



NATIONAL CORRIDOR

ENHANCING AND FACILITATING COMMERCE AND INTERNAL TRADE

**Standing Senate Committee
on Banking, Trade and Commerce**

The Honourable David Tkachuk, Chair
The Honourable Joseph A. Day, Deputy Chair

June 2017



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CANADA

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ORDER OF REFERENCE

Extract from the *Journals of the Senate*, Wednesday, September 28, 2016:

The Honourable Senator Tkachuk moved, seconded by the Honourable Senator Andreychuk:

That the Standing Senate Committee on Banking, Trade and Commerce be authorized to study and report on the development of a national corridor in Canada as a means of enhancing and facilitating commerce and internal trade.

That the committee submit its final report no later than Tuesday, February 28, 2017, and that the committee retain all powers necessary to publicize its findings until 180 days after the tabling of the final report.

After debate,

The question being put on the motion, it was adopted.

Extract from the *Journals of the Senate*, Tuesday, December 6, 2016:

The Honourable Senator Tkachuk moved, seconded by the Honourable Senator Runciman:

That, notwithstanding the order of the Senate adopted on Wednesday, September 28, 2016, the date for the final report of the Standing Senate Committee on Banking, Trade and Commerce in relation to its study on the development of a national corridor in Canada as a means of enhancing and facilitating commerce and internal trade be extended from February 28, 2017 to May 31, 2017.

The question being put on the motion, it was adopted.

Extract from the *Journals of the Senate*, Tuesday, May 30, 2017:

The Honourable Senator Tkachuk moved, seconded by the Honourable Senator Carignan, P.C.:

That, notwithstanding the orders of the Senate adopted on Wednesday, September 28, 2016 and Tuesday, December 6, 2016, the date for the final report of the Standing Senate Committee on Banking, Trade and Commerce in relation to its study on the development of a national corridor in Canada as a means of enhancing and facilitating commerce and internal trade be extended from May 31, 2017 to June 27, 2017.

After debate,

The question being put on the motion, it was adopted.

Clerk of the Senate, Charles Robert

MEMBERS

The Honourable Senators who participated in this study:

David Tkachuk, Chair,
Joseph A. Day, Deputy Chair

and

Douglas Black, Q.C., LL.B.
Larry W. Campbell
Claude Carignan, P.C.
Tobias C. Enverga Jr.
Ghislain Maltais
Paul J. Massicotte
Lucie Moncion
Pierrette Ringuette
Scott Tannas
Betty Unger
Pamela Wallin
Howard Wetston

Ex-officio members of the Committee:

The Honourable Senators Peter Harder, P.C. (or Diane Bellemare) and Larry W. Smith (or Yonah Martin).

Former Committee members who have participated in this study:

The Honourable Senator Greene, Plett and Smith.

Other Senators who have participated in this study:

The Honourable Senators Forest, Galvez, Gold, MacDonald, Manning, Marshall, Mockler and Patterson.

Parliamentary Information and Research Service, Library of Parliament:

Michaël Lambert-Racine, Brett Capstick, Adriane Yong and Brett Stuckey, Analysts.
Mélanie Zahab, GIS Analyst.

Clerk of the Committee:

Lynn Gordon

Senate Committees Directorate:

Lori Meldrum, Administrative Assistant

EXECUTIVE SUMMARY

The committee's interest in the concept of national corridors for transporting goods and services throughout Canada stemmed from our earlier study on barriers to internal trade, which resulted in a report entitled *Tear Down These Walls: Dismantling Canada's Internal Trade Barriers*. Our report noted that improving Canada's national transportation and communications networks was one way in which to encourage economic growth in Canada and to facilitate exports to international markets. It recommended that the federal government "undertake its own investigation of the feasibility of national corridors."

The northern corridor proposal presented by Mr. Andrei Sulzenko and Mr. Garret Kent Fellows in their May 2016 paper published by the University of Calgary in collaboration with the Center for Interuniversity Research and Analysis of Organizations (CIRANO) was the starting point for the committee's study on the development of a national corridor in Canada. The study involved 15 meetings with 40 witnesses and 3 written submissions, which informed us about the advantages and disadvantages of the proposal and its associated infrastructure projects.

The report's main findings are the following:

- Inadequate east-west transportation infrastructure limits the extent to which Canada can access tidewater in order to export goods to international markets.
- Canada's current regulatory approval processes impede the development of major transportation infrastructure in a timely manner.
- There is a lack of ports and routes in Canada's North that can be used to ship goods abroad.
- The proposal by Mr. Sulzenko and Mr. Fellows for a northern corridor has the potential to address Canada's limited access to tidewater and the difficulties in developing national infrastructure projects, and to enable the development of the country's northern regions.
- If the development of the proposed northern corridor is pursued, the federal government must play a leadership role.
- Indigenous peoples' early participation in the development of the proposed northern corridor would be fundamental to its success.
- Public funding and private-sector investments could finance infrastructure projects within the proposed northern corridor.
- In an effort to minimize delays, the federal and provincial/territorial governments must work together to coordinate their environmental assessment processes in relation to the proposed northern corridor.

A visionary, future-oriented infrastructure initiative, such as the proposed northern corridor, would give rise to significant economic opportunities for Canada and would play an important role in the development of Canada's northern regions. Because an initiative of this scale and scope would likely take decades to complete, the federal government – on a priority basis – should ensure that a feasibility study on the proposed northern corridor is undertaken.

LIST OF RECOMMENDATIONS

The committee recommends that:

The federal government provide up to \$5 million to the University of Calgary's School of Public Policy and the Center for Interuniversity Research and Analysis of Organizations for their research program on a corridor in Canada's North.

The federal government must ensure that representatives of Indigenous groups, including the the First Nations Major Projects Coalition and the First Nations Financial Management Board, are actively involved from the beginning in that research program.

The University of Calgary's School of Public Policy and the Center for Interuniversity Research and Analysis of Organizations should, within 18 months of receiving federal funding, present an interim report on its research to the Minister of Innovation, Science and Economic Development and to the Standing Senate Committee on Banking, Trade and Commerce.

Following the publication of the research program's final report, the federal government should establish a task force to conduct consultations across Canada with relevant communities to determine how the proposed northern corridor should be developed.

CHAPTER 1: INTRODUCTION

As Canada celebrates the 150th anniversary of Confederation, the time is right to lay out a vision, and to re-imagine the next chapter of our country's life, through a great national project that recognizes our vast distances and the need to truly include those who live in mid- and northern Canada.

Yes, it is true that more than 90% of Canadians live within 100 miles of the 49th parallel, hugging the Canada–U.S. border. But time and technology, and our insatiable need for resources, has turned our attention to Canada's North.

Canada is a northern nation. The country's North is a fundamental part of our heritage and our national identity, and it is vital to our future. It is also home to Indigenous peoples. Canada's Indigenous peoples want to and should be a real part of a great national project in this land that we share.

Half a century ago, Canada had a number of visionaries. One example is Honorary Lieutenant-General Richard Rohmer who, with Acres Research & Planning, proposed the development of a mid-Canada corridor. Among other things, this corridor would have involved the construction of east-west transportation infrastructure in Canada's northern regions. The proposal's proponents said that the "part of mainland Canada which is north of the contiguous belt of urban and rural settlement, and south of a generalized line which forms the northern limit of the tree zone" contained a "treasure house" of natural resources that could be exploited and could support large populations. At the time, they believed that "Canada's future [was] inseparably linked with the development of natural resources, transportation and defence in Mid-Canada."

In 1969, a Mid-Canada Development Conference was organized to articulate a vision for the development of a mid-Canada corridor, and its 1971 report made only one recommendation: "that the federal, provincial and territorial governments make it an urgent priority to create and co-ordinate policies and plans for the future orderly development of Mid-Canada." Later that year, the report was presented to Canada's Prime Minister, but the federal government did not pursue the corridor's development.

Despite the absence of a plan for the development of the mid-Canada corridor, Canada continued to develop as a trading nation and, in 2016, Canadian merchandise trade represented 53% of the country's gross domestic product. Canada has always been a trading nation, from the courier de bois to the *North American Free Trade Agreement*. It is both our lifeblood and our instinct. The north-south pull is strong.

But, as the Fathers of Confederation knew, we needed a ribbon of steel running from coast to coast to tie us together. Highway number 1, which is also known as the Trans-Canada Highway, was a modern version of that ribbon, and today's pipelines and fibre lines are the railways and roads of yesteryears.

Not since the development of the Canadian Pacific Railway as part of John A. Macdonald's national policy do we have an opportunity to build a modern infrastructure for the 21st century that could have a dramatic impact on Canada's global trading patterns and economic growth. – Jack Mintz

We must defy the odds and think big!

The committee started its study on the development of a national corridor from the perspective that Canada's federal government already has a long history of planning and funding major transportation infrastructure projects, such as transcontinental railways, the Trans-Canada Highway and the St. Lawrence Seaway. Through its support for these transformative projects, the federal government demonstrated its long-term vision for Canada. These bold projects provided improved access to the western part of the country, facilitated the movement of goods and people between provinces, and allowed Canada to develop as a trading nation. However, these developments occurred mostly in the southern areas of our country. Meanwhile, Canada's northern regions have remained largely undeveloped.

On September 28, 2016, the Senate authorized the Standing Senate Committee on Banking, Trade and Commerce (the Committee) to undertake a study on the development of a national corridor in Canada as a means of enhancing and facilitating commerce and internal trade. In addition to the Committee's ongoing focus on Canada's economy, of which commerce and trade are a part, interest in this particular topic stems from an earlier study on issues pertaining to internal trade barriers.

Believing that the concept of national corridors has considerable merit, the committee's June 2016 report – entitled "*Tear Down These Walls: Dismantling Canada's Internal Trade Barriers*" – recommended that the federal government "undertake its own investigation of the feasibility of national corridors." During the current study, the committee was particularly interested in learning more about the northern corridor proposal presented by Mr. Andrei Sulzenko and Mr. Garret Kent Fellows in their May 2016 paper published by the University of Calgary in collaboration with CIRANO, and about the advantages and disadvantages of such a corridor. The committee received oral and written testimony from First Nations groups, trade associations, federal departments and agencies, academics and other interested parties. The witnesses' comments informed the committee's thoughts and recommendations about the proposed northern corridor, which are contained in Chapters 2 and 3. The groups and individuals who appeared before the Committee and made written submissions are identified in Appendices B and C, respectively, and their comments are summarized in Appendix A.

CHAPTER 2: AN OPPORTUNITY FOR CANADA

A. Recent Transportation-Related Challenges

The United States is, and probably always will be, Canada's main trading partner. In 2016, Canadian merchandise exports to the United States represented approximately 76% of the total value of our merchandise trade. That said, relying too heavily on the U.S. market as a destination for our exports can be problematic from a number of perspectives. For example, because of their inability to access foreign markets other than the United States, Canadian oil exporters must sell their products at prices that are lower than those obtained in those other markets. As well, the existence of only limited alternatives to the U.S. market may weaken Canada's bargaining position when negotiating with its southern neighbour. The Trump administration's interest in protectionist measures highlights the risks for Canada of an overreliance on the U.S. market and, consequently, the clear need for market diversification.

While the U.S. will remain an important market for Canadian energy production going forward, it is becoming increasingly self-sufficient in its own production. New infrastructure will be required in Canada to connect to new markets and to ensure we can obtain full global prices for our energy production going forward. – Natural Resources Canada

Witnesses told the committee that, because of inadequate east-west transportation infrastructure, a lack of access to tidewater limits the extent to which Canada can export certain goods to a range of foreign markets. One solution may be the development of new transportation links to Canada's east and west coasts to facilitate the shipment of goods abroad. However, current regulatory approval processes may be an important impediment to the development of such infrastructure in a timely manner. Canada is among the countries with the slowest processes for obtaining permits for the construction of commercial and industrial facilities, and approval processes for infrastructure projects are equally slow; the costs associated with these delays are thought to be significant. Current regulations and social acceptance challenges have contributed to the oil and gas sector's recent failure to obtain timely regulatory approvals for certain pipeline projects – such as the Northern Gateway. This situation is only one example of the difficulties experienced when trying to develop major infrastructure projects.

[The costs associated with regulatory delays] can reduce the return on projects as much as taxes on investment. This is an extraordinary efficiency cost to the Canadian economy. – Jack Mintz

In addition to east-west links as an option to reach tidewater, witnesses informed the committee about the potential of northern ports and routes to ship goods abroad. According to some, developing Canada's northern ports – such as at Churchill, Manitoba – might become necessary if the St. Lawrence Seaway is unable to accommodate the larger ships that are being used since the Panama Canal's expansion.

When we look at the Port of Churchill closing down, it is a bit of a shock because, just looking at the map, it would look like a natural port for shipping agricultural products coming out of the Prairie provinces to Europe. – Garret Kent Fellows

The study revealed issues with Canada's existing transportation systems that affect the movement of goods within the country. For example, witnesses mentioned the failure of the bridge over the Nipigon River, which forced truckers to take a significant detour through the United States and revealed a weakness in Canada's National Highway System.

Nonetheless, recent efforts have been made to improve the efficiency of the country's transportation systems, including the strategic gateways and trade corridors that help to ensure Canadian businesses' access to foreign markets. The success of these types of initiatives reflects both the multimodal approach that was used in their development, and the financial collaboration that occurred between various governments and the private sector.

The status quo regarding federal policies for infrastructure development, or a complete reliance on the private sector, cannot address the lack of market diversification for Canadian exports and the country's difficulties in completing major transportation infrastructure projects in a timely manner. Federal departments and stakeholders in Canada's transportation systems tend to focus on responding to these systems' short-term needs despite broad agreement about the need to improve them with a view to the long term.

In order to respond to these – and probably other – challenges, an ambitious, visionary and future-oriented federal approach is required, one that is comprehensive and responds to Canada's long-term needs as a trading nation. Such an approach should build on the success of, and include relevant elements of, Canada's existing strategic gateways and trade corridors. Inspiration might also be drawn from Australia's Pilbara–Perth resource corridor, in respect of which governments worked collaboratively to set aside the land prior to the private sector using the corridor for resource extraction projects.

[T]he government established a long-term process that took several years to get all of the clearances for [the Pilbara–Perth] corridor ... negotiations were done and the corridor was cleared ... but now that corridor is effectively in place for perpetuity for uses that we haven't thought of yet. – Ian Satchwell

B. The Northern Corridor Proposal

The committee was particularly interested in the northern corridor proposal that is outlined in a study undertaken by the University of Calgary's School of Public Policy in collaboration with the CIRANO. The study's authors – Mr. Sulzenko and Mr. Fellows – appeared as witnesses to describe their proposal for a 7,000-kilometre corridor in Canada's North and near-North that would establish an east-west right-of-way for road, rail, pipeline, electrical transmission and communication networks, and connect with existing networks in southern Canada. Once established, this right-of-way would facilitate the development of private- and/or public-sector projects in a way that is similar to Australia's resource corridors. To determine whether the

proposed corridor has potential as an investment, Mr. Fellows indicated that the School of Public Policy is suggesting a three-year, academic-led research program; it is seeking \$800,000 from various sources to fund the next phase of the research project.

