per cent. This will give Atlantic Canada fisheries – and especially the recently hard-hit lobster industry – a significant price advantage over U.S. competitors in the European markets of Italy, Spain and France, all countries that have historically been the principal targets of U.S. exports. Lower tariffs for Canadian exports should also benefit the Atlantic fish processing industry. Canada has been the largest global importer of U.S. lobster for processing. To take advantage of the elimination of tariffs on seafood exports to Europe, industry in Canada will need to expand its capacity both to import product from the U.S. for processing and to export product to Europe. This competitive advantage will last only until the U.S. signs its own deal with the EU. Therefore, Canada has a small window in which to gain market share and build a more efficient system to move products to market.

To its credit, the federal government is showing a vigorous commitment to promoting trade.

Given that trade agreements take years to negotiate, sign and then implement, linking the development and management of our trade infrastructure system to negotiations would seem an obvious priority. In this case, it would have meant combining the analysis of the impacts and opportunities in the Canada-EU agreement with the planning work done at the national and regional levels. Are there infrastructure responses, building, managing or reallocating assets, which would allow the Atlantic Canada fishing industry to better take advantage of new opportunities? Delaying action until the agreement is signed would lead to lost income and, given that the U.S. is nearing its own trade deal with the EU, lost opportunities.

Equally complex opportunities are on the horizon with the pending round of trade deals in Asia, where Canada will have to play catch-up. Australia, for example, signed agreements with Korea and Japan before Canada did and is physically closer to Asian markets.

The magnitude and speed of growth in demand will test Canada's capacity to bring products to markets beyond North America. At the same time, competition for market share is intensifying around the world. While free trade agreements create significant export opportunities, they can also intensify competition in Canada's traditional markets. Competition is expected to be increasingly fierce in established Canadian export markets, such as the U.S.

Trade-related infrastructure is one of the few areas within our control where Canada has the potential to dominate. Two factors – distance and lack of trade agreements, especially in the booming markets of the new global middle class – put Canadian exporters at a costly disadvantage to most of their competitors. Canada could regain advantage in key markets by anticipating and responding to opportunities early. Trade-related infrastructure can help offset the distance disadvantage.

Canadian energy trade also offers significant opportunities. The addition of pipeline infrastructure would help make western Canada a North American hub for oil and gas moving east, west, north and south. Planned west-east oil pipelines will also provide access to lower cost feedstock for eastern refineries, helping to make them more competitive in a challenging market. They also open the possibility of energy exports to Europe. In terms of electricity, Manitoba has the potential to increase its supply of clean, lower-cost hydro-electricity to the U.S. and Ontario with additional transmission infrastructure. Lower electricity costs can also make Canadian electricity-intensive industries more cost-competitive.

Trade-related infrastructure is one of the few areas where Canada has the potential to dominate.

Infrastructure will also be crucial to realizing the economic development potential of northern Canada. The Ring of Fire chromite mining and smelting development in northern Ontario represents a significant opportunity, with the potential for thousands of jobs. All-season industrial and community transportation infrastructure will be critical to realizing this region's economic potential. Additional transportation infrastructure will also boost economic development opportunities in Canada's northern regions. The North is a vast untapped resource-rich area of Canada whose wealth potential has yet to be realized. Infrastructure projects, such as a road to Nunavut, could help open up economic opportunities for northern populations.

Global value chains offer the opportunity to boost product quality, cut costs and establish a foothold in new markets

In addition to defending our trade position, high-quality infrastructure can also create opportunities. Trade today is not just about buying and selling goods and services. It is increasingly about people and businesses making things together across international borders. Canada's auto industry is a vibrant example; parts and materials cross the Canada-U.S. border several times before a finished vehicle rolls off the assembly line.

Global value chains extend this concept to a larger scale. Companies locate operations around the world to extract resources, tap into local manufacturing/design expertise, or create an export platform by taking advantage of existing trade agreements. The availability of advanced trade infrastructure is a key factor in their investment decisions.

There is also a positive link between the availability and quality of infrastructure and foreign direct investment. Building factories where wages are low makes sense only if the labour cost savings are not offset by high costs in moving products on bad roads or missing important shipping deadlines as a result of unreliable logistics. Foreign investment, in turn, is critical to generating trade in the modern global economy through participation in global value chains.

