ABOUT THIS PROJECT

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THEME OF THE YEAR

This year’s Action Canada theme is “Applying lessons from Canadian history in the development of public policy for northern Canada.” Our team started with two simple questions: what is the most pressing public policy issue in northern Canada, and what can we do to help address it? To us, the single greatest challenge faced by northern Canada is sustainable economic development, particularly in Nunavut. We are deeply inspired by the prospect of providing all northerners with access to economic opportunities and empowering communities to forge their own economic path. Equal inspiration was drawn from the tremendous natural and human potential of Nunavut, and the opportunity to unlock this potential for future generations. We believe that the lack of transportation infrastructure is a key barrier to economic growth in the territory. A number of lessons from Canadian history have offered guidance, particularly the building of the transcontinental railway.

We hope that this report adds to a vibrant conversation on the future of Nunavut and that it provides a modest contribution to achieving a sustainable economic future for Canada’s newest territory.

ABOUT ACTION CANADA

Action Canada is Canada’s premier leadership development program. A non-partisan multi-sector fellowship, Action Canada is building a valuable network of leaders across the country. Centered on regional conferences and teamwork, Fellows hone leadership skills, examine historical and current Canadian issues, and present and publish a public policy report. After completing the fellowship year, they join a network of outstanding leaders dedicated to the future of Canada.

ACKNOWLEDGEMENTS

We would like to acknowledge the tremendous opportunity Action Canada has provided us by welcoming us into the program as fellows for 2013-2014. We owe particular thanks to Action Canada’s CEO, Cathy Beehan, for her leadership in developing this growing national network of leading young Canadians. We aim to repay Action Canada’s investment in us by contributing to public policy for northern Canada through this report, and by applying the lessons of Action Canada as our careers and lives progress.

We owe special thanks to our taskforce advisor, Professor Antonia Maioni, for her steadfast support and wise counsel. We have been fortunate to have had such an experienced and insightful advisor to guide us along our journey.
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EXECUTIVE SUMMARY

Nunavut’s subsoil is rich in natural resources, including base metals, diamonds, gold, iron and uranium. Since the creation of the territory in 1999, there have been significant investments in exploration ($426 million in 2012), yet most of the territory’s natural resources remain untapped and underground. Nunavut’s resources are difficult to access; this presents a daunting challenge for the territory to realize its potential for economic development through mining. And yet, extensive underground wealth contrasts with the territory’s dependence on the federal government for financing 91% of its $1.5 billion annual budget.

A major barrier to resource development in Nunavut is the high cost and overall lack of transportation infrastructure. The territory’s infrastructure challenges are stark: Nunavut is the only jurisdiction in North America without any ground transportation infrastructure connecting it to other provinces, states, or territories. It has no deep water ports, and no railways. Yet Canadian history teaches us that governments across the federation have faced transportation infrastructure challenges in the past, and have consistently found ways to overcome them and create lasting benefits for Canadians.

Unlocking Nunavut’s mining potential will require significant investment. Strategic investment in transportation infrastructure can create opportunities to develop natural resources by improving accessibility; enabling market access and bolstering shipping corridors; and attracting further investment and private sector development while providing social benefits to local communities.

Prioritizing transportation infrastructure projects in Nunavut and assessing them from the perspective of both economic development and community impact can be challenging and requires detailed trade-off analysis. This report, Breaking ground in Nunavut: assessing transportation infrastructure proposals for resource development, unpacks the complexity of assessing and financing transportation infrastructure proposals. Building on analysis of stakeholder interviews, historical parallels and in-depth case studies, the report offers a clear, three-step process as a tool for assessing transportation infrastructure proposals. This process focuses on desirability, cost-benefit, and financing.

The desirability assessment examines projects through the lens of their impact on communities and/or the environment. The cost-benefit analysis examines lifecycle costs as well as social benefits, potential spillovers and indirect benefits. Finally, the financing assessment considers the full range of possible financing arrangements, including strategies that would share risks, benefits and costs between communities, different levels of government and the private sector.