According to their study, and as shown in Appendix A, the northern corridor “would largely follow the boreal forest in the northern part of the west, with a spur along the Mackenzie Valley, and then southeast from the Churchill area to northern Ontario and the ‘Ring of Fire’ area; the corridor would then traverse northern Quebec to Labrador, with augmented ports.”

The proposed northern corridor could address Canada’s lack of access to tidewater. Moreover, the presence of a pre-established right-of-way would facilitate the development of major transportation infrastructure projects, such as TransCanada’s Energy East pipeline, in a more timely manner.

The main advantage of a corridor right-of-way over multiple single-issue projects is that it facilitates a long-term, integrated approach to the approval, construction and operation of major infrastructure. – Andrei Sulzenko

Equally important to addressing these issues would be the opportunities for increased economic activity that would result from access to new mining sites, forests and agricultural lands in Canada’s North. The proposed northern corridor would also provide an opportunity to develop telecommunications infrastructure and to improve access to broadband Internet in Canada’s northern regions. Our country’s Indigenous peoples, other residents of the northern regions and – importantly – Canada as a whole would benefit.

One could consider large-scale projects that strengthen linkages between Canada’s North and our continental transportation networks as transformational in nature, similar to the ways in which historic projects, like the transcontinental railway, the Trans-Canada Highway and the St. Lawrence Seaway, positively impacted national prosperity and quality of life for all Canadians. – Transport Canada

Furthermore, the development of the proposed northern corridor could reduce transportation-related environmental impacts in Canada’s North, support the country’s sovereignty objectives in the Arctic, and decrease traffic on our southern transportation networks, which would make capacity available for other uses.

Nevertheless, the committee understands that such a large-scale and complex project can only be developed successfully if a range of implementation issues are considered. In relation to the proposed northern corridor, careful attention should be given to the following: the federal role; participation by Indigenous peoples and communities; financing; and environmental issues.

C. The Federal Role in a Northern Corridor

Given the pan-Canadian nature of the proposed northern corridor, the federal government is the entity that is best-placed and has the authority to pursue its development, specifically under its power over interprovincial and international commerce, as well as works that extend beyond

the boundaries of a province, such as railways. Consequently, the federal government must take a leadership role in the development of the proposed corridor. Otherwise, it will suffer a fate similar to that of the mid-Canada corridor proposal of half a century ago, which remains just that: a proposal.

While the optimal form of federal leadership would depend on the precise nature of the corridor that is being proposed, the committee believes that – at a minimum – the federal government should establish a process that would bring together relevant stakeholders, and that would accommodate varying interests in order to ensure the creation of partnerships and/or the consensus needed for the timely development of the corridor. In the committee's opinion, these stakeholders should include provincial/territorial governments, Indigenous peoples and the private sector.

With something like the northern corridor concept or the corridor concept in general, the governance structure is a critical component because you have many diverse geographical regions and many diverse individual interests. To govern it properly, I think it's incumbent on the federal government to take a leadership role in coordinating those interests, but not trying to direct those interests. – Garret Kent Fellows

The committee is also of the view that, if the federal government were to pursue the development of the proposed northern corridor, it would need to commit to its implementation over the long term. As well, it would need to convince Canadians to support this project.

D. Indigenous Participation in the Development of a Northern Corridor

The route of the northern corridor that is proposed in the study by Mr. Sulzenko and Mr. Fellows crosses the traditional territories of a large number of Indigenous communities. Consequently, Indigenous involvement in the proposed northern corridor is fundamental to its successful development. Certainly, Indigenous peoples and communities should benefit from such a corridor, and their involvement in its development would provide them with an outstanding opportunity to participate in a transformative project designed to enhance their regions' future growth and prosperity.

First Nations [must be] enabled to participate in the economic mainstream by taking full advantage of the economic opportunities that are occurring within our territories. – First Nations Major Projects Coalition

Many Indigenous communities are seeking business opportunities, such as First Nations in Northern British Columbia who have expressed support for recent pipeline proposals in that region. The committee is of the view that a large number of Indigenous communities would be willing to participate in the development of the proposed northern corridor as initiators or investors, or in some other way. The committee heard from such interested groups – specifically, the First Nations Major Projects Coalition and the First Nations Financial Management Board – about their desire to participate actively in proposed major projects that

would affect or cross their traditional territories, their efforts to build capacity among First Nations to negotiate with the entities that sponsor such projects, and innovative approaches to facilitating such involvement by First Nations.

In particular, the First Nations Major Projects Coalition and the First Nations Financial Management Board identified their interest in acquiring an equity stake in major projects as a means of generating a financial return, influencing project-related decisions and mitigating projects' environmental risks, which is a priority for them. However, they explained that a number of Canada's banks have been reluctant to provide some First Nations with affordable debt financing to facilitate participation in such projects. As a result, they advocated federal loan guarantees that would allow them to access debt financing at interest rates that would be lower than those available to them. While federal loan guarantees to support First Nations equity ownership in major projects would involve some financing risks for the government, such guarantees represent a great opportunity to enhance First Nations' quality of life.

We put at risk our national economy by not taking steps and making the necessary investments so that First Nations can be in a position to partner and benefit from the economic activity taking place within their traditional territories. – First Nations Financial Management Board

Any process established for the development of a northern corridor must ensure that Indigenous communities' interests and priorities are meaningfully considered. As well, these communities should have a prominent role in the development of such a corridor, and should be involved as early as possible in the process. Such a role could mean that they have a leadership role with respect to the design, planning or management of certain parts or aspects of the project. That said, any such leadership by First Nations would likely require provincial/territorial collaboration, but such cooperation is possible.

E. Financing a Northern Corridor

The development of a project having the scale and scope of the proposed northern corridor would likely require various financing methods, and involve both public and private sources. A comprehensive study is required in order to identify the optimal financing methods for the infrastructure that would be located within such a corridor. The suitability of each financing method – for example, public or private funding, user-pay models and public-private partnerships – would depend on the types of infrastructure to be funded. Accordingly, a one-size-fits-all approach would probably not be appropriate.

While the committee disagrees with the view of some witnesses that private-sector investors would not be interested in contributing to the financing of a northern corridor, it is true that attracting private financing to fund the research and planning stages of such a corridor could be a challenge. For this reason, the federal government would likely have to finance these initial stages, at least in part.

F. Environmental Issues in Relation to a Northern Corridor

The potential impact of the proposed northern corridor on Canada's boreal forest could be significant, with effects on wildlife, water and air quality, and land. As a number of witnesses indicated, comprehensive environmental assessments that would identify the cumulative environmental effects of multiple projects developed in a particular area should be a priority. These assessments typically take years – if not decades – to complete. Therefore, the federal and provincial/territorial governments need to work together as soon as possible to coordinate their environmental assessment processes, thereby minimizing the amount of time required for such assessments. This collaboration could be achieved through joint federal-provincial/territorial assessments, coordinated timelines for assessments or inter-governmental delegation of responsibility for assessments. Federal leadership in streamlining the environmental assessment processes could be one important demonstration of federal support for – and encouragement of – the proposed northern corridor. The existence of a such a corridor, and of its pre-established right-of-way, would then facilitate the development of major infrastructure projects. Without such a corridor, it is unclear whether the types of major projects that were developed in the past – such as the transcontinental railway and the St. Lawrence Seaway – could be completed in a timely manner with the current environmental assessment processes.

Because the proposed northern corridor would cross over Indigenous peoples' lands, and would affect their way of life, consultation with Indigenous peoples is essential. However, their involvement must go farther: they should play a major role in the environmental assessment processes that occur in relation to any such corridor. In the committee's view, with potential support from the Canadian Environmental Assessment Agency, Indigenous peoples would be best placed to ensure that the possible impacts of development on their lands are identified, and that any negative effects are addressed in a way that meets their needs.

The Squamish First Nation conducted their own environmental assessment of the [Woodfibre LNG] project and had the proponent agree to legally binding conditions. ... This assessment also sets the precedent of connecting a First Nation's environmental interest with its economic interests by stipulating that the proponent would accommodate these interests as part of the conditions attached to the environmental certificate. – First Nations Major Projects Coalition

CHAPTER 3: THE COMMITTEE'S CONCLUSIONS AND RECOMMENDATIONS

It is widely acknowledged that Canada's development as a nation has largely been shaped by the major transportation infrastructure projects undertaken throughout the country's history. These projects have been particularly successful at enabling the development of the southern parts of the country. However, Canada's northern regions have remained largely undeveloped.

In addition to facilitating the development of Canada's southern regions, past major transportation infrastructure projects have contributed to the country's development as a trading nation. However, the committee realizes that Canada is facing a number of challenges that are affecting its ability to trade in foreign markets.

The suggestion by Mr. Sulzenko and Mr. Fellows about the need for further study on the feasibility of their northern corridor proposal should receive action. The federal government must take concrete actions regarding such a corridor. Indigenous peoples' participation in the development of the proposed northern corridor would be fundamental to its success. The work accomplished to date by the First Nations Major Projects Coalition and the First Nations Financial Management Board to facilitate First Nations' participation in major projects is truly impressive, and could be a key element of successful development of the proposed northern corridor.

Consequently, the committee recommends that:

The federal government provide up to \$5 million to the University of Calgary's School of Public Policy and the Center for Interuniversity Research and Analysis of Organizations for their research program on a corridor in Canada's North.

The federal government must ensure that representatives of Indigenous groups, including the the First Nations Major Projects Coalition and the First Nations Financial Management Board, are actively involved from the beginning in that research program.

The University of Calgary's School of Public Policy and the Center for Interuniversity Research and Analysis of Organizations should, within 18 months of receiving federal funding, present an interim report on its research to the Minister of Innovation, Science and Economic Development and to the Standing Senate Committee on Banking, Trade and Commerce.

Following the publication of the research program's final report, the federal government should establish a task force to conduct consultations across Canada with relevant communities to determine how the proposed northern corridor should be developed.

The committee is aware that, even if conditions are optimal and all requirements are completed in a timely manner, the development of an initiative that has the scale and scope of the proposed northern corridor could take decades. As a result, the development of the proposed

norther corridor will not be completed unless the federal government is willing to remain committed to it over a period that spans a number of electoral cycles.

In the committee's opinion, the development of an east-west corridor through Canada's North and near-North would unlock significant economic opportunities for our country. A national, large-scale project that would transform Canada's transportation infrastructure would enable the federal government to address a range of pressing issues with Canada's transportation systems, and to articulate a vision for the country's long-term development. The federal government must seize this opportunity.

As noted earlier, such a major undertaking – which would require the accommodation of a multitude of varying interests and priorities – would undoubtedly be difficult to complete, and a number of complex issues – including in relation Indigenous peoples, financing and the environment – would need to be addressed. However, the federal government should not be deterred from leading the development of a northern corridor.

In this spirit, the committee concludes with an excerpt from the 1971 Mid-Canada Development Conference report:

It is given to few peoples on earth today still to establish the character and identity of their nation. This is the opportunity of the present generation of Canadians. Mid-Canada offers the chance to chart a unique course of development and to achieve a true identity. What Canadians make of their opportunity will be judged by history and billions of people around the globe.

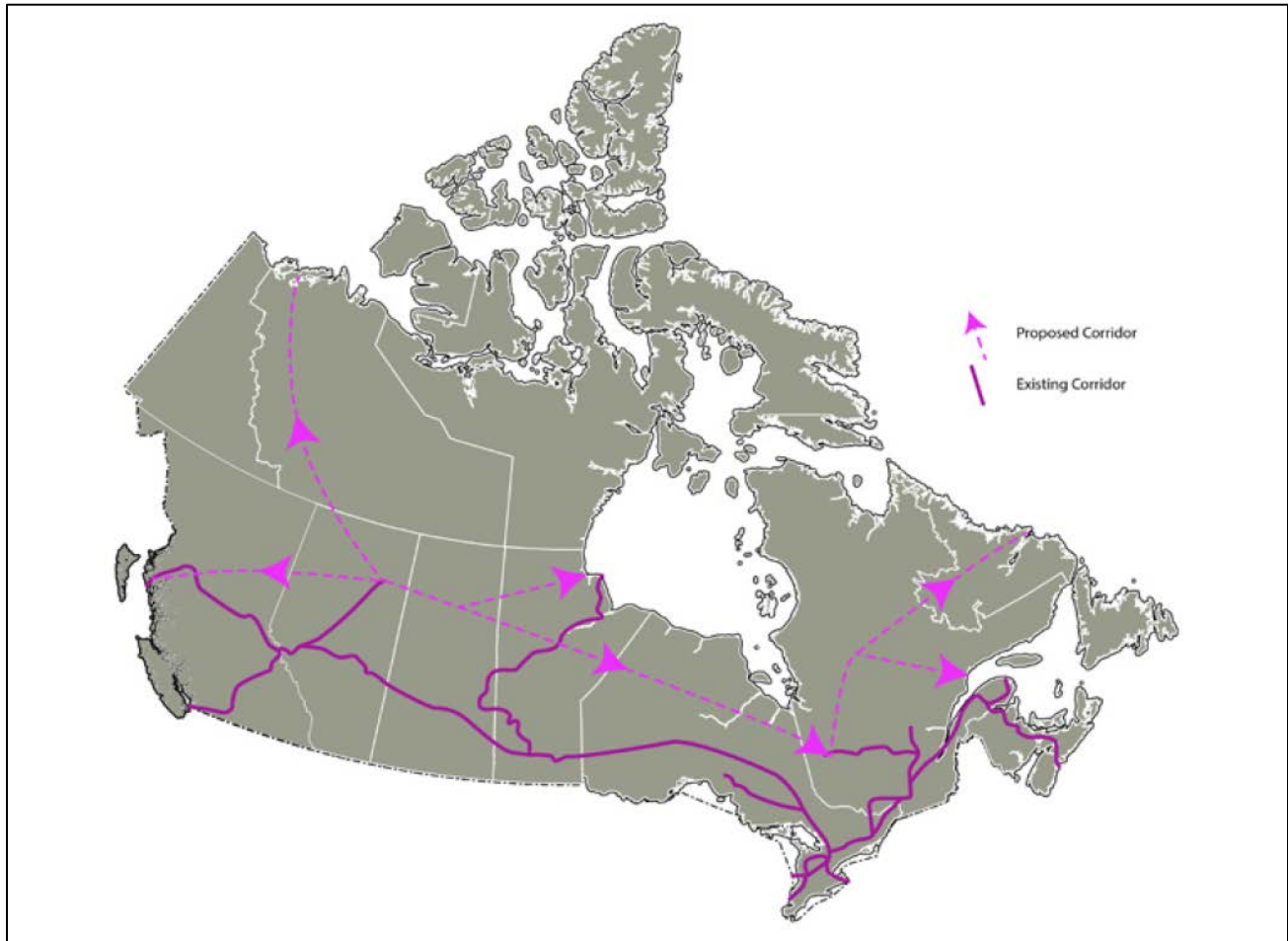
APPENDIX A – SUMMARY OF WITNESS TESTIMONY

A. Proposal for a Northern Corridor

1. The Proposal

In May 2016, the University of Calgary’s School of Public Policy published a paper by Andrei Sulzenko and G. Kent Fellows that proposed the development of a northern corridor that would establish a right-of-way for road, rail, pipeline, electrical transmission and communication networks through Canada’s North and near-North; the corridor would be 7,000 kilometres in length. These networks would co-locate and share costs, such as those associated with surveying and negotiating land use agreements. Figure 1 shows the location of the proposed corridor and the connections with existing networks in southern Canada.