In today's world, a crucial element for attracting investment is expedited movement of people. For this reason, airports act as catalysts for growth. Despite advances in video conferencing and telepresence, investors still need to see potential investments in person, owners of assets still need to visit their operations and technical staff still need to make service calls. For example, proximity to passenger and freight traffic are reasons why the private sector built the \$35 billion US Songdo International Business District in Korea immediately next door to Incheon International Airport. Such an airport creates, and benefits from, a positive feedback loop where the size and volume of flights attract businesses to locate there because of the airport. This adds to demand at the airport, further increasing flights and inducing additional firms to locate, or relocate, to the region served by the airport. A 2004 study by the Airports International Council on the importance of airports for business growth in Europe found that proximity to airports was a key factor in firm location and growth. According to the study, 31 per cent of companies relocating to Munich cited the city's airport as the primary factor in their decision. Eighty per cent of manufacturing companies in the Hamburg area depended on air service connections to get customers to look at their products.⁴

⁴ The Social and Economic Impact of Airports in Europe. Airport Council International. January 2004.

Major airports can attract business and promote growth, and their absence can produce the opposite effect. A recent article in the Globe and Mail newspaper about the use of subsidies by U.S. states to attract foreign investment quoted an executive who argued that a good airport can be more of an incentive than free money.

Steve Mai, the chief executive of Cambridge, Ont.-based Eclipse Automation Inc., announced this spring that he plans to open a facility in Charlotte. The choice of location disqualified Eclipse from consideration for a grant because North Carolina only subsidizes companies that invest in poorer regions. Mr. Mai didn't care. He said it was more important to him to be close to a skilled work force and a good airport.⁵

It is estimated that total EU exports to Canada under the trade pact could rise by 24.3 per cent, and Canadian exports to the EU could rise by 20.6 per cent. The lion's share of these gains though will come from growth in trade in services: half of the gains will accrue to Europe and more than 45 per cent of the gains to Canada.⁶ Trade in services means moving information and moving people.

In the near future, merely adequate infrastructure will not enable us to compete. Canada must be known as among the best in the world for the speed, cost and reliability of our trade-related infrastructure.

⁵ An American revival: A Canadian manufacturer's quest to rebuild itself. The Globe and Mail. Saturday, July 05, 2014

⁶ Canada-European Union Joint Report: Towards a Comprehensive Economic Agreement. Foreign Affairs, Trade and Development Canada. <http://www.international.gc.ca/trade-agreements-accords-commerciaux/agr-acc/eu-ue/can-eu-report-can-ue-rapport.aspx?lang=eng>

5. Export bottlenecks risk lost opportunities, and jobs, and can affect Canada's reputation as a reliable supplier

From coast to coast, Canada produces goods that people want around the world. Canada is not, however, the only source for products and, if we stumble at the point of delivery, we risk losing markets to eager and ready competitors. The higher value, higher margin markets will demand reliability as much as quality or competitive prices.

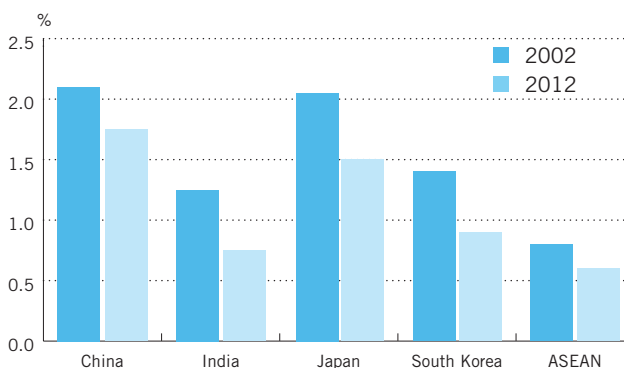
Potential customers are keenly aware of the limits of Canada's trade infrastructure. Reports of incidents in which Canada has experienced difficulty in getting commodities to market have advanced long-standing questions about our ability to meet demand over the long-term. Convincing potential customers that Canada has the capacity to be a supplier of choice will be important to capturing market opportunities.

Fixing bottlenecks is just the first, and most basic, step. We also need to ensure adequate infrastructure is in place to anticipate future trade growth and prevent bottlenecks before they appear. Capacity is key. Our trade infrastructure system is only as strong as its weakest link. An advantage in one part of the system can easily be negated by deficiencies in other areas.