This report recommends that key stakeholders, which include Inuit governance organizations, major private-sector investors, and the federal, territorial, and municipal governments, should:

I. Conduct a comprehensive assessment of projects using a multifaceted, three-step process of desirability, costs and benefits, and financing options to determine the viability of pursuing transportation infrastructure projects in Nunavut;

II. Move beyond the “either/or” paradigm of tradition vs. development and embrace a more pragmatic, innovative vision for the economic future of Nunavut;

III. Consider the full spectrum of financing options when contributing public funds to transportation infrastructure projects;

IV. Prioritize projects based on community benefits and their potential to accelerate economic development in Nunavut;

V. Select projects receiving full territorial and federal support based on their ability to provide public benefits that are proportional to the cost.
1 INTRODUCTION: NUNAVUT’S UNTAPPED POTENTIAL

Fifteen years after its creation, there are still many challenges in Nunavut. With a budget of approximately $1.5 billion in fiscal year 2013-2014, 91% of revenues come from federal government transfers. Only $134 million is generated within the territory annually. With limited financial resources, the Government of Nunavut cannot finance major transportation infrastructure projects to promote the economic development of the territory on its own.

Mining is the highest potential growth sector in Nunavut. The territory is rich in base metals, diamonds, gold, iron, uranium, copper, nickel, lead and silver. Federal and territorial officials see resource development in Nunavut as an important opportunity to promote the economic development of Inuit communities and the fiscal health of the territory.

This report is based on extensive research, historical parallels, and interviews with Nunavut community leaders, territorial and federal officials, and mining corporations. It demonstrates that the mining sector can contribute to sustainable economic development in the territory, provided that barriers such as the lack and cost of transportation infrastructure are addressed. We recommend that any infrastructure project undertaken in Nunavut undergo a three-step prioritization process that includes a desirability assessment, a cost-benefit analysis, and a financing assessment.

Figure 1: Advanced exploration projects and mines in Nunavut
2 THE CHALLENGE: ACCELERATING INFRASTRUCTURE DEVELOPMENT FOR ECONOMIC GROWTH

Nunavut’s experience with mining is limited and very recent. In 2013, there were over a hundred prospecting permits in the territory and over a dozen advanced exploration projects (Figure 1). As of October 2011, geo-mapping was sufficiently advanced to demonstrate significant untapped potential in the territory. The only mine currently in operation in Nunavut, the Meadowbank open-pit gold mine of Agnico Eagle Mines Limited, accounts for 15% of Nunavut’s GDP. With other mines in operation, the mining sector could accelerate economic development at a rate far superior to other sectors (tourism, fishing, hunting, trapping, etc.).

Colonel Pierre Leblanc (retired), an Arctic specialist, argues that mining is the only sector with the potential to enable Nunavut’s long-term economic development through large-scale projects. Indeed the mining industry itself estimates that every dollar taxpayers invest in geoscience in the territory generates a return of five dollars, two of which end up as government revenue (Duke, 2010).

Despite considerable investments in exploration ($426 million in Nunavut in 2012) and significant potential, most of Nunavut’s natural resources remain untouched. Historically, this has been due to uncertainty over land claims and limited geoscience knowledge. Today, extreme weather conditions, limited accessibility to energy sources and isolation persist, creating considerable challenges for resource development in Nunavut. Most importantly, the lack of transportation infrastructure, and its high cost of construction, remains a crucial barrier to resource development.

3 NUNAVUT: TRANSPORTATION INFRASTRUCTURE FOR DEVELOPMENT

Nunavut, which means ‘our land’ in Inuktitut, was created through the largest Aboriginal land claim in Canadian history. The territory has a population of only 36,000 people, 85% of whom are Inuit, scattered across 25 communities, most of which have less than 1000 inhabitants. Nunavut is the only entity in Canada that is not connected to the rest of the country by road or rail. There are no roads, railways or deep-sea ports that connect communities within Nunavut. All of the communities depend heavily on air transportation to import and export goods.

The Nunavut Land Claims Agreement (NLCA) provided the framework for the creation of Nunavut. The NLCA established rules pertaining to land management, land use planning and contract issuance on Inuit Owned Land, while also making the Inuit the largest private land owners in the world. Nunavut Tunngavik Incorporated (NTI) defends the interests of the Inuit regarding the NLCA. It ensures that organisations, governments and all stakeholders involved in a project work in the interest of the Inuit and comply with the provisions of the NLCA. The Inuit across Canada are also represented by the Inuit Tapiriit Kanatami (ITK), Canada’s National Inuit Organization.