Figure 1 – Proposed Northern Corridor



Source: Andrei Sulzenko and G. Kent Fellows, “[Planning for Infrastructure to Realize Canada’s Potential: The Corridor Concept](#),” School of Public Policy, University of Calgary, *SPP Research Papers*, Vol. 9, Issue 22, May 2016.

During his appearance before the Standing Senate Committee on Banking, Trade and Commerce (the committee), Mr. Sulzenko stated that the main advantage of the proposed

northern corridor over multiple separate projects would be the establishment of a long-term and integrated approach for the approval, construction and operation of major infrastructure. In his view, over the long term, a comprehensive approach is likely to be more successful than a series of incremental projects because it would allow the accommodation of diverse interests.

During his appearance before the committee, Mr. Fellows indicated that the first priority in relation to a northern corridor should be the construction of roads and railways because they would have an impact all along the corridor; pipelines, for example, are only beneficial at both ends of a corridor. According to him, the next priority should be electricity transmission lines, followed by pipelines and fibre optics.

Regarding the proposed northern corridor, Stantec suggested that a first step is securing a right-of-way for the route, the width of which could range from a couple of hundred metres to more than a kilometre. It noted that the right-of-way would not necessarily result in a road being constructed, but rather that the land in the right-of-way would be the preferred route for a pipeline, road or power line.

Jack Mintz, who appeared before the committee as an individual, advocated investments in productivity-enhancing infrastructure. In particular, he mentioned infrastructure that would facilitate the movement of people in urban centres, and of goods and services to foreign markets.

In speaking about the proposed northern corridor, Mr. Mintz highlighted the distinction that should be made between the proposed corridor and the infrastructure that would be built within the corridor. Similarly, the Honourable David Emerson, P.C., O.B.C. – who appeared before the committee as an individual – stated that there is a need to distinguish between a land-based corridor that could accommodate various transportation systems, and a trade corridor that connects Canada to the global marketplace. He said that the fundamental requirements for a trade corridor are transportation and logistics systems that are built around core components – such as railways and ports, technologies, and security and border measures – that enable Canadian companies to access the global marketplace easily.

2. Benefits of the Proposal

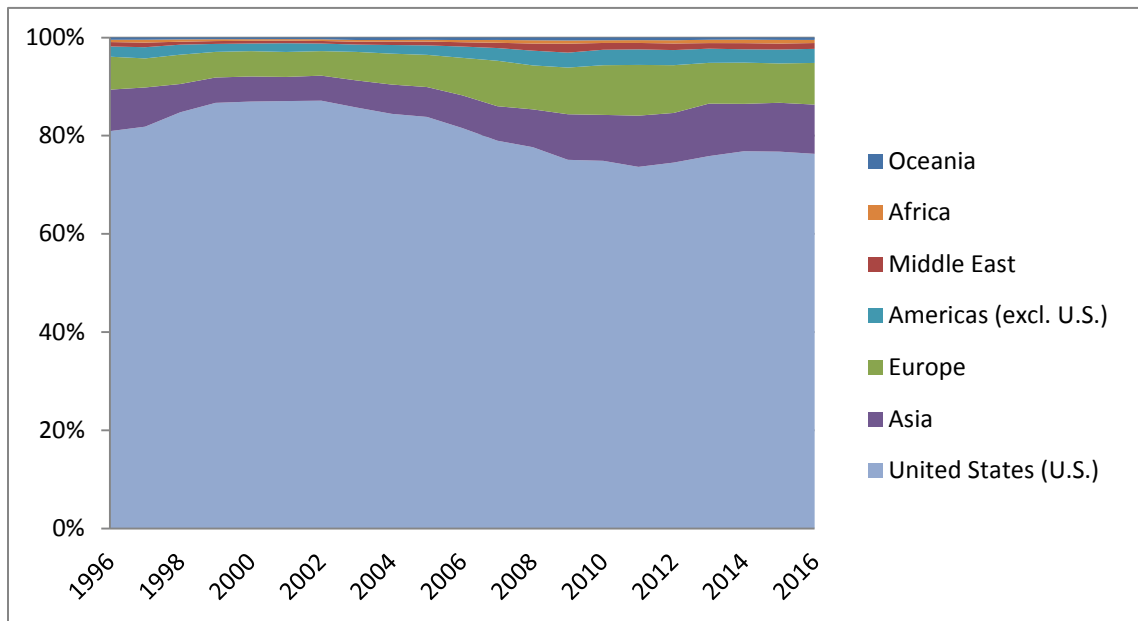
The committee's witnesses identified a number of benefits that would result from the development of the proposed northern corridor. Specifically, they said that such a corridor would facilitate Canada's efforts to diversify its markets, improve approval processes for infrastructure projects, enhance economic growth and job creation, provide benefits for Indigenous peoples and residents of Canada's North, decrease traffic on the country's southern transportation networks, reduce the environmental impacts associated with transportation infrastructure in northern regions, and support Canada's sovereignty in the Arctic.

a. Market Diversification

The paper by Mr. Sulzenko and Mr. Fellows stated that a lack of infrastructure leading to tidewater limits the extent to which Canada is able to export commodities – including energy,

agricultural and forestry products – to markets outside North America. Consequently, in its view, Canadian companies are largely limited to trading with the United States, which may not necessarily result in the highest prices for their products. The paper noted that, as a result, some stakeholders have requested a shift in focus from north-south transportation infrastructure to a focus that includes east-west infrastructure that would provide access to tidewater through Canadian ports.

Figure 2 – Destinations for Exports by Region, 1996–2016



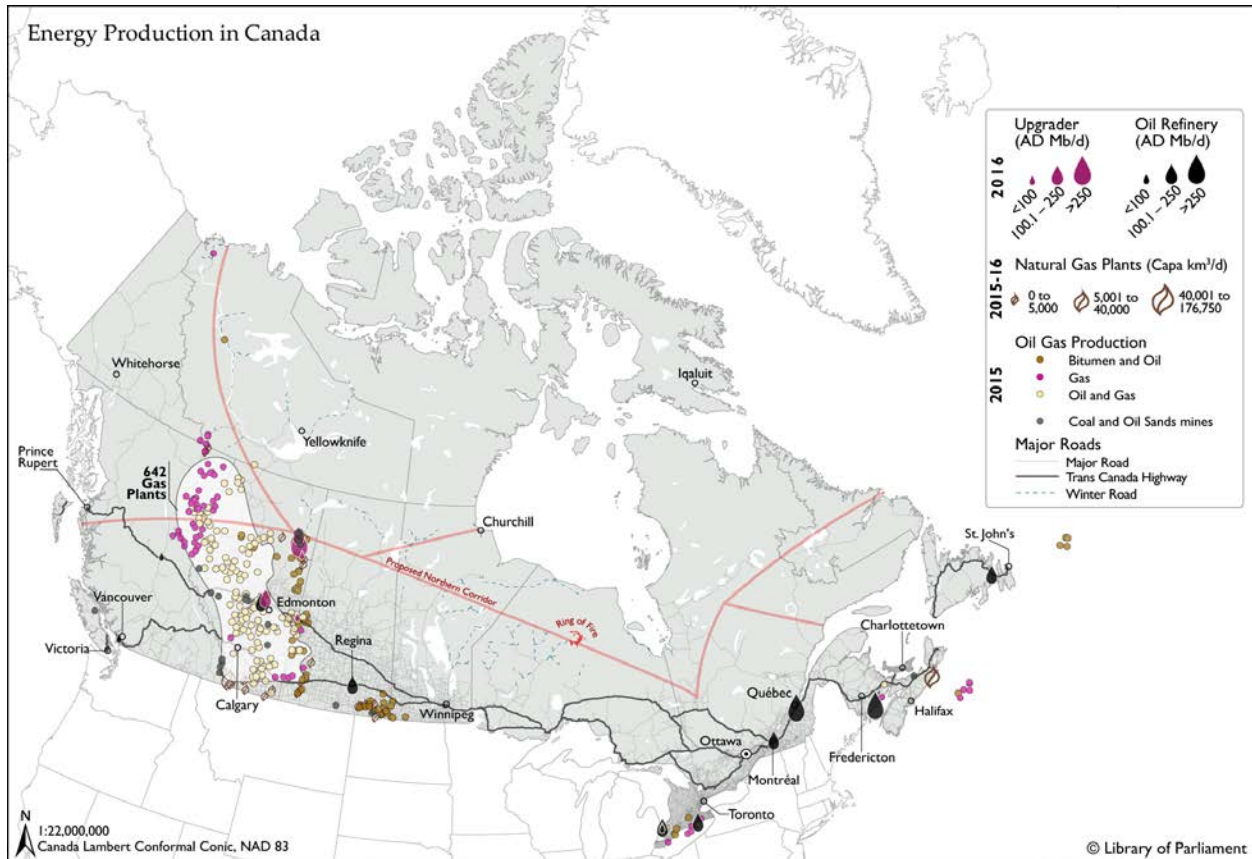
Source: Innovation, Science and Economic Development Canada, [Trade Data Online](#), accessed 19 April 2017.

As well, the paper suggested that Canada’s lack of east-west infrastructure is particularly problematic with respect to pipelines. According to it, approximately 90% of Canada’s oil exports are sourced from Alberta and Saskatchewan, and there are four major pipelines that export crude oil from these provinces; one pipeline moves oil to Canada’s west coast, and three terminate in U.S. locations, where prices for Canadian crude oil have been lower than those at coastal ports.

Natural Resources Canada explained that Canada’s pipeline infrastructure that moves crude oil out of Western Canada has been operating near its full capacity for some time, and that additional pipeline infrastructure is needed in order to avoid an increase in shipments of crude oil by rail; at present, 100,000 barrels of Canadian crude oil a day are shipped by rail. It highlighted that, in 2015, 99% of Canada’s crude oil exports and 100% of the country’s gas exports were destined for the United States; however, as the United States becomes more energy self-sufficient, Canada’s energy producers have to export to new markets and to ensure that they can obtain higher prices for their products.

Similarly, the Canadian Association of Petroleum Producers said that improved access to coastal ports through east-west pipelines in Canada would lead to a higher price for oil and gas exports. It also indicated that Asian countries are likely to increase their demand for natural gas, and that the development of Canadian coastal gas terminals would be critical for serving the markets in those countries.

Figure 3 – Oil and Gas Production in Canada



Source: Figure prepared by the Library of Parliament, Ottawa; Proposed Northern Corridor derived from: Andrei Sulzenko and G. Kent Fellows, "[Planning for Infrastructure to Realize Canada's Potential: The Corridor Concept](#)," School of Public Policy, University of Calgary, *SPP Research Papers*, Vol. 9, Issue 22, May 2016. A complete list of sources is provided in Appendix D.

Mr. Mintz stated that Canada could reduce its reliance on the United States as an export destination if it exported more through Canadian – rather than U.S. – ports, and that Canada's recent trade agreements with South Korea and the European Union demonstrate the need for better transportation infrastructure to serve these markets. According to him, access to additional export markets would improve Canada's power when bargaining with the United States. As well, he noted that Canada's economic interests have sometimes been hurt by politically motivated decisions, such as in relation to meat labelling or Buy American provisions in U.S. legislation. The Railway Association of Canada identified the need for export market diversification and greater strength when bargaining with the United States.

b. Improved Approval Processes

During his appearance before the committee, Mr. Sulzenko said that recent difficulties in gaining federal approval for certain infrastructure projects – including pipelines – have highlighted the challenge when attempting to balance economic, social and environmental objectives in the context of natural resource development. In his view, the proposed northern corridor could be a viable solution to that challenge.

In noting the World Bank's *Doing Business* report for 2016, Mr. Mintz observed that Canada is among the countries with the slowest processes for obtaining permits for the construction of commercial and industrial facilities. He stated that many businesses find it easier to obtain approvals for transmission lines and railways in Australia than in Canada, due partly to the corridors that have been established in the former. According to him, a key benefit of a northern corridor in Canada would be a reduction in the costs and delays associated with obtaining regulatory approvals for infrastructure projects; these approvals can lower a project's return on investment by an amount that is equivalent to taxes on investment. The Railway Association of Canada agreed that regulatory costs are affecting Canada's economic development, and pointed out that deregulation has benefited the country's rail sector.

Stantec suggested that the approval process for companies that would sponsor infrastructure projects within the proposed northern corridor's right-of-way should be completed in a more timely manner than current approval processes for such projects because the consultation requirements and environmental assessments should have already been completed as part of the establishment of the right-of-way.

c. Enhanced Economic Growth and Job Creation

Mr. Sulzenko said that the multi-billion dollar investment that would be required for construction of infrastructure within the proposed northern corridor, as well as the improved access to foreign markets that would result, would support economic growth and job creation. He also mentioned that such a corridor would provide access to new mining sites, forest reserves and agricultural lands.

The Canadian Cattlemen's Association explained that beef cattle operations are typically located on land that can be characterized as marginal. It noted that, with advances in farm equipment and biotechnology that allow crops to be grown on what was previously marginal land, beef farmers are beginning to consider more northerly locations for their operations. It said that infrastructure development in Canada's North could be beneficial for agricultural production, including beef.

d. Benefits for Indigenous Peoples

Mr. Sulzenko stated that the proposed northern corridor would provide Indigenous peoples with employment options, opportunities to diversify their economies, and benefits resulting from corridor-related investments.

Stantec identified several social and economic benefits of the proposed northern corridor for First Nations, including the development of First Nations businesses, high levels of employment, and better access to First Nations communities in order to improve water, waste water and housing conditions. It mentioned that many First Nations currently have poor access to markets and investors, and thus few economic opportunities.

With a specific focus on pipelines, the Canadian Energy Pipeline Association said that, in addition to remuneration for the right-of-way on Indigenous lands, Indigenous peoples could be employed in constructing pipelines, and could benefit from agreements for the supply of services to – and ongoing maintenance of – any pipelines. Similarly, the Canadian Association of Petroleum Producers said that natural gas pipeline and liquefied natural gas infrastructure projects located along a northern corridor would provide First Nations with better environmental stewardship, as well as improved economic benefits, education and training opportunities.

e. Benefits for Residents of Northern Regions

According to Mr. Sulzenko, the proposed northern corridor would provide those who reside in Canada's North with a better quality of life and enhanced economic opportunities, including through the development of tourism, a lower cost of living, access to reliable and cleaner electricity, greater connectivity and improved social services. Mr. Mintz stated that a northern corridor would support the development of transportation and communication networks, which he described as the best way in which to help regions with slow economic growth, such as Canada's North.