High-profile difficulties in getting products to market may harm Canada's reputation as a secure and reliable supplier

There are already indications that Canada is missing market opportunities. The following figure shows that Canada's share of trade in major Asian markets has fallen over the last decade.

CANADA'S MARKET PRESENCE IN ASIA IS FALLING – (Canada's share of total trade in major Asian markets)



Source: CWF calculations using data from the WTO and Statistics Canada

The events of 2013-14, the “grain-by-rail crisis,” demonstrate the cost of gaps in our trade-related infrastructure. Canada is the world's top canola and oat supplier and second largest shipper of wheat. The West experienced a bumper crops in 2013. Yet, as of August 2014, nearly 17 million tonnes of Canadian grains and oilseeds were not delivered, according to federal statistics. That amounts to tens of thousands of dollars in product for each farmer that is tied up, creating cash flow challenges for many that in turn lead to a ripple effect on local economies. The backlog has also led to a drop in grain prices. Costs to the Canadian economy are estimated at \$3.5 billion.⁷

⁷ <http://www2.canada.com/edmontonjournal/news/business/story.html?id=99331590-32bd-4636-89b2-5d2bf5ea14ef>

Gaps in our ability to deliver oil and gas to market also come with a great cost in missed opportunity

With the world's third largest reserves of oil and significant supplies of natural gas, Canada is poised to capitalize on growing demand for energy to feed demand from the global middle class, particularly as production from conventional oil fields declines.⁸ Alberta's oil sands, and oil from the Bakken formation that extends from the U.S. into Saskatchewan and Manitoba, hold significant potential to fuel local and national economic growth and job creation.

In February 2013, the Canada West Foundation published a report entitled *Pipe or Perish: Saving an Oil Industry at Risk*. It estimated economic losses to the Canadian economy at \$30 million to \$70 million per day for each stalled pipeline project that would open up access to markets. The Canadian Energy Research Institute (CERI) estimated that expanding the existing Trans Mountain Pipeline, and building the Keystone XL and Northern Gateway pipelines would unlock more than \$1.3 trillion in economic output for Canada, 7.6 million person-years of employment, and \$281 billion in tax revenue.

Bottlenecks at the Detroit-Windsor border are estimated to cost the Canadian economy \$17.8 billion a year. Although traffic volume on the Ambassador Bridge has not recovered from the steep drop-off post the attacks of September 11, 2001, the lack of dedicated lanes for pre-screened cargo, small and crowded customs areas and lack of direct connections to highways in either country entail significant costs. In addition, having 25 per cent of Canada-U.S. trade flow through one bridge is a significant risk.

A fundamental weakness for most of Canada in attracting foreign investment and improving trade in services is the lack of airports of global gateway size and with direct connections to global centres of investment, trade and services.

Bottlenecks at the Detroit-Windsor border are estimated to cost the Canadian economy \$17.8 billion a year.

Toronto Pearson International Airport is Canada's largest, and the only airport of global gateway size.⁹ At 18 million passengers a year, Vancouver (YVR) has the second largest airport in the country. It is in tight competition with nearby Seattle (SEA) in terms of flights and markets served. To facilitate trade with the booming pan-Pacific region, it is critical that government policies on moving people and airport cost competitiveness do not weaken YVR, especially in light of competition from SEA.

The situation is more difficult in other parts of Canada. For example, Calgary International Airport moves 14 million passengers a year. The U.S.-energy hub of Houston, by contrast, has two international airports that together move 50 million passengers a year. If an energy company with regional or international interests is looking for a city in which to base operations, access is more likely than climate to be the deciding factor.

If an energy company with regional or international interests is looking for a city in which to base operations it is not the warmth of Houston versus the Calgary winters that will decide it.

⁸ Canadian Association of Petroleum Producers, www.Capp.ca

⁹ There is no standard definition of 'global gateway'. While common use of the term is qualitative a good quantitative definition, used here, is an airport with more than 30 million passengers a year and more than one dozen direct connections with airports of similar size spread between North and South America, Asia and Europe.

While the U.S. has larger population centres than Canada, population is not the determining factor in the creation of global gateway airports, as Dubai, Singapore, Abu Dhabi and others have shown. It is as much about strategic planning and national decision-making. For example, flight volumes in Vancouver, and to some extent Calgary, could be increased by removing the requirement for in-transit visas for travelers using those airports to connect to destinations outside of Canada.