3.1 UNDERSTANDING THE PAST, BUILDING THE FUTURE

Examples throughout Canadian history show that strategic investments in transportation infrastructure can create opportunities to develop natural resources by improving accessibility; enabling market access and bolstering shipping corridors; and attracting further investment and private sector development while providing social benefits to local communities. However, lessons from the past show that prioritizing and assessing projects from the perspective of both economic development and community impact can be challenging and necessitates detailed trade-off analysis.

3.1.1 The transcontinental railway: from dream to reality

In 1871, when Canadian Prime Minister John A. Macdonald and others proposed building a transcontinental railway, the idea was far from obtaining unanimous support. Numerous Aboriginal groups, for example, were opposed to the project since some of the rail lines would be built on their land with limited government consideration of their treaties and their point of view. The transcontinental railway project was very ambitious and expensive. At the time, few saw the need to spend so much to connect the provinces since the population was sparse and subsisted mainly on agriculture. Today, we know that the transcontinental railway was a vital tool for uniting Canada and enabling economic development. The railway promoted trade between provinces and foreign countries since it gave access to major ports with links to...
Europe, the United States and Asia. The transcontinental railway demonstrates that it is possible to build infrastructure in challenging environments to promote growth and bolster sovereignty.

Today, similar challenges exist in Nunavut. Agreements are now in place to protect Inuit interests but many Nunavummiut remain wary. Nonetheless, connecting the territory by road or rail to the rest of Canada could accelerate economic development in a comparable fashion to the transcontinental railway in 1871. The Manitoba to Nunavut all-weather 1,200 kilometre road is the most likely connection. The $1.2 billion project (in 2007 dollars) has strong support from communities, since it would generate extensive public benefits, and mining companies, since it would facilitate access to the territory.

3.1.2 Transportation infrastructure as a catalyst for resource development

Many Canadian communities such as Matagami, Rouyn-Noranda, Timmins, Sudbury and Labrador City were mining camps a few decades ago. Mineral exploration has helped open many regions of the country and generate new economic activity. In northern Quebec, for instance, more than 145,000 people are now living in the mining region of Abitibi-Témiscamingue. Eighty years ago, when the federal and provincial governments decided to develop this region, there was no transportation infrastructure. They invested significant funding in building infrastructure to open this area to resource development. Over 130 mines have been opened in the area, eight of which were in operation as of January 1st, 2010.

As was the case with investments in northern Quebec, major mining companies could benefit significantly from targeted investments in strategic infrastructure, leading to accelerated growth in certain parts of Nunavut.

4 ENGAGING STAKEHOLDERS: METHODOLOGY NOTES

To understand the challenges Nunavut faces and address the questions raised in this report, our team conducted an extensive literature review to assess Nunavut’s opportunities and challenges, to understand sensitivities, and to identify best practices. We also conducted a wide range of stakeholder interviews with the private and public sectors, Nunavut communities, as well as experts and industry associations.

We met with three categories of mining companies to understand the challenges they face: (1) mining companies with mines currently in operation in Nunavut (there is only one), (2) mining companies with significant exploratory initiatives in Nunavut but no mines in operation and (3) mining companies with no exploratory projects or mines in operation in Nunavut but with mines operating in other northern regions of Canada. These companies include Agnico Eagle Mines, MMG Canada, Stornoway, Vale, Shell and Glencore Xstrata.

We also met with infrastructure investors and firms specializing in infrastructure development. These companies include Ferrovial, BCIMC and CPCS Transcom Limited.

Our team engaged with various levels of government with the objective of gaining insight into the perspectives of federal and territorial entities. We conducted interviews with Aboriginal Affairs and Northern Development Canada, the Canadian Northern Economic Development Agency, the Government of Nunavut, Infrastructure Canada, Natural Resources Canada and P3 Canada.

We reached out to communities in Nunavut that are the most exposed to current mining projects or most likely to be impacted by future transportation infrastructure projects in Nunavut. These communities include the Hamlet of Arviat, the Hamlet of Pond Inlet and the region of Kivalliq.

Finally, we rounded off our interviews by meeting with experts and industry associations. Experts included university professors, an explorer, and an arctic specialist. We also spoke with the Conference Board of Canada, the Diamond Manufacturers Association of Canada and the Mining Association of Canada.
5 ASSESSING INFRASTRUCTURE PROJECTS: THE NEED FOR A ROBUST TOOL

Given limited financial resources (both public and private) and potentially high risks, it is important to consider how best to leverage available funds. Given the tremendous long-term impact of investing in infrastructure in Nunavut, prospective stakeholders need to be able to conduct a robust analysis of trade-offs to strategically select projects. Here we propose a tool for such an analysis.