Transport Canada said that Canada's northern regions have limited connections to North America's trade corridors, which affects these regions' opportunities for economic and tax revenue. It commented that, like the transcontinental railway, the Trans-Canada Highway and the St. Lawrence Seaway, large-scale projects could strengthen linkages to Canada's North, as well as have a positive impact on national prosperity and the quality of life for all Canadians.

Regarding the ways in which improved telecommunications can benefit inhabitants of Canada's northern regions, Innovation, Science and Economic Development Canada provided the example of Internet applications, such as Google Docs, that allow students to access their homework remotely. It also mentioned a company that needs to deliver its video-based services on-line at a high speed and a high volume; that company does not have access to broadband Internet.

f. Decreased Traffic on Southern Transportation Networks

Mr. Sulzenko explained that, by diverting freight traffic from urban centres to an alternative route, a northern corridor would allow existing freight traffic rights-of-way to be repurposed, such as for public transit; such repurposing could help to address congestion issues and enhance the quality of life of urban residents. Mr. Mintz concurred, and commented that freight traffic in Toronto adds congestion to the city's railways and makes it more difficult for Metrolinx to develop passenger rail services. However, the Railway Association of Canada pointed out that a

northern corridor would not divert all rail traffic involving hazardous commodities away from urban centres because these centres are often the final destination for these commodities.

The Canadian International Freight Forwarders Association said that the development of pipelines in a northern corridor would make rail capacity on Canada's southern transportation networks available to move grain and would accommodate fluctuations in the movement of containerized cargo.

According to Mr. Fellows, a northern corridor would not only reduce congestion on Canada's southern transportation networks, but also help to overcome the physical limitations of these networks. For example, he explained that oversized shipments destined for Canada are often sourced from the United States using north-south links; east-west transportation of such shipments is very difficult in Canada because of the physical limitations of the country's southern transportation networks.

g. Reduced Environmental Impacts

Mr. Sulzenko indicated that a northern corridor would reduce the environmental impacts of transportation infrastructure in Canada's northern regions because various types of infrastructure would be combined within a narrow corridor. Moreover, he mentioned that a corridor would enable more efficient monitoring of environmental risks associated with transportation infrastructure.

Natural Resource Canada and the First Nations Major Project Coalition agreed that combining transportation infrastructure projects within one corridor would minimize the environmental impacts of these projects. The First Nations Major Project Coalition also said that combining projects would make it easier for First Nations to manage the protection of their territories. The Canadian Association of Petroleum Producers stated that more efficient transportation of goods in Canada would reduce greenhouse gas emissions.

h. Support for Arctic Sovereignty

Mr. Sulzenko suggested that the development of a northern corridor would support Canada's sovereignty objectives in the Arctic.

3. Next Steps

In order to determine whether a northern corridor could be justified as a potential investment, Mr. Fellows proposed a three-year research program that would be led by academics; the goal would be to produce peer-reviewed studies on various policy dimensions of the proposed corridor. In his view, this research program would also include outreach activities, such as round table discussions, that would enable a diverse set of views to be identified and expert advice to be gathered. He said that this research program would be directed by the University of Calgary's School of Public Policy and the Montreal-based CIRANO, and would draw on the expertise of academics and other experts from across Canada.

Mr. Fellows explained that the first phase of the research program would consist of three core pillars:

- construction-related issues, such as the routing of a northern corridor, the costs of various transportation modes and engineering challenges;
- financing-related issues, including a cost-benefit analysis of the proposed investment and a study of financing options for each transportation mode; and
- land ownership issues, such as the establishment of ownership and prior informed consent along the corridor, and a governance structure that would include collaborative decision-making among governments, Indigenous communities and the private sector.

As well, he mentioned that later phases would focus on socio-economic and environmental issues associated with a northern corridor.

Regarding the costs of pursuing the proposed research program's first phase, Mr. Fellows stated that the University of Calgary's School of Public Policy hopes to secure \$800,000 from various sources, including governments, private-sector entities and non-governmental organizations. Furthermore, he commented that support from the public, private and not-for-profit sectors would ensure that the research is recognized as impartial and non-partisan.

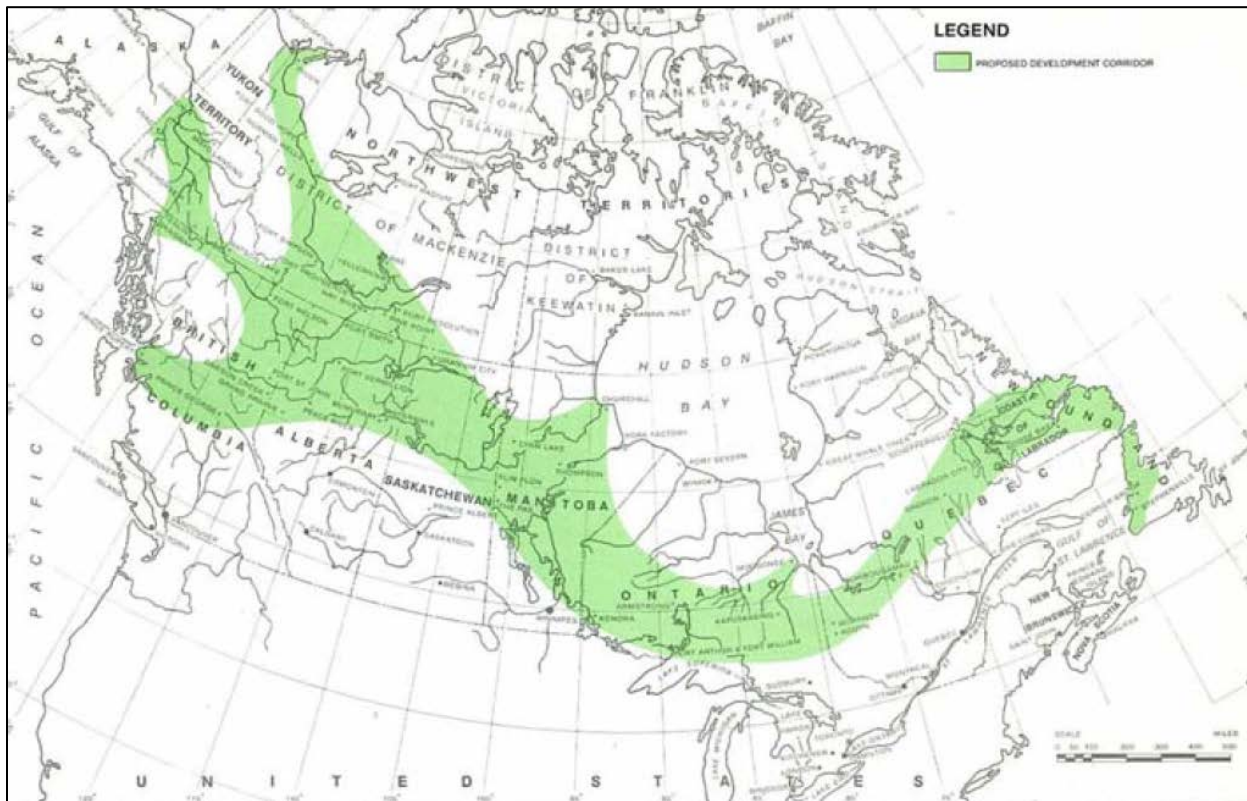
Stantec stated that additional academic study of a northern corridor is not needed, and urged the federal government to conduct a proper feasibility study, which would include planning, engineering and environmental assessments. It said that, because the federal government would benefit financially from the economic activity generated by the proposed northern corridor, the government should fund the feasibility study and the first stages of the corridor's development. According to Stantec, the first stages would involve determining the best route, securing the right-of-way and undertaking consultations; all additional stages in the corridor's development, as well as their proper sequencing, would then need to be identified.

Regarding the role of First Nations in future research on a northern corridor, the First Nations Financial Management Board said that First Nations should be involved at the beginning of that research.

B. Proposal for a Mid-Canada Corridor

In 1967, Richard Rohmer and Acres Research and Planning published a paper that proposed the development of a mid-Canada corridor. The paper defined this corridor as "that part of mainland Canada which is north of the contiguous belt of urban and rural settlement, and south of a generalized line which forms the northern limit of the tree zone." The proposed mid-Canada corridor is shown in Figure 2.

Figure 4 – Proposed Mid-Canada Corridor



Source: Richard Rohmer and Acres Research and Planning, [Mid-Canada Development Corridor ... a concept](#), 1967.

The paper suggested that this corridor contained what it characterized as a treasure house of natural resources, and that exploitation of these resources would make a significant contribution to future economic and population growth. According to the paper, the development of a corridor of this type would require the implementation of a national planning policy that would include the following elements:

- the development of east-west networks of railways and highways across the corridor;
- better communications infrastructure;
- the development of ports on the Pacific, Arctic and Atlantic Oceans; and
- the identification, by the federal and provincial governments, of areas and towns that would become centres of population growth.

Over the 1969–1970 period, a Mid-Canada Development Conference was organized to study a range of issues and policies relating to the development of a mid-Canada corridor. In its 1971 report, the Conference “strongly recommend[ed] that the federal, provincial and territorial governments make it an urgent priority to create and co-ordinate policies and plans for the future orderly development of Mid-Canada.”

During his appearance before the committee, the Honorary Lieutenant-General Richard Rohmer – who appeared as an individual – stated that the findings of the Mid-Canada Development Conference continue to be valid.

C. Recent Corridor Initiatives

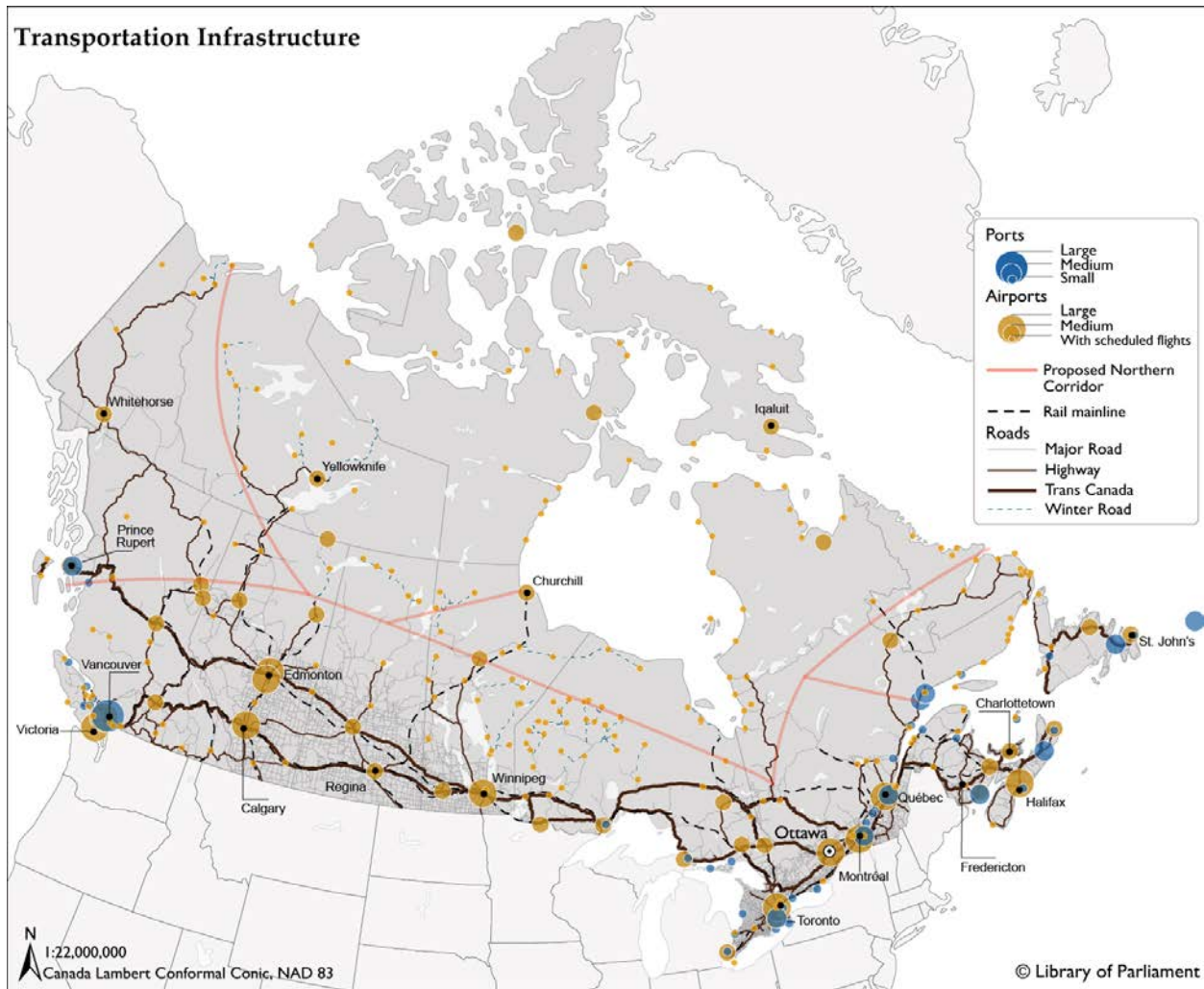
During its appearance before the committee, Transport Canada described recent trade-based transportation projects that have been undertaken in Canada. It highlighted that, like the proponents of the proposed northern corridor, it has taken a multimodal approach when examining these types of projects and transportation systems.

In particular, Transport Canada said that the 2007 National Policy Framework for Strategic Gateways and Trade Corridors used a multimodal approach in the development of: the Asia–Pacific Gateway, which links the ports of Vancouver and Prince Rupert with inland supply chains; the Atlantic Gateway and Trade Corridor, which links Atlantic Canada with Europe and other North American markets; and the Ontario–Quebec Continental Gateway and Trade Corridor, which includes the St. Lawrence River–Great Lakes system of ports. Furthermore, it noted that the costs of these corridor initiatives were shared between the public and private sectors.

According to Mr. Emerson, the Asia-Pacific Gateway and Corridor Initiative was a success because funding for the elements that were essential to the corridor's overall efficiency were prioritized, including those pertaining to technology and other intangible elements. He explained that trade and transportation corridors are not limited to the physical infrastructure they contain; rather, they are also composed of a range of other tangible and intangible elements, including intellectual and human capital, technology, and management, security and operating systems. He noted that a trade corridor can meet its full potential only if it is a part of a federal framework governing trade, transportation and logistics.

The Association of Canadian Port Authorities expressed support for the gateway and corridor initiatives identified by Transport Canada, stating that the three corridors have allowed Canada's major ports to serve as key gateways in connecting trade corridors to global markets.

Figure 5 – Transportation Infrastructure in Canada



Source: Figure prepared by the Library of Parliament, Ottawa; Proposed Northern Corridor derived from: Andrei Sulzenko and G. Kent Fellows, “[Planning for Infrastructure to Realize Canada’s Potential: The Corridor Concept](#),” School of Public Policy, University of Calgary, *SPP Research Papers*, Vol. 9, Issue 22, May 2016. A complete list of sources is provided in Appendix D.