Inland ports that can transfer shipping containers between different modes of transportation and process international trade are becoming more attractive as alternatives to traditional hubs. They help circumvent congestion and bottlenecks, reduce transportation costs for commodities and access growing markets. Two examples are Manitoba's CentrePort and Saskatchewan's Global Transportation Hub. A key consideration for developing inland ports is demonstration of a strong business case coupled with significant private sector investment.

Transportation infrastructure is a top priority for Canadian business

The most recent annual Management Issues Survey by Canadian Manufacturers & Exporters found that transportation infrastructure was a major concern of survey respondents, ranking fourth because there is a perceived lack of improvement in overall conditions. More than 55 per cent of respondents felt the problem had not changed, and just more than 25 per cent felt conditions had actually worsened. Transportation infrastructure ranked behind human resources, Canada-U.S. border and innovation as an issue of major concern.¹⁰ Transportation infrastructure has also featured prominently in concerns raised by the Canadian Chamber of Commerce and the Canadian Council of Chief Executives.

'Soft infrastructure' can be equally important to physical infrastructure

Soft infrastructure refers to the supporting and enabling systems that ensure the use of physical infrastructure is efficient and reliable. For example, good highways that are connected to key production and export centres are of limited use if there are no drivers for trucks. Security-related requirements at border crossings and airports can also slow down the movement of goods and people between countries.

Bottlenecks in getting products to market raise questions not just about the capacity of our infrastructure to meet future demand, but also about the quality of the mechanisms Canada has in place to anticipate and prevent problems.

Health care, education, and public safety are priorities that receive ongoing, permanent funding. Infrastructure is crucial to Canada's economic growth, but is too often viewed as a one-time or transitional investment. Governments at all levels should acknowledge that there will never be a time when Canada does not require investments in infrastructure. Canada needs permanent, ongoing funding and processes to pro-actively identify opportunities and challenges and make strategic infrastructure investments focused on attaining Canada's economic growth potential. Periodic public reviews could provide the opportunity for improvements and adjustments over time.

Canada has the potential to build on its past success and establish a significant infrastructure advantage that will help capture trade opportunities, boost economic growth and create jobs into the future. It will require federal leadership, close collaboration across all levels of government and the private sector, strategic planning, greater integration with Canada's trade agenda and dedicated funding for trade-related infrastructure.

¹⁰ 2012-13 CME Management Issues Survey (October 2012), pg. 8. <http://www.cme-mec.ca/download.php?file=h8q3snma.pdf>

PUBLIC POLICY RECOMMENDATIONS

1. Set an aspirational goal to move Canada into the top 10 countries on trade infrastructure within 10 years

The private sector and all levels of government should come together to jointly endorse a vision to make Canada a global leader in trade-related infrastructure. The initial target could be reversing Canada's recent slide and attaining the top 10 list of the World Economic Forum's Quality of Overall Infrastructure Index and the World Bank's Logistics Performance Index. Near term, the goal could be to reach the top 5. The upcoming Canada Transportation Review also offers an opportunity to underscore the issue of capacity building as part of a call to action for all levels of government and the private sector. Having a body like the World Economic Forum as a measure of Canada's progress should give the goal greater legitimacy in the public mind. This goal is a natural complement and evolution to the current government's trade agenda.

2. Develop a permanent body to help identify priorities for nationally significant trade-related infrastructure projects

Canada should build on its existing mechanisms and consultative processes to create an infrastructure body comprised of federal, provincial, territorial and private sector representatives. This would borrow from ideas tested in Canada and from abroad, such as the Infrastructure Australia model, which leverages greater private sector engagement. The group's mandate could be based on the five policy lenses of Canada's National Policy Framework for Strategic Gateways and Trade Corridors. It could include regional committees for western, central, Atlantic and northern Canada that would allow wider stakeholder participation and enhance regional co-ordination. The committees would support the work of the national body, which would remain the central decision making body for selecting and prioritizing projects. The national body could highlight issues of concern in hard and soft

infrastructure, and develop a pipeline of priority trade-related infrastructure projects for governments to use in funding decisions. The body could also help improve the quality of data and analysis available to better inform decision-making, by integrating existing analysis and creating additional tools. With strong private sector participation, the body would be better able to encourage and evaluate innovation in project selection.