5.1 THE ASSESSMENT

The territorial and federal governments play important roles in facilitating the development of transportation infrastructure in Nunavut. While the federal government is a key financial contributor, the Government of Nunavut is responsible for project selection.

We propose a three step screening process to assist the territorial government in selecting which infrastructure projects to prioritize and nominate for federal funding. The process assesses the desirability of a project, costs and benefits, and options for collaboration between all potential financial stakeholders (Figure 2).

5.2 DESIRABILITY ASSESSMENT: AVOIDING IRREPARABLE HARM

On the basis of interviews with community stakeholders in Nunavut, we recommend that any infrastructure project undertaken in Nunavut undergo a detailed desirability assessment. We define desirability as the creation of opportunities for lasting social benefit without causing significant adverse environmental effects, as defined by the Canadian Environmental Assessment Act, or undermining community welfare, as defined by Nunavummiut community leaders. Desirability does not imply minimizing the impact of infrastructure; rather, it considers whether that impact will be so negative that it does not justify further cost-benefit analysis. The desirability assessment should rule out any project that would create significant, long-term, unmitigated harm to communities or the environment. Environmental concerns are extremely important and there is already a detailed assessment process in place; therefore it is outside the scope of this report.

5.2.1 Community impact assessment: maintaining livelihoods

Our team studied three communities in Nunavut (Pond Inlet, Rankin Inlet and Arviat) to understand their views. Based on our interviews, we recommend that the community impact element of the desirability assessment evaluate potential effects on the lifestyle and traditions of Nunavummiut in nearby communities and the potential negative impact on the cost of living and quality of life. 

Lifestyle and traditions
According to the NLCA, all projects in Nunavut must be screened to assess any impact on the traditional lifestyle of the Inuit. Many Inuit rely on hunting, trapping and fishing, yet these activities could be affected by the construction of infrastructure and increases in traffic. For example, new port facilities in the Northwest Passage would increase ship traffic that could disturb ice formation and prevent Inuit hunters from venturing out on the ice. In fact, ship traffic has already increased dramatically along the Northern Sea Route (northern Russia) and will likely occur in the Northwest Passage if global warming trends continue (Table 1).

Table 1: Numbers of ships travelling through the Arctic

<table>
<thead>
<tr>
<th>YEAR</th>
<th>NORTHWEST PASSAGE (CANADA)</th>
<th>NORTHERN SEA ROUTE (RUSSIA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>2011</td>
<td>20</td>
<td>34</td>
</tr>
<tr>
<td>2012</td>
<td>30</td>
<td>46</td>
</tr>
<tr>
<td>2013</td>
<td>22</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: Northern Sea Route Information Office and Arctic Security Consultants
Community leaders that we interviewed were enthusiastic about resource development, but voiced concern over its impact on subsistence activities. For example, in relation to the Baffinland project in Pond Inlet, community leaders raised concerns that not all environmental impacts are being taken into account, including “a lot of impact on the stock of [Arctic] char.” Although an impact on traditional lifestyles can be expected and may ultimately be acceptable, options must be made available for mitigating this impact. If a project significantly undermines livelihoods without providing options for maintaining the welfare of local residents, it would seriously compromise the desirability of the proposal.

Cost of living and quality of life
Transportation infrastructure improves accessibility. In Pond Inlet, a community leader said that “to be the next hub in the north there is a real need to support the development of all this [infrastructure].” However, more accessibility may create an influx of population and risk creating boom towns, potentially increasing the cost of living. Such a situation could have disastrous effects on the welfare of Nunavummiut. In Arviat, a community leader was concerned that “not many businesses... can respond to the needs of the mining companies.” If infrastructure development increases the cost of living without creating opportunities for local residents to take advantage of increased accessibility, it would significantly weaken the desirability of the proposal.

On the other hand, increased accessibility could help manage the pressure of increased population through new business opportunities and reductions to the cost of living. In Rankin Inlet, the President of the Chamber of Commerce said that “the Kivalliq region is really hoping for the spinoffs of mining.” Such positive impacts are conceivable; the extension of the Dempster Highway in the Northwest Territories from Inuvik to Tuktoyaktuk promises to accelerate resource development in the Beaufort Sea while reducing the cost of living for the 900-odd inhabitants of Tuktoyaktuk by $1.5 million per year.