The Canadian Federation of Agriculture agreed that the three corridors discussed by Transport Canada are important in ensuring access to global markets, but said that transportation corridors and systems do not always operate as intended; it highlighted the railway system’s failure in 2013 to move Western Canada’s large grain crop to port in a timely manner. It noted that, while Canadian ports are expanding their facilities, the railway system remains the bottleneck when moving grain to port.

The Canadian International Freight Forwarders Association described Canada’s approach to the intermodal movement of goods as involving silos, and highlighted the lack of an overall strategy to coordinate the actions of all parties involved in intermodal transportation. For example, it said that a number of municipalities have created strategies for the movement of goods in their regions, but have done so in an individual and uncoordinated manner.

D. Considerations regarding the Development of a National Corridor

The committee's witnesses identified a range of considerations relating to the development of a national corridor in Canada. Specifically, they spoke about the need for additional capacity on existing corridors, the need for a national corridor and – assuming that a national corridor is required – the federal role, Indigenous participation, financing, environmental issues and routing. They also mentioned a number of infrastructure-specific considerations.

1. Need for Additional Capacity on Existing Corridors

Regarding the transportation of containerized cargo, the Canadian International Freight Forwarders Association questioned the need for a northern corridor in Canada and noted that, instead, capacity could be added to existing railways and ports in order to meet future transportation needs. Similarly, the Canadian Federation of Agriculture stated that, before committing to a northern corridor, the federal government should examine ways in which to improve existing east-west and north-south trade corridors, as well as to double the capacity of existing railways and to add branch lines, as required. The Railway Association of Canada explained that most of Canada's rail corridors contain only a single track and could accommodate one or two additional tracks.

Transport Canada stated that it is focused on the immediate transportation needs of Canada's North, such as improving the safety and efficiency of basic transportation, particularly air connectivity between communities. It mentioned that Canada's territorial governments have not asked the federal government to prioritize a northern corridor over other infrastructure projects, and that transportation infrastructure in the North is not resilient due to climate change-related challenges. It commented that, during recent consultations on a long-term agenda for transportation in Canada, stakeholders encouraged the federal government to focus on investments that would increase the capacity and reliability of the transportation corridors that facilitate the majority of Canada's international trade. As well, it noted that the concept of northern corridors was studied – to some extent – when the National Policy Framework for Strategic Gateways and Trade Corridors was established in 2007, but that the viability of such corridors was compromised by an insufficient volume and value of goods to be traded.

The Canadian Chamber of Commerce indicated that it is difficult for the federal government to demonstrate to cities the manner in which national projects that have economic benefits are aligned with their needs and interests. For example, it mentioned that municipalities in southern British Columbia do not want to have more rail lines going through their communities, but exporters from Western Canada depend on rail systems to move their goods to ports. It commented that, because there could be a significant increase in the goods transported within Canada's corridors and to the country's ports within the next 15 to 30 years, the capacity of these corridors and ports should be expanded.

As well, the Canadian Chamber of Commerce characterized the idea of a northern corridor as intriguing, but said that its preference is the establishment – by the federal government – of a network of transportation and utility corridors to enable better integration of all urban centres in Canada. While acknowledging that a network approach would be less ambitious than

establishing a northern corridor, it said that the former approach would enable capacity to be added to existing corridors where it is needed the most, would not require consensus from all provinces/territories about infrastructure projects, and would likely be more successful because the federal government could work with the provinces/territories that have the most interest in participating in particular projects.

In the view of Mr. Emerson, trade corridors should continue to be developed over the next few generations, with the main focus being trade corridors for the high-volume, high-speed movement of freight; these corridors should connect Canada's east and west coasts across the bottom half of the country, as well as Canada and Mexico through the United States. He said that efficient secondary corridors that provide access to smaller communities also need to be established for their development and growth; he mentioned short-line railways, as well as trucking and roadway connections.

The Association of Canadian Port Authorities stated that the Great Lakes–St. Lawrence Seaway corridor is underutilized, and – with a view to improving trade – called for a federal-provincial review of the costs of shipping in this corridor.

The Canadian Environmental Assessment Agency was worried about the lack of clarity regarding the proposed northern corridor, and suggested that more work needs to be done to refine the proposal, and to ensure that all parties and their concerns are identified and addressed.

In its written submission to the committee, the Canadian Trucking Alliance said that additional study of the economic benefits of the proposed northern corridor is needed. According to it, other transportation infrastructure needs should be prioritized, including Canada–United States border crossings and truck rest areas.

2. Need for a Northern Corridor

Natural Resources Canada said that there is merit in undertaking further study of the advantages and disadvantages of a national corridor. It noted, however, that corridor projects tend to take more time to be implemented and do not necessarily meet the short-term needs of the market; as well, communities often feel that consultation about such projects is inadequate, and that the entity that will bear the costs of planning, as well as environmental and regulatory assessments, is not always clear. It pointed out that corridors were approved in the 1970s for the Alaska Highway pipeline, but that the infrastructure for that pipeline has not yet been built. It concluded that a national corridor could be useful for long-term energy requirements, but would not solve short-term energy infrastructure needs.

The Canadian Federation of Agriculture and the Canadian Cattlemen's Association supported the development of infrastructure that would support the possible expansion of agricultural production into northern Canada as climate change makes this production possible. With respect to the possible expansion of this production, the Canadian Cattlemen's Association suggested that Canada is one of a limited number of countries that could be what it described

as an agricultural superpower if the appropriate policies, infrastructure and competitive environment were in place.

The Freight Management Association of Canada said that it is reasonably optimistic that, like the Canadian Pacific Railway, the proposed northern corridor could provide access to new regions and lead to development. It suggested that the proposed corridor's viability would depend on the level of commercial activity that would be served by such a corridor. While it acknowledged that Canada's forest and mining sectors would likely be the primary users of such a corridor, it noted that the exporters and importers that typically use Canada's southern trade corridors might also use a northern corridor; it indicated that a similar situation occurred with the opening of the Port of Prince Rupert.

3. Federal Role

Witnesses commented on the role that the federal government should play in developing a national corridor in Canada; as well, they spoke about trade corridors and transportation systems more generally.

a. The Federal Role in the Development of a National Corridor

Mr. Sulzenko emphasized that a northern corridor would be pan-Canadian, and would fall within the federal jurisdiction over trade and commerce, and suggested that it is unlikely that a northern corridor would be implemented without significant federal involvement. Mr. Mintz pointed out that the federal government has constitutional responsibility for transportation policy.

The Canadian Chamber of Commerce noted that the provinces resist federal involvement in infrastructure issues and internal trade, and that – to date – the federal government has been unwilling to use its constitutional power over trade and commerce to advance initiatives of national economic interest.

In relation to a northern corridor, Mr. Fellows stressed the importance of establishing a governance structure that would accommodate the diverse interests of Canada's regions and of the relevant parties. Like Mr. Sulzenko and Mr. Mintz, he agreed that the federal government should take a leadership role in developing both that structure and a consensus among stakeholders regarding such a corridor. Similarly, according to Jon Van Nostrand, of SvN Architects + Planners, the federal government should be taking a leadership role, and planning for such a corridor should be done in a comprehensive manner.

In the view of Mr. Sulzenko, the federal government should take a leadership role and work with the provincial/territorial governments and other stakeholders on a legislative framework that would enable the development of a northern corridor. He envisioned federal umbrella legislation with compatible provincial/territorial legislation. He stressed that, because of the significance of a northern corridor, such legislation should incorporate a fluid decision-making process. Mr. Fellows noted that clear legislation would help to reduce the uncertainty regarding the planning of such a corridor. Mr. Sulzenko stated that any legislation enabling a northern corridor should be designed in a manner that would prevent the formation of internal trade barriers.

Mr. Mintz emphasized that an important aspect of federal leadership would be the articulation of a vision for a northern corridor and an assurance that potential issues associated with establishing of such a corridor, including those related to First Nations and the environment, would be addressed.

Regarding the federal entities that would need to be involved in the establishment of a northern corridor in Canada, Mr. Mintz identified Transport Canada, the Department of Finance, Global Affairs Canada, Indigenous and Northern Affairs Canada, and Innovation, Science and Economic Development Canada. The Canadian Environment Assessment Agency suggested that Infrastructure Canada, the National Energy Board or Natural Resources Canada could play a lead role in studying and developing a northern corridor. Infrastructure Canada emphasized that, to date, all of the projects in which it has been involved were proposed by its partners: the provinces/territories and municipalities. It said that its programs are designed with a focus on the priorities of these partners.

In speaking about potential stages in the development of a national corridor, the Honourable Bob Rae, P.C., O.C., Q.C. – who appeared as an individual – identified two prerequisites: involvement of First Nations because of the significant changes in their legal and constitutional situation over the last 50 years as a result of court decisions; and support from the provinces and the private sector. He mentioned that a partnership among the federal and provincial governments, First Nations and the private sector would then need to be established.

Drawing on its experience with infrastructure and pipeline development, Natural Resources Canada identified two benefits that would be associated with a national corridor: direct federal engagement and leadership, which would involve bringing stakeholders together and identifying locations where infrastructure is needed; and improved engagement with the public and Indigenous groups regarding infrastructure development.

Mr. Rohmer stated the federal government should follow the recommendations in the Mid-Canada Development Corridor Conference's final report and establish a body that would be responsible for creating a plan for the future orderly development of a mid-Canada corridor. He explained that the development of such a plan would require collaboration with the provinces and Indigenous peoples. In his view, Canada's Prime Minister would have to support such a corridor in order for it to be developed.

In describing Australia's experience with the Pilbara–Perth resource corridor, Ian Satchwell – who appeared as an individual – said that the governments contributed to the corridor's development through consulting and negotiating with, as well as obtaining clearances from, land owners along the corridor's entire length. He noted that, although it took several years to obtain the clearances, the land for the corridor has now been set aside. He suggested that, when developing a corridor, a government has to initiate the development by defining the known uses and scenarios for future uses. As well, he commented that an options-based approach should be employed when planning a corridor and making infrastructure decisions, especially when a corridor's future uses are uncertain.

As well, Mr. Satchwell expressed a caution about allowing the private sector to build its own infrastructure without government oversight. He indicated that, during the 1960–2000 period, mining companies were allowed to build their own rail systems, roads, electricity systems and towns, but that they restricted access to the rail systems. He also mentioned that the Pilbara Planning and Infrastructure Framework, which was introduced in 2012, has focused on developing multi-user ports and railway facilities, and on integrating the electricity grid and water supply. As well, he stated that early planning and coordination between the private and public sectors is essential in order to avoid duplication and minimize costs. He added that the government should have put more emphasis on housing, community facilities and infrastructure for small businesses.

b. The Federal Role in the Development of Trade Corridors and Infrastructure Planning

Mr. Emerson stated that the federal government should acknowledge that trade corridors are of national economic importance, and advocated mechanisms for the government to be able to take control of land near trade corridors or to protect trade corridors – particularly against new developments in urban areas – so as to avoid delays with the importation and exportation of products.

As well, Mr. Emerson noted that federal decisions about trade, transportation and logistics should involve a whole-of-government approach. In his view, strategic transportation logistics projects could include infrastructure, research, labour, technology and innovation, borders and security, and environmental assessments, and should be prioritized based on Canada’s trade policy and the evolution of the country’s trade.

According to Mr. Emerson, the federal government should take a lead role in dealing with any interprovincial and international issues in relation to trade corridors. Regarding jurisdictional issues, he noted that such mechanisms as cost sharing can be used to ensure that provinces/territories and municipalities can contribute financially to the development trade corridors.

Transport Canada said that coordination and cooperation among the various levels of government is an important contributor to the success of trade corridors. It noted that southern solutions to northern problems are generally not effective due to the North’s unique environment, and social and economic complexities; in addition, northern solutions to address northern priorities require strong engagement with Canada’s territorial governments, northern communities and Indigenous peoples.

Transport Canada suggested that more information should be gathered to help identify inefficiencies associated with existing trade corridors, future trade-related transportation needs, and strategic investments that are required the most or that would have the most impact when developing transportation infrastructure for foreign markets.

In the view of the Canadian International Freight Forwarders Association, the federal government should be a leader in developing new corridors that support the intermodal and

containerized movement of goods, and that increase capacity in existing corridors. The Railway Association of Canada highlighted the need to protect existing – but currently unused – rail corridors, such as that between southern Saskatchewan and Churchill, as well as those used by short-line operators.

The Canadian Chamber of Commerce suggested that the federal government should lead a public/private effort to undertake more strategic long-term national infrastructure planning because – at present – neither the federal government nor the provincial/territorial governments is conducting long-term needs assessments. It noted that, through this type of planning, the federal government could identify the requirement for additional trade corridors, and the need to reserve parcels of land for future corridors.

The Canadian Federation of Agriculture said that the federal government could help to bring together and coordinate the parties that are interested in the long-term planning of Canada's transportation system because it will likely involve a number of partnerships between the government and other stakeholders.

The Canadian Cattlemen's Association suggested that, as occurred with the transcontinental railway, the federal government could consider providing farmers with Crown land along the route of the proposed northern corridor.