3. Introduce more substantive private sector participation in trade infrastructure planning and management

As the principal funder, owner and user of trade-related infrastructure, the private sector is a key source of knowledge and expertise. The sector's significant presence in a national infrastructure body would improve communication and co-ordination between the private sector and government. One way to do this could be to formalize an annual process of intelligence-gathering consultation with the country's key sea and inland port operators.

The linkages between discussions and analysis of infrastructure and Canada's broader trade agenda, including Canada's Global Markets Action Plan, should be improved. Intelligence and analysis of trade opportunities and risks should inform infrastructure investment decisions. Canada's infrastructure advantage should also be incorporated into trade promotion activities.

4. Introduce a focus on innovation

Private sector involvement in a national infrastructure body would increase the focus on innovation. This would apply especially in the design and selection criteria for projects. It would supplement attempts to introduce more innovation through public private partnership programs and other government initiatives.

5. Market Canada's infrastructure advantage

A co-ordinated federal-provincial-private sector campaign to promote Canada's infrastructure advantages in foreign trade missions, much like the Asia Pacific program, would reinforce the message that Canada is actively employing an integrated approach to address national supply chain challenges and prepare for demand growth.

6. Carve out a portion of existing infrastructure funds for trade-related infrastructure

Long-term planning, predictability and certainty are vital to all infrastructure stakeholders and this is especially true where the private sector is responsible for raising its own funding. The National Infrastructure Component of the New Building Canada Fund could include a dedicated amount for trade-related infrastructure projects to encourage and leverage private sector funding and to ensure that funds are focused on priority projects needed to support value and supply chains. Priority projects identified by the new federal-provincial-territorial-private advisory body could be considered for funding from this envelope.

7. Recognize and help offset costs to municipalities from the development of trade related infrastructure projects

New trade related infrastructure projects can sometimes introduce added direct or indirect costs for municipalities especially for projects with no or limited direct benefit to the local community. These major projects can also introduce new opportunities for local communities. Allowing funding eligibility under the NBCP to offset some costs for key trade infrastructure projects, pursue new opportunities and support community engagement could enhance local receptivity and aid in the recognition of and increase in local benefits. At a minimum, enhancing coordination of spending between the two elements of the program should produce efficiencies, added benefits and greater value for taxpayers.

APPENDIX A: STRATEGIC TRADE INFRASTRUCTURE INVESTMENT MODELS

The Asia-Pacific Gateway Transportation Corridor Initiative

Introduced in 2006, the \$1.4-billion Asia-Pacific Gateway and Corridor Initiative (APGCI) was a well-received effort to improve the efficiency and capacity of western Canada's trade infrastructure network and improve trade linkages with Asia. It had two specific strategic objectives: to increase B.C.'s share of North American West Coast container traffic and to reduce transit times through the western transportation corridor.

The APGCI is widely regarded an example of trade infrastructure investment policy done right. It has attracted international attention and received support from the Canadian business community and infrastructure operators, and public policy researchers. The U.S. Federal Maritime Commission expressed concerns about the risk of West Coast cargo traffic being diverted to Canada because of strategic APGCI investments: "Canada in particular has done an excellent job of creating and implementing a national transportation strategy with policy that supports those goals; the U.S. should follow suit by ensuring that our own policies don't encourage shippers to use other gateways for Asian cargo destined for U.S. cities, and that transportation investments are made with an eye toward long-term port competitiveness."¹¹

There are a number of attractive features to the APGCI worth emulating in future trade infrastructure investment strategy:

- **It identified and addressed a specific need: improving Canada's capacity to trade with Asia.** Too often, federal infrastructure money is distributed evenly across the provinces and territories, or is dedicated to achieving vague goals like "economic growth."
- **It was collaborative.** The federal government is not the only stakeholder when it comes to trade infrastructure. Recognizing this fact, the APGCI was a collaborative and consensus-based process that involved the four western provinces, local governments and private sector stakeholders. It also co-ordinated public and private investments, and did not work at cross-purposes with provincial government plans.
- **It employed a system-based approach.** The APGCI recognized that benefits of trade infrastructure are not limited to the province in which investments are made. Investments were made with the goal of creating an efficient transportation network across the western provinces.
- **It employed a sound financing strategy.** Funding decisions were made explicitly on the basis of economic need and return on investment, not concerns about perceived regional equality or any other non-economic considerations. The APGCI also leveraged financial participation from multiple stakeholders. This ensured that other governments and the private sector had a stake in the success of APGCI investments.
- **It included an international promotion component.** The APGCI included money earmarked to promote Canada's West Coast gateway in Asia. This helps ensure that companies overseas know the advantages and benefits of doing business with Canada.