Based on our interviews, the community impact assessment should aim to answer the following questions:

- How will the new infrastructure impact the lifestyle or traditions of the Inuit?
- Will the infrastructure project force residents to relocate?
- Can existing, ancillary infrastructure sustain traffic increases?
- What opportunities will the new infrastructure offer the Inuit?

Through our interviews, communities’ views were made clear to us: Nunavummiut seek economic opportunity and the preservation of traditional lifestyles. If thorough consultations to determine desirability are undertaken first, both can be achieved. Traditional customs and activities are already being adapted to new economic and social realities. The challenge is to determine how transportation infrastructure projects can enhance this process, and contribute to communities’ social capital and long-term economic sustainability.

5.3  COST-BENEFIT ANALYSIS: A PROCESS FOR EVALUATING TRADE-OFFS

Once a project has undergone a Desirability Assessment, the next step is to explore its potential costs and benefits to determine whether, on balance, it is worth pursuing. These include all lifecycle costs as well as an assessment of the social benefits, potential spillovers and indirect benefits. This section focuses on the costs of building transportation infrastructure and the public benefits that can result, above and beyond the profits that accrue to private companies.

5.3.1  Costs

Interviews with stakeholders demonstrated the types of costs that must be considered, including those related to: design (including exploratory work); construction; and operations and maintenance over the long-term. Accurately assessing infrastructure costs should also consider the particularities of building infrastructure in Nunavut. This process includes...
adequately planning for limited energy availability, restricted accessibility and the potentially harmful effects of climate change. It should also include a long term maintenance plan to preserve the infrastructure or remediation plans to mitigate negative impacts on communities and the environment once infrastructure is no longer in use.

Costs can often be very high even for basic infrastructure. In the case of the gold mine at Meadowbank, Agnico Eagle was responsible for building the 110-kilometre utility road required to link Baker Lake to the mine site. The road was developed at a cost of $76 million, with $1 million in ongoing annual maintenance costs. The company is also considering building a 24-kilometre all-weather road (including 3 bridges) to support the Meliadine gold mine, a new project in Nunavut.

5.3.2 Benefits
There can be many public benefits to infrastructure development. These benefits fall into three categories – social benefits, spillover benefits and indirect benefits – which all lead to economic benefits for the territory.

Social benefits
Social benefits include job creation, training and educational opportunities, and better access to social services.

The NLCA requires opportunities for the Inuit to bid on all projects in Nunavut, along with the necessary help to prepare competitive proposals. As such, the construction and maintenance of transportation infrastructure can increase the number of job opportunities for local residents. In parallel, the workforce must receive training which, in turn, can make workers more autonomous and improve their chances of occupying progressively better positions in future projects. Mining companies also provide numerous direct opportunities: Agnico-Eagle’s Meadowbank mine’s workforce is 39% Inuit. In 2012, $20 million was paid in wages to Meadowbank’s Inuit employees.

In addition to better jobs and training, Nunavummiut would benefit from better access to social services. For instance, they could have better access to medical services and recreational facilities developed alongside the mining operation. Infrastructure also helps make basic necessities more accessible and facilitates the import and export of goods that ultimately improve quality of life. Some infrastructure can also help the Inuit maintain their traditional activities.

In an interview with Agnico Eagle Mines, they revealed that local communities wish to keep the road that was built to support the Meadowbank mine since it provides better and easier access to hunting grounds and recreational facilities.

Royalty payments
The Inuit own almost 17% of the land in Nunavut and they have subsurface rights to approximately 2% of the land. They receive all royalties from mining on the latter land (AANDC, 2014). Under this regime, NTI received its first royalty payment from Agnico-Eagle for the Meadowbank mine on May 1, 2012, in the amount of $2.2 million. NTI’s President estimates that NTI will collect approximately $219 million over the next six years, a fraction of the amount that will flow to the federal government, from the mine. This payment may represent the beginning of a significant source of long-term financial benefit to the Inuit of Nunavut, who stand to gain further royalty payments through NTI as a result of future mining development.

Spillover benefits
Spillover benefits include accelerated economic development that can occur as a result of an infrastructure project. They may include other kinds of modernization such as increased economic activity due to better accessibility and spinoffs from the construction of other infrastructure such as grocery stores, lodging, and restaurants.