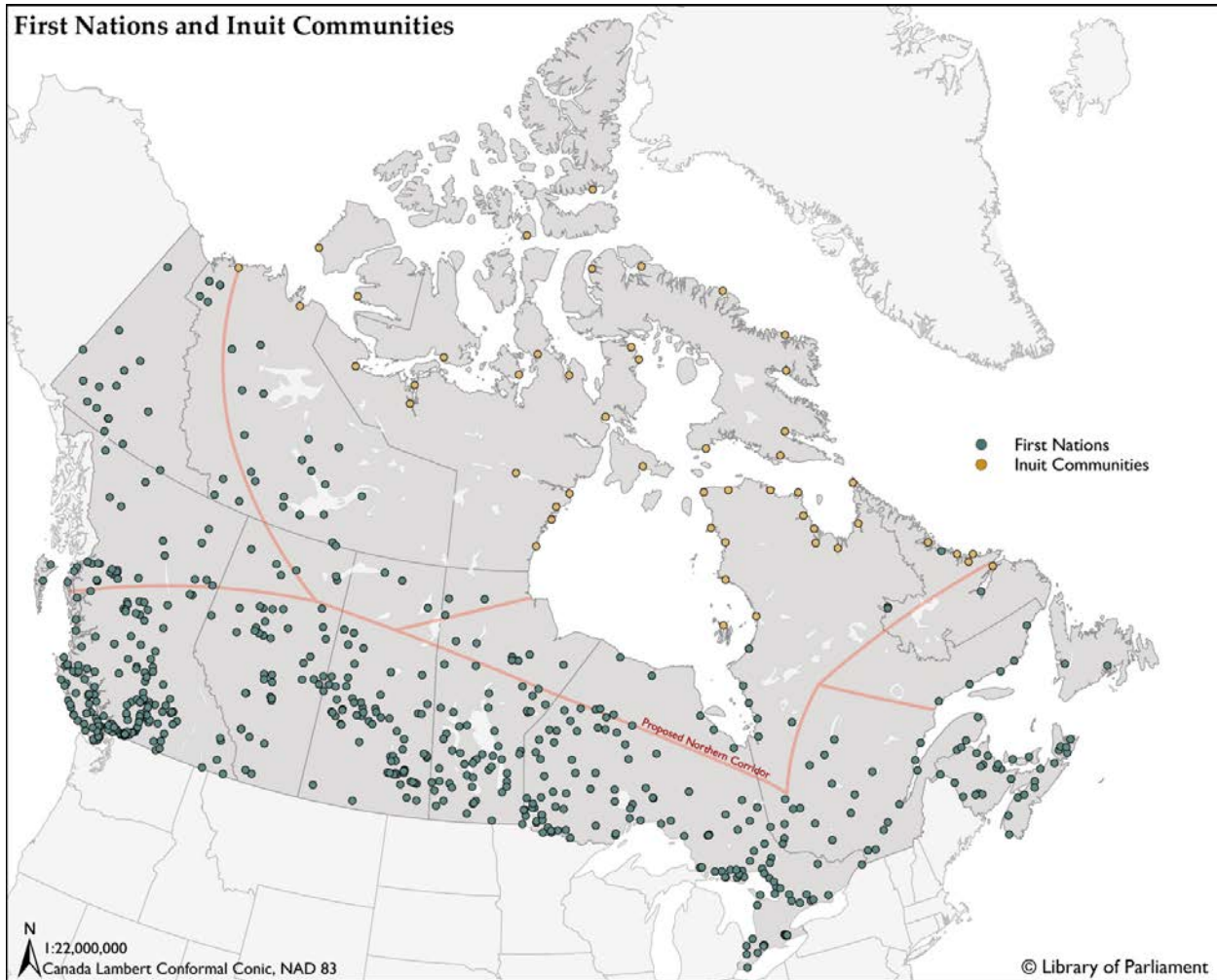
4. Indigenous Peoples

A number of the committee's witnesses stressed the importance of ensuring that Canada's Indigenous peoples are fully included in the development of a national corridor or other infrastructure projects that occur on their traditional territories. They identified existing and potential approaches to ensuring that Indigenous peoples are involved in – and benefit from – major projects, challenges that may arise when engaging with Indigenous communities in the context of proposed major projects, and possible solutions to these challenges. Lastly, they commented on Indigenous peoples' financial participation in major projects.

a. Involvement in Major Projects

Indigenous and Northern Affairs Canada highlighted the federal commitment to establishing new nation-to-nation and fiscal relationships with Canada's Indigenous peoples. It stated that the federal and provincial governments will need to involve Indigenous peoples in all aspects and stages of major infrastructure projects, and to consider their interests and priorities. It further explained that such efforts should provide Indigenous peoples with a wide range of benefits; in the context of a national corridor, these benefits could include access to infrastructure, financial participation, employment and business opportunities, and a role in the management of the corridor.

Figure 6 – First Nations and Inuit Communities in Canada



Source: Figure prepared by the Library of Parliament, Ottawa; Proposed Northern Corridor derived from: Andrei Sulzenko and G. Kent Fellows, "[Planning for Infrastructure to Realize Canada's Potential: The Corridor Concept](#)," School of Public Policy, University of Calgary, *SPP Research Papers*, Vol. 9, Issue 22, May 2016. A complete list of sources is provided in Appendix D.

Mr. Rae mentioned that much of the resource development that has occurred in Canada over the last 150 years has not benefited Indigenous peoples. He added that there is now an opportunity, and potentially a legal obligation, to ensure that future development includes the full participation of Indigenous peoples. Regarding the extent to which control of the development of a national corridor could be conferred on First Nations, Mr. Rae said that giving this control would demonstrate great federal leadership, but would be challenging; he noted that the provinces would need to support such an approach.

With respect to the policy framework for the development of major projects, the Honourable Gerry St. Germain, P.C. – who appeared as an individual – said that the current framework results in uncertain outcomes and, consequently, does not adequately serve the interests of First Nations or the rest of Canada. In his view, as well as that of the First Nations Financial Management Board, the current mandate of central agencies does not allow meaningful

consideration of First Nations interests in major project development. The First Nations Financial Management Board stated that the federal government should adopt a framework that would enable these agencies to engage with First Nations in a manner that would fulfil the Crown's duty to consult and accommodate, where appropriate; this duty has been affirmed in Supreme Court of Canada decisions.

According to Mr. St. Germain, existing federal legislation – such as the *First Nations Fiscal Management Act* – could be used to include consideration of First Nations interests in a new policy framework for the development of major projects. He believed that directions for such a framework should come from First Nations, with the First Nations Major Projects Coalition perhaps providing input.

Mr. Rae advocated the establishment of an agenda, as well as the creation of conditions, for self-government for First Nations; in his view, these should occur in ways that would enable First Nations to control their own development. He mentioned that studies have shown that self-governed British Columbia First Nations have better outcomes.

Mr. Rohmer expressed the view that, since the 1970s, the relationships between Indigenous peoples and the federal and provincial governments have progressed; as result, developing the mid-Canada corridor should be easier today than at that time.

Rick Laliberté, who appeared as an individual, suggested that the development of a northern corridor could provide an opportunity to redesign Canada's relationship with its Indigenous peoples, and proposed the creation of a third chamber of Parliament – an Aboriginal chamber – in which negotiations about ecological, economic and social issues, among others, could take place. Regarding the extent to which – and the manner in which – Indigenous peoples could collectively propose a vision for a national corridor, he said that this goal might be achieved if Canada's Prime Minister were to call on all Indigenous leaders to propose such a vision.

b. Engagement

Indigenous and Northern Affairs Canada highlighted the Crown's fiduciary duty to Canada's Indigenous peoples, which includes an obligation to consult meaningfully and to accommodate, where appropriate. It stated that engagement with Indigenous peoples in the context of a national corridor would raise issues similar to those of any other major project, but that the scope, scale and complexity of this engagement would be significant because of the large number of Indigenous communities that would be involved.

Furthermore, Indigenous and Northern Affairs Canada indicated that the development of a national corridor would need to consider the various Indigenous legal regimes that apply in different parts of Canada. As an example, it explained that, in most of Canada's North, a national corridor would be subject to modern treaties that contain legally binding land use provisions; however, the situation would be different for lands on reserves.

Indigenous and Northern Affairs Canada also mentioned the importance of engaging with Indigenous peoples early regarding the development of a national corridor; in that way, their

interests could be identified and the proposal could be adjusted accordingly. As well, it said that Indigenous communities have varying interests, and noted that some may prioritize economic benefits and others the protection of their environment and/or culture.

Regarding engagement with First Nations in major projects, the First Nations Major Projects Coalition stressed the importance of ensuring that First Nations communities have sufficient resources to identify opportunities and risks both when assessing the implications of major projects and when negotiating with those developing these projects. It explained that, when a major project is proposed, a First Nations community may be asked to review thousands of pages of documentation in a limited amount of time; in such circumstances, the community may be unable to make an informed decision, and may not support the project. It added that this difficulty is exacerbated when multiple projects are proposed concurrently. According to it, improving First Nations communities' assessment and negotiation capacities, and involving them in the preplanning for a project, would likely increase the probability that the project would be accepted.

Furthermore, Indigenous and Northern Affairs Canada commented on the difficulties experienced by Indigenous communities when participating in consultation processes that involve technical matters, particularly because of their lack of needed expertise. It stated that, in such cases, the federal government must ensure that the consultation process is meaningful.

Mr. Satchwell mentioned that, when major economic development – such as a new mine or infrastructure project – affects Indigenous land in Australia, the government provides financing through trust funds that enables Indigenous peoples to hire advisors and experts so that any development-related negotiations occur on a level playing field. Similarly, the Nunavut Resources Corporation suggested that Canada's federal government should establish pools of eligible advisors from which Indigenous peoples could obtain expertise.

c. Financial Participation

Regarding the financial participation of First Nations in major projects, the First Nations Major Projects Coalition indicated that a lack of access to traditional sources of capital has been problematic. For example, it said that – as part of an agreement negotiated for the Pacific Trail Pipeline project – First Nations obtained an option to purchase a 30% equity stake in the project but were unable to access debt financing at an acceptable interest rate.

According to the First Nations Financial Management Board, the lack of access to capital for infrastructure projects on reserves is primarily the result of limitations in the *Indian Act*. It called for measures that would support First Nations' ability to have an equity stake in major projects that are proposed in their traditional territories. As a possible approach to supporting First Nations' equity ownership in major projects, the First Nations Financial Management Board identified the creation of an Indigenous secretariat within the recently announced Canada infrastructure bank; in its view, the proposed bank could allocate a portion of its funding to allow First Nations to acquire an equity stake in major infrastructure projects.

Mr. St. Germain supported the concept of First Nations' equity ownership in major projects, suggesting that it is through ownership in such projects that First Nations would be best positioned to influence decision making and to mitigate environmental risks, which is often paramount for them. He added that an equity stake would provide a source of revenue that would allow First Nations to move away from programs provided by Indigenous and Northern Affairs Canada.

As well, Mr. St. Germain and the First Nations Major Projects Coalition advocated federal loan guarantees to support First Nations' participation in major projects. According to the latter, a federal loan guarantee would allow First Nations to access debt financing at interest rates that are lower than those that would otherwise be available to them. As a potential model for a federal loan guarantee, the First Nations Financial Management Board highlighted a £50 billion trust that the U.K. government created in 2008 to support infrastructure development. It also said that the federal government would need to establish eligibility criteria for such a loan guarantee.

Mr. St. Germain noted that critics of First Nations' equity ownership in major projects believe that the financial risk associated with this ownership would be too great for First Nations, and that revenue-sharing agreements or lump-sum payments are better able to accommodate First Nations' interests. In his view, this financial risk can be mitigated in various ways. While he was not opposed to the concept of such ownership for First Nations, Mr. Rae pointed out that the financial risk can be a very high, such as with a mining project; in his opinion, in such cases, equity ownership might not be in the best interests of First Nations.

In speaking about potential opposition to First Nations' equity ownership in major projects, Mr. St. Germain commented on businesses that are not prepared to sell an equity interest to First Nations; these businesses might include certain pipeline corporations. He indicated that the relevant parties would need to be convinced to support equity ownership.

In relation to oil and gas projects within a northern corridor, the Canadian Association of Petroleum Producers explained that businesses in the oil and gas sector would seek opportunities where their interests align with those of First Nations, and would work closely with those First Nations to establish partnerships. It mentioned the possibility of joint project funding through a public-private partnership.

Stantec said that it has participated in dozens of joint ventures with First Nations, and has shared profits, knowledge and technical skills; as a result First Nations have been employed to undertake engineering field work and related evidence-gathering.

The Nunavut Resources Corporation described the Grays Bay road and port project, which is a 227-kilometre, all-season road and a deep water port at Grays Bay on the Northwest Passage. It stated that the Inuit own about 10% of Nunavut's lands, which they hope to use to build what it characterized as a pool of wealth, such as through a mining royalty regime or infrastructure development. It highlighted that the project is being developed through a partnership among the

Inuit, Nunavut's government and the mining company that expects to be the key user of the road and port.

As well, the Nunavut Resources Corporation listed key lessons learned in relation to the Grays Bay road and port project, particularly regarding Indigenous participation in the development of infrastructure. It said that: Indigenous ownership in a project provides a social licence, or the approval by the local community that is necessary for development to occur; the effects of development on an Indigenous group can best be managed by that group in its role as an owner or proponent of a project; Indigenous groups can access federal funding that is not available to private-sector proponents of a project; ownership in a project should not be based solely on financial investment, but should also consider in-kind investments, recognition of the value of a social licence in relation to the project, and what can be described as sweat equity; and Indigenous groups that have suitable corporate and commercial advisors are best positioned to consider the merits of equity ownership or concerns associated with that ownership. Lastly, it mentioned that the Grays Bay road and port project has applied for federal infrastructure funding, and has recently started an environmental assessment and regulatory review process.

5. Financing

According to the aforementioned paper by Mr. Sulzenko and Mr. Fellows, the capital cost of the proposed northern corridor could be about \$100 billion. The paper assumed that it would be funded by the private sector, as well as by the federal and provincial/territorial governments; potential sources of private financing could include corporations, private equity funds, pension funds and sovereign wealth funds. The paper also discussed a number of risk-sharing models, including public-private partnerships.

Mr. Fellows explained that the manner in which components of a northern corridor would be financed would depend on the type of infrastructure. He commented that pipelines and railways would generate revenue streams that would make them profitable, but that roads – which may generate revenue only if tolls are in place – are more like public goods; public goods typically require government financing. He said that, in certain cases, public-private partnerships are a potential approach, but that more research is needed regarding this and other financing-related issues.

Mr. Mintz identified public-private partnerships as a possible way in which to finance the infrastructure to be included in a northern corridor. Noting that only one party may own the infrastructure under such arrangements, he urged the implementation of regulations to ensure that the owner does not charge monopoly-type prices to users. In addition, he suggested that the costs of infrastructure in a northern corridor could be recovered through development charges for projects along the corridor. He also mentioned the possibility of a northern corridor being financed and owned by the proposed Canada infrastructure bank.

Mr. Emerson stated that public-private partnerships should be used to finance any developments in Canada's southern trade corridors, while the federal government should be responsible for funding transportation infrastructure in Canada's North for two reasons: it would

be considered a national project; and there are generally few public-private partnership opportunities in that region. Regarding public-private partnerships, he commented that – in its role as a partner – the federal government could guarantee a rate of return for private-sector investors and mitigate some of the risks of a project.

Stantec said that the proposed northern corridor could be developed in stages, with the initial stages for establishing a right-of-way financed by the federal and provincial/territorial governments, and the private sector funding more precise planning and engineering. It pointed out that, once the priorities for a northern corridor are defined, financing options should be considered; these options could include consideration of the manner in which the partners in a public-private partnership would benefit and the contribution that they should make to the project. It also advocated appropriate remuneration for land owners when securing a right-of-way.

Infrastructure Canada discussed the establishment and functioning of the proposed Canada infrastructure bank. It explained that the proposed bank would use a range of federal tools to attract financing from the private sector to help fund transformative infrastructure projects proposed by the provinces/territories, Indigenous communities or federal departments. It noted that public-private partnerships have been successful in Canada, and that institutional investors – such as pension funds – are already investing in global infrastructure projects and are seeking opportunities in Canada; they could invest in projects through the proposed bank. According to it, institutional investors would be willing both to take on more risk than other investors and to remain with a project for the long term in order to obtain a higher return on their investment; thus, they would be willing to invest through equity participation, rather than solely through debt financing. Furthermore, it mentioned that these investors could bring private-sector discipline and expertise to a project. Natural Resources Canada stated that private-sector expertise would be required to develop the infrastructure contained within a national corridor.

In its written submission to the committee, the Ontario Teachers' Pension Plan indicated that it invests in infrastructure because such investments provide long-term, steady and inflation-linked cash flows that are matched to the pension plan's liabilities. It noted that it has invested in infrastructure in Australia and the United Kingdom because these countries have attractive regulatory environments, clarity about their projects and an openness to partnering with institutional investors. Regarding Canada, it mentioned that challenges in relation to size and scope have made it difficult to find appropriate infrastructure projects in which to invest; other challenges include Canadian resistance to a user-pay model, a misalignment between the lifecycle of greenfield projects and electoral cycles, and the need for consensus by governments in several provinces/territories regarding these projects. It highlighted its support for the proposed Canada infrastructure bank, which it believed will be beneficial for internal and international trade.