¹¹ (Port of Seattle 2011).

An Example from Competitors: Infrastructure Australia

Infrastructure Australia (IA) was established by that country's parliament under the *Infrastructure Australia Act 2008* and came into existence in April of that year. More recently the current Australian government has revised the agency's mandate and governance to make it independent of government. IA provides advice to the government, investors and owners of infrastructure on priorities for nationally significant infrastructure and associated policy and regulatory reforms that affect it.

In addition to helping establish infrastructure priorities, IA also plays other important roles. For example, IA provides assistance to states and municipalities that lack adequate capacity to help improve the quality of their project proposals for funding consideration. In addition its mandate includes conducting audits to assess the adequacy and capacity of key infrastructure assets to accommodate anticipated future growth. In executing these functions, IA serves as a meeting ground for governments, users, owners and operators of infrastructure and has recently added advice on mechanisms for financing infrastructure investments.

The most notable product of IA is the Infrastructure Priority List. It ranks projects in seven categories of nationally significant infrastructure – urban, gateways, freight networks, water supply, energy markets, digital and essential indigenous infrastructure. Projects in each category must address a nationally significant issue and are ranked according to state of readiness. The ranks are:

- **Early stage**, where the identification or development of a solution has just begun
- **Real potential**, where there has been a considerable amount of analysis of potential solutions
- **Threshold**, where there is strong strategic and economic merit, and there are only a small number of outstanding issues
- **Ready to proceed**, where all of IA's criteria have been met

IA has 27 Early Stage projects, 30 at Real Potential, 16 at Threshold, two between Threshold and Ready to Proceed, and five Ready to Proceed.

Manitoba Five-Year Infrastructure Plan

In March, the Manitoba government released its \$5.5-billion *Five-Year Plan to Build a Stronger Manitoba*. This followed the government's announcement in spring 2013 that the provincial sales tax would increase by one percentage point for 10 years, with all additional revenue directed towards infrastructure projects. Infrastructure spending under this initiative began in fiscal year 2014-2015.

The one per cent increase of the PST will raise an estimated \$1.5 billion in government revenue over five years. Budget 2014 commits the entire amount towards infrastructure spending, as well as an additional \$420 million.

The purpose is to focus on infrastructure priorities, with investments in roads, highways and bridges, as well as flood protection and other municipal infrastructure. Investments can entail the construction of new, or maintenance and preservation of, infrastructure assets. Funded projects fall either under the ministry of Infrastructure and Transportation or Municipal Affairs. Budget 2014 states, "The core infrastructure plan will be reviewed and re-based each year to recognize any variances in the PST revenues and investments."

The Five-Year Plan will see the province invest roughly \$1 billion a year for five years in core infrastructure. More than 48 per cent (\$3.7 billion) will be spent on roads, highways and bridges. The government is heavily focused on investing in trade corridors with both the U.S. and other provinces to improve the export of goods to customers outside the province. The remainder of committed funds will be spent on flood protection (\$320 million) and municipal infrastructure (more than \$1.5 billion), such as municipal roads and bridges, water and wastewater treatment facilities, and transit in Winnipeg.

For fiscal year 2014-2015, \$1.026 billion of infrastructure spending is planned. Along with the federal government's contribution, funding comes from baseline PST revenues of \$729 million, and \$276 million associated with the one point PST commitment. The province is counting on federal infrastructure dollars through the New Building Canada Fund to match provincial funding for projects under the plan. The Province, however, has not yet confirmed that the projects meet requirements to receive matching federal funds.

The government expects that, over its five-year lifespan, the Five-Year Plan will increase the province's GDP by \$6.3 billion, create 58,000 jobs, and boost exports by \$5.4 billion. The government committed to a yearly independent review of progress and economic impacts, and it will be made public.