Pre-existing infrastructure can also act as a catalyst to economic development. Consider, for example, the Tibbit-Contwoytow winter road. MMG is planning to build a temporary winter road connection to the Tibbit-Contwoytow winter road in order to facilitate staging of materials and supplies needed for construction of the Izok Corridor Project (e.g., construction and operations facilities and the southern portion of the all-weather access road). In an interview with MMG Canada they mentioned that the winter road connection to the Izok Lake deposit has been used by previous owners of this property to establish the exploration camp near Izok Lake. This is just one example of how existing infrastructure can support resource development in the area.

Indirect benefits
In the same way that the transcontinental railway helped shape Canada and link it from west to east, any infrastructure developed in Nunavut can be assessed on how it helps Canada assert its position in the Arctic and provide
additional security in the area. Pierre Leblanc has been a strong advocate for expanding Resolute Bay base to bolster Canada’s sovereignty in the Arctic; an expanded deep-water port in Nanisivik could similarly support sovereignty while facilitating access to resources on Baffin Island.

5.4 Financing assessment: finding the optimal fit

Major infrastructure proposals often receive the maximum federal contribution allowable under the Infrastructure Framework Agreement Canada-Nunavut. More creative and comprehensive consideration of alternate sources of funds may allow public infrastructure dollars to catalyse more projects. In the face of extremely high risks and costs, there can be great benefit to partnering with other entities, including private companies that could better sustain and mitigate these risks. In this section, we propose some guidelines to identify potential financing partners.

5.4.1 Financial stakeholders

Many entities within the federal and territorial governments can contribute to financing infrastructure projects, provided there are significant benefits to communities or significant growth opportunities for the Territory. A key source of funding has been the Building Canada Fund which contributes up to 75% of total eligible costs in Nunavut.

Private stakeholders should also be considered when evaluating various funding options. These stakeholders include venture capitalists, investors looking for long-term investments and others. Investors could also be foreign, as they sometimes have a greater appetite for risk than Canadian investors.

Attracting suitable investors is a challenge that is exacerbated by the lack of a concerted effort to showcase the incentives to invest in Nunavut. Furthermore, investors are often looking for investments with some form of guarantee, which can be difficult to provide when companies are investing in projects with so many unknowns.

5.4.2 Financing spectrum

Based on our research, we propose a financing spectrum that identifies potential funding arrangements for transportation infrastructure financing in Nunavut. The high cost of major transportation infrastructure projects presents a strong case for collaboration with the private sector through innovative arrangements such as Public-Private Partnerships, or “P3”s. “Public-Private Partnerships (P3s) are a long-term performance-based approach to procuring public infrastructure where the private sector assumes a major share of the risks” (P3 Canada). Appropriate collaboration with the private sector can introduce market forces into the procurement process for public infrastructure and thereby lower the cost to taxpayers.

Our financing spectrum is presented in Figure 3 and illustrates six possible funding arrangements that should be considered when evaluating funding options for an infrastructure project.

Moving from left to right, the private sector financing arrangement consists of a private company fully designing, building, maintaining and financing the project. The company is the sole risk bearer. When the private sector partners with a third party (such as an institutional investor or a venture capitalist) additional expertise and funds are brought to the table. Managing conflicting priorities and ensuring that interests are maximised is essential for success. Public and private partnerships introduce market forces into conventional public sector procurement and allow the government to leverage the power of competition by creating incentives that can lower the cost of both building and maintaining infrastructure. Design-build contracting or firm fixed-price contracting is a project delivery strategy
Our interviews revealed that stakeholders are open to partnering to finance infrastructure projects. Adequately managing risk while balancing conflicting priorities and interests can prove difficult. Screening for all viable funding arrangements and assessing trade-offs associated with various forms of collaboration can create efficiencies and potentially lead to significant savings.

6 RECOMMENDATIONS

This report has proposed a three-step process to assess transportation infrastructure projects in Nunavut:

• The desirability assessment
• The cost-benefit analysis
• The financing assessment

Based on the analysis presented in this report, we recommend:

I. That key stakeholders, including Inuit governance organizations and the federal, territorial, and municipal governments, conduct a comprehensive assessment of projects using a multifaceted, three-step process of desirability, costs and benefits, and financing options to determine the viability of pursuing transportation infrastructure projects in Nunavut.