The Canadian Energy Pipeline Association said that development of the proposed northern corridor would be a complex, long-term and costly project; the private sector would probably not invest in a project with questionable or indeterminate long-term benefits.

6. Environmental Issues

The committee's witnesses spoke about the potential environmental impacts of the development of a national corridor, and about the manner in which environmental assessments should be conducted for such a corridor.

a. Environmental Impacts

The aforementioned paper by Mr. Sulzenko and Mr. Fellows noted that one key concern associated with the proposed northern corridor is its potential negative effect on the environment, including on Indigenous peoples' way of life. According to the paper, since the proposed northern corridor would combine several transportation modes within one narrow corridor, its environmental impacts would likely be smaller than those of separate projects located in distinct corridors.

Stantec commented that the development of a northern corridor in the boreal forest could lead certain animal species that hide in thick bush to become more vulnerable to predators when cut lines are made in a forest. It also highlighted other environmental concerns, such as the effect of transportation infrastructure on fish habitat and migration patterns, the possibility of land erosion, the increased chance of fire in the boreal forest and the ability to fight any fire, and the impact of climate change on the health of the boreal forest, particularly its insect and pest populations.

Regarding the development of the proposed northern corridor and sustainability, Stantec said that the private sector agrees with the need to meet higher environmental standards, and that there could be opportunities for decreasing the use of coal as fuel in Canada's North and for using sustainable mining practices.

Innovation, Science and Economic Development Canada mentioned that the potential environmental impacts of fibre optic lines would be minimal because of each line's very narrow footprint.

b. Environmental Assessments

The aforementioned paper by Mr. Sulzenko and Mr. Fellows said that there is significant overlap between federal and provincial/territorial environmental assessment processes when projects cover multiple jurisdictions; as a result, the proposed northern corridor could experience delays and/or inconsistent outcomes because of its multijurisdictional nature. It identified a number of potential approaches to addressing this issue, including the establishment of a Canada-wide model for environmental assessments, or the use of joint assessments involving coordinated timelines and procedures, and the delegation of authority.

The Canadian Environmental Assessment Agency stated that the scope of the proposed northern corridor would require multiple levels of environmental assessment for the projects located within it. Regarding such assessments, it explained that relevant federal legislation could include the *Canadian Environmental Assessment Act, 2012*, and – for projects north of 60

degrees latitude – federal land claim agreements containing provisions on environmental assessments, such as the *Mackenzie Valley Resource Management Act*. As well, it noted that all provinces have an environmental assessment process; however, one of the purposes of the *Canadian Environmental Assessment Act, 2012* is to coordinate, and promote cooperation between, the federal and provincial governments when these assessments are conducted.

The Canadian Environmental Assessment Agency said that, in addition to examining any adverse impacts of a given project, it could examine existing and future projects for a particular region through a regional study that would be undertaken by a committee established by the federal Minister of the Environment. According to it, such a study would generate information that could be used for any future environmental assessments, identify any specific route options and environmentally sensitive areas to avoid, and facilitate coordination among the jurisdictions to avoid duplication; as well, it could assist in streamlining environmental assessments by identifying projects that could be bundled together.

The Canadian Environmental Assessment Agency had five suggestions in relation to any regional study for the proposed northern corridor:

- a project proponent should be responsible for making representations to the aforementioned committee undertaking the study;
- funding would be needed to ensure that the committee has sufficient resources to carry out its work;
- the study should allow for public participation;
- sufficient resources would be needed to ensure that federal expertise supports the committee's work; and
- any willing jurisdiction should be able to participate in the regional study.

It said that the federal government could be a proponent of a project, and that the Canadian Environmental Assessment Agency could participate in any preliminary work in relation to a regional study.

Regarding the coordination of environmental assessments, the Canadian Environmental Assessment Agency stated that the federal government and the provinces could sign a multilateral agreement that would describe the manner in which environmental assessment responsibilities would be discharged.

The First Nations Major Projects Coalition commented on existing environmental assessment processes, indicating that they are limited to project-specific impacts and do not consider the cumulative impacts of multiple projects in a given region. It said that a new nation-to-nation approach for environmental assessments should be developed, and that such an approach should involve collaboration, reconciliation, co-management, joint decision making, and adequate capacity and funding for First Nations, including to undertake environmental and land use planning. It highlighted legally binding First Nations-led environmental assessments as a possible approach, and mentioned an environmental assessment that was conducted by the

Squamish First Nation for the Woodfibre liquefied natural gas project; in that case, the developer agreed to legally binding conditions to accommodate First Nations interests.

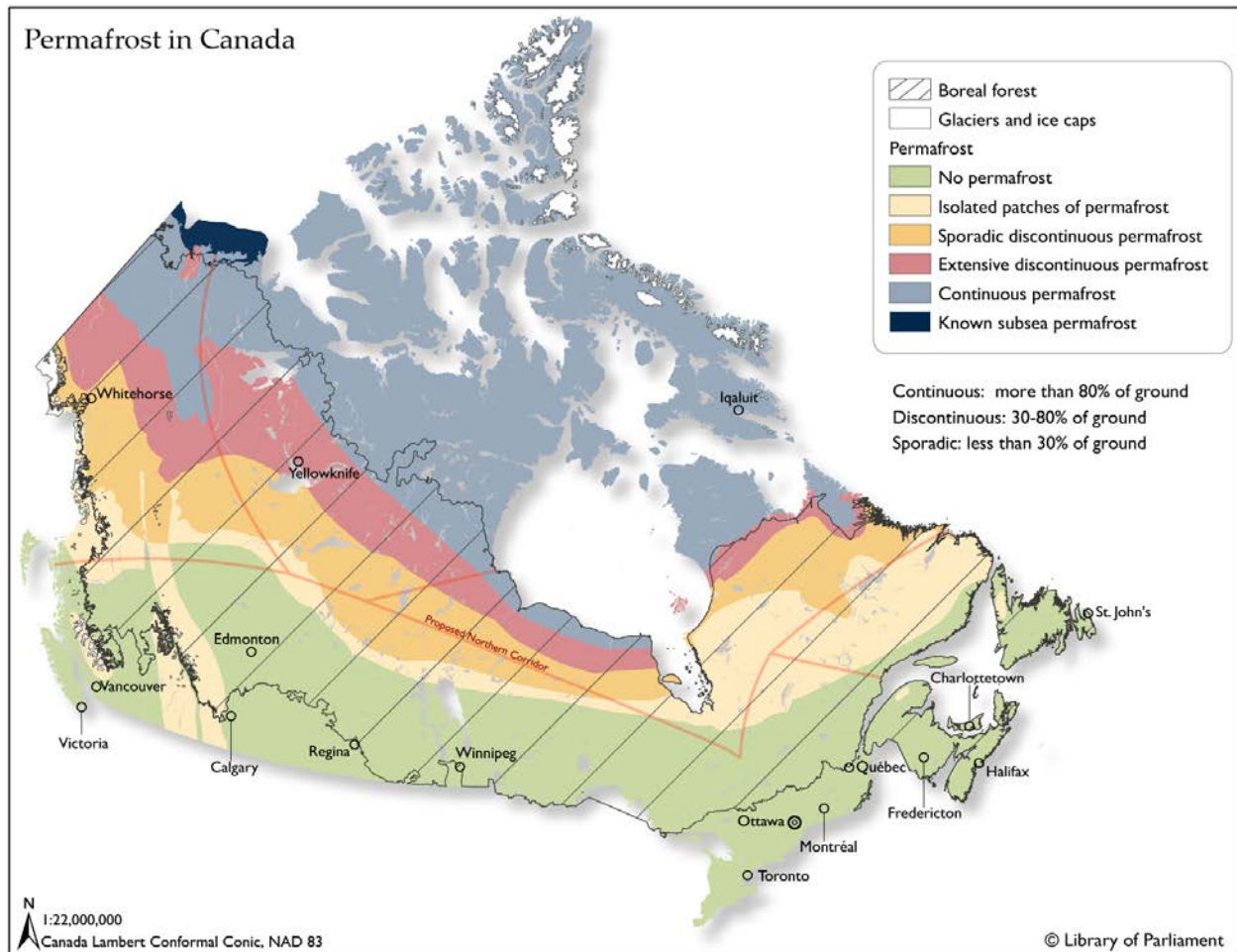
Indigenous and Northern Affairs Canada suggested that the concept of a national corridor lends itself to regional planning and development, which could include consideration of the cumulative environmental impacts of multiple projects.

The Freight Management Association of Canada noted that an environment assessment for a large infrastructure project would take at least 15 years to complete, and said that there should be one environmental assessment that meets the requirements of both the federal and provincial governments.

7. Routing

According to the aforementioned paper by Mr. Sulzenko and Mr. Fellows, from an engineering perspective, the main determinant of the proposed northern corridor's route would be topography; it stated that there is little variation in elevation and soil conditions across the boreal forest, but that there would be a large number of rivers and lakes to bypass, and certain areas – such as the wetlands south of James Bay – could present difficult engineering challenges. As well, it indicated that special consideration should be given to ground conditions along the proposed route, including in relation to the presence of permafrost. The paper also identified the location of existing settlements and known resource deposits, as well as the status of land ownership along a route, as other factors that could affect the proposed corridor's route.

Figure 7 – Permafrost Zones in Canada



Source: Figure prepared by the Library of Parliament, Ottawa; Proposed Northern Corridor derived from: Andrei Sulzenko and G. Kent Fellows, “[Planning for Infrastructure to Realize Canada’s Potential: The Corridor Concept](#),” School of Public Policy, University of Calgary, *SPP Research Papers*, Vol. 9, Issue 22, May 2016. A complete list of sources is provided in Appendix D.

In speaking about the proposed northern corridor’s routing, Mr. Fellows emphasized that – at this early stage – no detailed assessment has been done to determine the best route. He indicated, however, that the route should be planned in a holistic manner, and should be integrated into transportation networks in Canada’s southern regions.

Noting that the development of a northern corridor would take a considerable amount of time, Mr. Fellows stated his preference for development of such a corridor on a phase-by-phase basis. Stantec suggested that the portions of a northern corridor that would be the most economically viable should be developed first; in its view, development would likely start in Alberta and Saskatchewan and go westward to tidewater, with the later stages of development involving incremental expansion eastward towards Churchill, Manitoba and the Ring of Fire in Northern Ontario. Mr. Mintz mentioned that some parts of a northern corridor would perhaps not be built if the benefits would not exceed the costs.

Regarding potential priorities in a northern corridor, Mr. Sulzenko highlighted a link between northern Alberta and the Beaufort Sea through the Northwest Territories, and suggested that this territory's government would likely support the construction of transportation infrastructure in that area. He also prioritized a segment that would connect with Canada's west coast through the Port of Prince Rupert in order to gain better access to Asian markets.

Mr. Sulzenko also spoke about a segment that would connect with Hudson Bay through the Port of Churchill. Mr. Mintz noted that there is interest in developing that part of a northern corridor, which could perhaps be pursued as a pilot project. Mr. Sulzenko thought that the Port of Churchill's closure was unfortunate because it is the shortest route to Europe for a number of Canada's exported commodities.

Mr. Fellows pointed out that the recent expansion of the Panama Canal may favour the use of larger ships, which may not be able to use ports along the St. Lawrence Seaway. Noting that shipping goods by water is much less expensive than transporting them by road or rail, he identified the Port of Churchill as an ideal location from which to ship agricultural and forestry products from the Prairies to Europe because the shortest access to tidewater is through that port, rather than through the St. Lawrence Seaway.

The Canadian Federation of Agriculture stated that, rather than developing a new east-west cross-country corridor, consideration should be given to transportation routes through Hudson Bay, which is closer to parts of Western Canada, as well as to the Clay Belt in Ontario and Quebec, than are other areas.

The Nunavut Resources Corporation advocated the exploration of new ports sites, particularly in Canada's North, because the Ports of Vancouver and Prince Rupert are at or near their full capacity. It said that its Grays Bay road and port project in Nunavut would provide what it characterized as a safety valve when those two ports are at capacity, and would be available when climate change allows the Northwest Passage to be used. It highlighted that Nunavut is not a part of the proposed northern corridor's route, and urged more consideration of northern routes and ports, including the Ports of Churchill, Tuktoyaktuk and Grays Bay, rather than additional east-west trade corridors.

The Canadian International Freight Forwarders Association observed that the Port of Prince Rupert has become a successful transit hub for Asian cargo destined primarily for the United States, and mentioned this port's competitive advantage for serving the U.S. Midwest. In its view, a northern corridor would not make the Port of Prince Rupert a more efficient transit hub to the United States.

Moreover, the Canadian International Freight Forwarders Association was sceptical that either the Port of Churchill or a port on the Beaufort Sea could become significant ports for containerized cargo in the long term. Nevertheless, it said that these ports could perhaps be used for shipping specialized commodities, such as oil and liquefied natural gas.

Regarding the proposed northern corridor's route, Mr. Emerson said that there must be careful planning because – in addition to playing a part in securing Canada's northern borders and waters – the route should service any major resource deposits and economic opportunities. Similarly, the Canadian Federation of Agriculture and the Freight Management Association of Canada suggested that energy, mining, forestry and agricultural resources and developmental possibilities that are located in Canada's North should be mapped before investments in infrastructure projects in a northern corridor are made.

In relation to the proposed northern corridor's routing, Mr. Sulzenko highlighted remote communities that are accessible only by plane. Rather than a single northern corridor, Mr. Emerson supported several corridors as a means of reaching a larger number of communities. He noted that a northern corridor's purpose is more about serving northern communities and any mining, energy or other economic developments, than about trade.

With respect to the best route for the proposed northern corridor, Stantec stated that a cumulative effects management model should be used; this approach considers all environmental consequences of a project. As well, it mentioned that engineering challenges could exist with a route through the Canadian Shield and permafrost, as well as over lakes and rivers, and said that the proposed route should avoid going through First Nations lands; traditional use lands should not be disrupted.

Mr. Mintz suggested that the establishment of a right-of-way in a given area may facilitate the development of unanticipated projects in that area, but would require them to use that right-of-way rather than any other possible route.

According to Mr. Mintz, the concept underlying the proposed northern corridor could be applied to other regions in Canada, such as a corridor linking New Brunswick to the United States.

Regarding the mining sector, Natural Resources Canada said that identifying a particular route for a national corridor would be difficult because the success of a particular mine depends on several factors; these factors include transportation, attractiveness as an investment, applicable regulatory and taxation regimes, the available labour supply and the grade of ore being extracted.

8. Infrastructure-Specific Considerations

The committee's witnesses made a number of comments specific to roads, railways, pipelines, telecommunications and ports.

a. Roads

The Canadian Federation of Agriculture and the Canadian International Freight Forwarders Association stated that, when studying Canada's current transportation system or new routes, consideration should be given to building redundancy into the system. They provided the example of the 2016 temporary closure of the only bridge that crosses the Nipigon River, which forced vehicles that were travelling on the National Highway System to detour through the

United States. In the view of the Canadian Federation of Agriculture, redundancy could include ensuring that there are multiple routes or parallel routes available to transport goods; parallel routes could require agreements with municipalities to ensure that municipal roads are able to withstand traffic from large vehicles.