APPENDIX B: SIX PRINCIPLES TO GUIDE INFRASTRUCTURE PLANNING

First, a permanent infrastructure plan is required no different that our ‘permanent’ investment in healthcare, education, recreation, public safety and the like. Infrastructure is not of passing interest or unimportant to our economic and social well being. It is what enables and underpins our economy, and therefore quality of life. Investment in infrastructure on a permanent basis is our economic and social healthcare program no different than preventive medicine enables personal health. Let’s accept that any investment plan must be permanent, though not inflexible, with predictable and stable funding from year to year.

Second, the plan’s purpose must be to invest in a sustained and strategic manner in assets which enable, create and open new opportunities for economic growth. Consider CentrePort Canada, Canada’s first inland port and the port of Churchill which could be an enormous catalyst for economic growth and social well-being in the north - just two examples of many. Such a strategy should not however ignore maintaining or rehabilitating key assets that already enable economic activity but require upgrading to maintain or enhance their value to the economy, and there are many.

Third is innovation – embrace it. Just because we ‘did this years ago’ doesn’t mean we should do it the same way today. CAT scans, MRI, laser surgery are but few examples of innovation in healthcare. Does anyone quarrel that those investments generated lasting social benefits? Composite fibers, fiber optics, remote sensing systems, new grades of asphalt and concrete products, awarding projects based upon innovation and service life costing. These are innovative principles which must become part of the design challenge (and opportunity) landscape to stretch the service life and reduce life maintenance costs of our infrastructure investments.

Fourth, embrace partnerships with the private sector which is the engine of innovation, growth, jobs, prosperity, taxes and revenues to government. Public Private Partnerships (P3S) or Alternative Financing Initiatives (AFIs) which enable the marriage of risk sharing, the benefit of price certainty, the ability to contractually manage exposure through performance based payments, and the return of an asset in prime condition at the end of the agreement’s typical 25-30 year term, are options we cannot exclude from the mix. These are important tools to consider and use in the right set of circumstances.

Fifth, identify and transparently dedicate new revenue streams as the existing revenues streams, even coupled with needed efficiency gains, are inadequate to the tasks at hand. New streams - preferably growth based - should be dedicated and allocated to these purposes in a clear, transparent, transitional and accountable manner. Any such stream should be tied to a measureable agreed upon infrastructure investment plan.

Sixth, any such investment plan should have required periodic transparent public reviews enabling experience based improvements and adjustments for the future. All of this should be legislated to give the public security, and ensure public sector investment purpose and discipline.

APPENDIX C: INFRASTRUCTURE INVESTMENT IN CANADA TODAY

The federal government introduced a national infrastructure program – the 10-year, \$53-billion New Building Canada Plan (NBCP) in its 2013 budget. The NBCP took effect this year. The New Building Canada Plan is a solid step toward addressing Canada’s infrastructure needs. Combined with separate provincial/territorial initiatives, the money in the NBCP and the money it leverages from other sources will help narrow the infrastructure gap in Canada. It also responds to one of the most important research findings on public infrastructure investment: that sustained, predictable investment in infrastructure is essential to maintaining Canada’s future prosperity and quality of life (Casey and Holden 2013).

BUILDING CANADA PLAN – COMPONENTS		
COMPONENT	VALUE	DETAILS
Gas Tax Fund	\$22 billion	Funding is provided to the provinces and territories (and in some cases municipal associations) roughly on a per capita basis. Provinces or municipal associations then flow the money through to their municipalities to fund local infrastructure priorities.
GST Rebate	Approx. \$10 billion	All GST paid by municipalities is rebated by the federal government. The rebate is notionally tied to infrastructure investments, but municipalities are free to use it as they see fit, with no conditions or reporting requirements.
Building Canada Fund of which:	\$14 billion	
<ul style="list-style-type: none"> Provincial-Territorial Infrastructure Component 	\$10 billion	Provides \$9 billion in cost-shared funds for projects of national or regional significance. Each province/territory receives a base amount of \$250 million and the rest is allocated on an equal per-capita basis. The remaining \$1 billion is delivered through the Small Communities Fund for projects in communities of fewer than 100,000 residents.
<ul style="list-style-type: none"> National Infrastructure Component 	\$4 billion	Funds support projects of national significance. Money is allocated solely on the basis of project merit, as determined by federal priorities.
P3 Canada Fund	\$1.25 billion	These funds support the use of public-private partnerships in infrastructure projects where it makes sense to do so.
Other	\$6 billion	Money from existing infrastructure programs that continues to be active.

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