   We recommend that stakeholders address the inherent trade-offs between the benefits of development and their associated risks. No project will present a perfect case. Many viable projects will present trade-offs between the economic benefits of infrastructure development and their potential environmental or lifestyles costs.

II. That all stakeholders, including Inuit governance organizations, major private-sector investors, and the federal, territorial, and municipal governments, move beyond the “either/or” paradigm of tradition vs. development to embrace a more pragmatic, innovative vision for the economic future of Nunavut.

   Economic development is welcomed by communities provided that it is pursued in a respectful manner. Traditional customs and activities are already being adapted to new economic and social realities. Communities and developers should work together to ensure that future transportation infrastructure projects enhance this process and communities’ social capital while building long-term economic sustainability.
III. That the federal and territorial governments consider the full spectrum of financing options when contributing public funds to transportation infrastructure projects. Each financing option on the spectrum should be considered when evaluating a new transportation infrastructure project. By adding this step to Nunavut’s Transportation Strategy, the Government of Nunavut can stimulate a healthy debate about alternative financing options including P3s.

IV. That key stakeholders, including Inuit governance organizations, prioritize projects based on community benefits and their potential to accelerate economic development in Nunavut. A number of strategic infrastructure projects in Nunavut could serve as accelerators for increased resource development and further infrastructure expansion. Ensure that the “catalyst” aspect of all projects is included in the cost-benefit analysis. e beyond the “either/or” paradigm of tradition vs. development and embrace a more pragmatic, innovative vision for the economic future of Nunavut;

V. That desirable projects which receive full territorial and federal support provide public benefits that are proportional to the cost. When assessing the desirability of project, it is important to measure the long-term impact on the environment and the nearby communities. Assuming the project is desirable, critically assess the benefits created by looking at social, spillover and indirect benefits.

7 CONCLUSION

Nunavut’s subsoil holds significant economic potential, yet these natural resources remain untapped and underground. A major barrier to resource development in Nunavut is the high cost and overall lack of transportation infrastructure. Canadian history teaches us that governments across the federation have faced transportation infrastructure challenges in the past and found ways to overcome them. From the transcontinental railway, to the infrastructure that helped open up Northern Quebec, strategic investment in transportation infrastructure can create opportunities to develop natural resources. This is done by improving accessibility; enabling market access and bolstering shipping corridors; and attracting further investment and private sector development while providing social benefits to local communities.

Assessing and prioritizing projects is therefore a critical step to identifying infrastructure proposals that provide benefits to all stakeholders. A three-step, multifaceted process that assesses infrastructure proposals on the basis of desirability, cost-benefit, and financing options can help unpack the complexity of these projects.

Based on the analysis presented in this report, we recommend that the three-step assessment process be used to determine the viability of pursuing transportation infrastructure projects in Nunavut. We also encourage stakeholders to collaborate in innovative ways to ensure that major infrastructure projects improve the current economic and social realities of Nunavut while accelerating economic development in the territory. Finally, we suggest that federal and territorial governments consider the full spectrum of financing options when contributing public funds and ensure that the public benefits are proportional to the public costs. These steps can help promote the long-term prosperity of Nunavut, its people, and its country.
8 BIBLIOGRAPHY

(n.a.) Consulted January 12, 2014, on Le Soleil: http://pdf.cyberpresse.ca/lesoleil/carte221111.jpg


George, J. (2012, March 31). Mining companies revive Nunavut’s Bathurst road and port project. Consulted December 24, 2013, on Nunatsiaq Online: http://www.nunatsiaqonline.ca/stories/article/65674mining_companies_revive_nunavuts_bathurst_road_and_port_project/


Institut de la statistique Quebec. (2013). Abitibi-Témiscamingue and its regional county municipalities (RCMs) and equivalent territory (ET). Consulted on December 30, 2013, sur http://www.stat.gouv.qc.ca/statistiques/profils/region_08/region_08_00_an.htm


Iqaluit International Airport Improvement Project. (n.a.). Consulted on December 24, 2013, sur P3 Canada: www.p3canada.ca/project.php?id=14


NASA. (n.a.). Climate Change Resource Reel. Consulted on December 30, 2013, on www.nasa.gov/centers/goddard/earthandsun/climate_change.html


Tibbitt to Contwoyto Winter Road. (n.a.). Consulted on December 24, 2013, sur www.ytwinterroad.ca/ytwr/