The Canadian Cattlemen's Association highlighted that, for farming to occur in locations that are farther north than is currently the case, roads need to be built so that finished products, production inputs and people can be transported. As an example, it said that farming occurs in northern Quebec near Lake Abitibi, and that a lack of roads is one reason for the absence of farming across the provincial border in Northern Ontario.

Stantec indicated that highway construction can be costly, but that the cost depends on the type of road that is being built. It noted that an all-season road made of gravel is less expensive than a road with a paved surface. Furthermore, it suggested that the Canadian Shield could provide the aggregate that could be used to build gravel roads.

The Nunavut Resources Corporation explained that, in Canada's North, some roads – those that are known as ice roads – are accessible only in winter; however, the Government of the Northwest Territories is considering the conversion of some ice roads into all-weather roads.

b. Railways

In commenting on the transportation of agricultural projects, the Canadian Federation of Agriculture said that shipping grain by truck can be very costly and that, as a result, investments in existing railway corridors should be adequate. As well, it mentioned that new rail lines should be located in areas where there are weaknesses and bottlenecks; for example, a northern rail line could be useful if it did not travel through communities, which is a weakness of the rail lines in southern Ontario.

The Freight Management Association of Canada highlighted railways' energy-efficiency because of the low rolling resistance of the steel wheel on the steel rail; however, this characteristic requires railway grades to be kept to a minimum of about 1% grade, or a rise of 12 inches for every 100 feet in distance. As a result, it noted that railway engineering may not always be compatible with the requirements of roads, pipelines or other infrastructure that may share a corridor.

c. Pipelines

The Canadian Energy Pipeline Association explained that the purpose of the main transmission pipelines is to move energy products from their source to specific markets; because the proposed northern corridor does not appear to be aligned with a particular market, it probably would not be a viable option for future pipeline infrastructure. Moreover, it suggested that access to a multi-use corridor would not affect the types of consultations and market considerations that energy companies would address when they are planning major pipeline projects.

In the opinion of Natural Resources Canada, the technical challenges associated with moving oil and with moving gas are different; thus, optimal pipeline routing would not be the same for both. As well, it pointed out that – for reasons of cost – the pipelines that are being proposed in Canada are typically located next to existing corridors.

d. Telecommunications

Innovation, Science and Economic Development Canada spoke about a number of technologies that are used in telecommunications infrastructure. It described fibre optics as widely accepted, fast and providing the highest quality of service, and indicated that – in remote areas – it is preferable to design ring networks as a protection against cuts in fibre optic lines. According to it, the cost per kilometre for fibre optics ranges from approximately \$5,000 to \$10,000 for a simple above-ground line to more than \$50,000 for buried lines or lines that cross difficult terrain.

In relation to microwave towers, Innovation, Science and Economic Development Canada maintained that these towers are less expensive than fibre optics; the cost of building a tower, which typically covers between 5 and 30 kilometers, is about \$500,000. However, it also said that operating and maintaining microwave towers can be difficult in harsh and remote environments.

According to Innovation, Science and Economic Development Canada, costs can be reduced by deploying telecommunications infrastructure in a manner that is coordinated with other types of infrastructure. It mentioned a European Commission study that found that the efficient use of existing infrastructure can lower the cost of deploying fibre optics by up to 58%. As well, it stated that the cost of adding fibre optics to a national corridor would be extremely low.

Furthermore, Innovation, Science and Economic Development Canada indicated that the proposed northern corridor would meet only a portion of the telecommunications infrastructure needs in Canada's northern regions. It explained that the department typically does not adopt a corridor-type approach for the deployment of such infrastructure in northern communities because they are highly dispersed. Nevertheless, it said that it is easier to deliver telecommunications services to remote communities as fibre optics are deployed farther in Canada's North; for example, connecting such a community with fibre optics makes satellite capacity available to other communities.

e. Ports

The Canadian International Freight Forwarders Association suggested that a national corridor's ability to improve trade would depend on the capacity of ports at the ends of that corridor. For example, it mentioned that recent inefficiencies in rail switching services at the Port of Vancouver have caused delays in the movement of containerized cargo. In its view, the accountability and oversight of port authorities should be improved in order to prevent such situations from recurring.

APPENDIX B – LIST OF WITNESSES

Thursday, April 6, 2017

- Simon O’Byrne, Vice President, Planning (*Stantec*)

Wednesday, April 5, 2017

- The Honourable David Emerson, P.C., Chairman, Emerson Services Ltd. (*As an Individual*)
- Chris Bloomer, President and Chief Executive Officer (*Canadian Energy Pipeline Association*)

Thursday, March 9, 2017

- Robert Ballantyne, President (*Freight Management Association of Canada*)
- John McCauley, Director General, Regional Operations Sector (*Canadian Environmental Assessment Agency*)

Thursday, March 2, 2017

- John Foran, Director, Pipelines, Gas and LNG Division, Energy Sector (*Natural Resources Canada*)
- Terrence Hubbard, Director General, Petroleum Resources Branch, Energy Sector (*Natural Resources Canada*)
- Scott Northey, Chief Operating Officer (*Nunavut Resources Corporation*)
- Stefania Trombetti, Director General, Policy and Economics Branch, Lands and Minerals Sector (*Natural Resources Canada*)

Wednesday, March 1, 2017

- Glenn Campbell, Executive Director, Canada Infrastructure Bank Transition Office (*Infrastructure Canada*)
- Marc Fortin, Assistant Deputy Minister, Program Operations (*Infrastructure Canada*)
- Ryan Greer, Director, Transportation and Infrastructure Policy (*Canadian Chamber of Commerce*)
- Mike Ircha, Senior Advisor (*Association of Canadian Port Authorities*)
- Wendy Zatylny, President (*Association of Canadian Port Authorities*)

Thursday, December 8, 2016

- Michael Bourque, President and Chief Executive Officer (*Railway Association of Canada*)
- Ruth Snowden, Executive Director (*Canadian International Freight Forwarders Association*)

Wednesday, December 7, 2016

- Harold Calla, Executive Chair, First Nations Financial Management Board (*As an Individual*)
- The Honourable Bob Rae, P.C., O.C., Q.C. (*As an Individual*)
- The Honourable Gerry St. Germain, P.C., former senator (*As an Individual*)

Thursday, November 24, 2016

- Ron Bonnett, President (*Canadian Federation of Agriculture*)
- John Masswohl, Director of Government and International Relations (*Canadian Cattlemen's Association*)

Thursday, November 17, 2016

- Sheilagh Murphy, Assistant Deputy Minister, Lands and Economic Development (*Indigenous and Northern Affairs Canada*)
- Honorary Lieutenant-General Richard Rohmer, Canadian Armed Forces (*As an Individual*)
- Bruno Steinke, Director, Consultation and Accommodation Unit (*Indigenous and Northern Affairs Canada*)

Wednesday, November 16, 2016

- Jack Mintz, President's Fellow, The School of Public Policy, University of Calgary (*As an Individual*)
- Jonathan Stringham, Manager – Fiscal Policy (*Canadian Association of Petroleum Producers*)

Thursday, October 27, 2016

- Ian Satchwell, Senior Fellow, Perth USAsia Centre (*As an Individual*)

Wednesday, October 26, 2016

- Chief Joseph Bevan, Chair (*First Nations Major Projects Coalition*)
- Harold Calla, Executive Chair (*First Nations Financial Management Board*)
- Chief Corrina Leween, Member (*First Nations Major Projects Coalition*)
- Del Natrass, Economic and Financial Advisor (*First Nations Major Projects Coalition*)
- Angel Ransom, Councillor and Member (*First Nations Major Projects Coalition*)

Thursday, October 20, 2016

- Craig Hutton, Director General, Strategic Policy, Strategic Policy & Innovation (*Transport Canada*)
- Sandra LaFortune, Director General, International Relations and Trade Policy, International and Intergovernmental Relations (*Transport Canada*)
- Rick Laliberte (*As an Individual*)
- John Van Nostrand, Founding Principal (*SvN Architects + Planners*)

Thursday, October 6, 2016

- Andre Arbour, Manager, Business and Regulatory Analysis, Telecommunications Policy Branch, Strategic Policy Sector (*Innovation, Science and Economic Development Canada*)
- Adam Scott, Director, Business and Regulatory Analysis, Telecommunications Policy Branch, Strategic Policy Sector (*Innovation, Science and Economic Development Canada*)

Wednesday, October 5, 2016

- Garret Kent Fellows, Research Associate - Energy and Environmental Policy (*The School of Public Policy, University of Calgary*)
- Andrei Sulzenko, Executive Fellow (*The School of Public Policy, University of Calgary*)

APPENDIX C – WRITTEN SUBMISSIONS

- Canadian Trucking Alliance
- First Nations Major Projects Coalition
- Ontario Teachers' Pension Plan Board

APPENDIX D – DETAILED SOURCES FOR CERTAIN FIGURES

Figure 3: Map prepared by Library of Parliament, Ottawa, 2016, using data from: Natural Resources Canada (NRCan). [Principal mineral areas, producing mines, and oil and gas fields in Canada](#). Geological Survey of Canada, “A” Series Map. Ottawa: NRCan, 2016; Natural Resources Canada (NRCan). [Boundary Polygons](#). In: *Atlas of Canada National Scale Data 1:5,000,000 Series*. Ottawa: NRCan, 2013; Natural Resources Canada (NRCan). [Place Names](#). In: *Atlas of Canada National Scale Data 1:15,000,000 Series*. Ottawa: NRCan, 2012; Natural Resources Canada (NRCan). [Roads](#). In: *Atlas of Canada National Scale Data 1:1,000,000 Series*. Ottawa: NRCan, 2014; Natural Resources Canada (NRCan). [Roads](#). In: *Atlas of Canada National Scale Data 1:5,000,000 Series*. Ottawa: NRCan, 2013; Natural Resources Canada (NRCan). [Waterbodies](#). In: *Atlas of Canada National Scale Data 1:1,000,000 Series*. Ottawa: NRCan, 2014; Natural Resources Canada (NRCan). [Waterbodies](#). In: *Atlas of Canada National Scale Data 1:15,000,000 Series*. Ottawa: NRCan, 2012; North American Cooperation on Energy Information (NACEI). [Mapping Data](#). Ottawa: Natural Resources Canada, December 2015; Proposed Northern Corridor derived from: A. Sulzenko and G.K. Fellows, “[Planning for infrastructure to realize Canada’s potential: the corridor concept](#)”, *University of Calgary School of Public Policy Research Papers*, Vol. 9, May 2016; Ontario Ministry of Northern Development, Mines and Forestry, Mining Lands Section. [Ontario Mining Land Tenure Spatial Data](#). (Accessed December 15, 2016). The following software was used: Esri, ArcGIS, version 10.3.1. Contains information licensed under [Open Government Licence – Canada](#).

Figure 5: Map prepared by Library of Parliament, Ottawa, 2016, using data from: Natural Resources Canada (NRCan). [Boundary Polygons](#). In: *Atlas of Canada National Scale Data 1:5,000,000 Series*. Ottawa: NRCan, 2013; Natural Resources Canada (NRCan). [Place Names](#). In: *Atlas of Canada National Scale Data 1:15,000,000 Series*. Ottawa: (NRCan), 2012; Natural Resources Canada (NRCan). [Waterbodies](#). In: *Atlas of Canada National Scale Data 1:15,000,000 Series*. Ottawa: (NRCan), 2012; Natural Resources Canada (NRCan). [Roads](#). In: *Atlas of Canada National Scale Data 1:5,000,000 Series*. Ottawa: (NRCan), 2013; Natural Resources Canada (NRCan). [Roads](#). In: *Atlas of Canada National Scale Data 1:1,000,000 Series*. Ottawa: NRCan, 2014; Natural Resources Canada (NRCan). [Railways](#). In: *Atlas of Canada National Scale Data 1:15,000,000 Series*. Ottawa: (NRCan), 2012; Natural Earth. [Ports](#). Version 2.0.0, 1.10m Cultural Vectors; Natural Earth. [Airports](#). Version 2.0.0, 1.10m Cultural Vectors; Statistics Canada. “[Table 13. Domestic and international shipping cargo tonnage loaded and unloaded at 50 leading Canadian ports by sector](#)”. *Shipping in Canada*. Catalogue no. 54-205-X. 2012; Proposed Northern Corridor derived from: A. Sulzenko and G.K. Fellows, “[Planning for infrastructure to realize Canada’s potential: the corridor concept](#)”, *University of Calgary School of Public Policy Research Papers*, Vol. 9, May 2016; Council of Ministers Responsible for Transportation and Highway Safety. [Report of the Air Issues Task Force on Small Airport Viability. Appendix C: Detailed Data Tables](#). Ottawa, September 13, 2006. The following software was used: Esri, ArcGIS, version 10.3.1. Contains information licensed under [Open Government Licence – Canada](#) and [Statistics Canada Open Licence Agreement](#).

Figure 6: Map prepared by Library of Parliament, Ottawa, 2016, using data from: Indigenous and Northern Affairs Canada (INAC). [First Nations Locations](#). Gatineau, Quebec: INAC, 2015; Indigenous and Northern Affairs Canada (INAC). [Inuit Communities Location](#). Gatineau, Quebec: INAC, 2016; Natural Resources Canada (NRCan). [Boundary Polygons](#). In: *Atlas of Canada National Scale Data 1:5,000,000 Series*. Ottawa: NRCan, 2013; Natural Resources Canada (NRCan). [Waterbodies](#). In: *Atlas of Canada National Scale Data 1:15,000,000 Series*. Ottawa: NRCan, 2012; Proposed Northern Corridor derived from: A. Sulzenko and G.K. Fellows, “[Planning for infrastructure to realize Canada’s potential: the corridor concept](#)”, *University of Calgary School of Public Policy Research Papers*, Vol. 9, May 2016.

The following software was used: Esri, ArcGIS, version 10.3.1. Contains information licensed under [Open Government Licence – Canada](#).

Figure 7: Map prepared by Library of Parliament, Ottawa, 2016, using data from: [Natural Resources Canada](#) and J.P. Brandt, “The extent of the North American boreal zone”. *Environmental Reviews*, Vol. 17, 2009, pp. 101-161; Natural Resources Canada (NRCan). [Place Names](#). In: *Atlas of Canada National Scale Data 1:15,000,000 Series*. Ottawa: (NRCan) , 2012; Natural Resources Canada (NRCan). [Canadian Permafrost, Geological Survey of Canada](#). Ottawa: (NRCan) , 2000; Proposed Northern Corridor derived from: A. Sulzenko and G.K. Fellows, “[Planning for infrastructure to realize Canada’s potential: the corridor concept](#)”, *University of Calgary School of Public Policy Research Papers*, Vol. 9, May 2016. The following software was used: Esri, ArcGIS, version 10.3.1. Contains information licensed under [Open Government Licence – Canada](#).