



Part of the Transport,  
Infrastructure and Communities Portfolio



## **Northern Communities**

Boom, Bust and the Role Of Infrastructure

November 15 - 17, 2005  
Norman Wells, Northwest Territories

Workshop Report

Ministry of Municipal and Community Affairs  
Government of the Northwest Territories

Research and Analysis Division  
Infrastructure Canada

**Canada**



# Northern Communities Boom, Bust and the Role Of Infrastructure

## Workshop Report

November 15 – 17, 2005, Norman Wells

### Table of Contents

Introduction

Overview of the Workshop

Theme 1	How Community Infrastructure is Impacted by Resource Development
Theme 2	Planning for Resource Development
Theme 3	Strategies for Moving Ahead

Conclusion

Appendices

A	Workshop Agenda
B	List of Participants
C	Presentation: Community Impacts of Resource Development – Sheila Bassi-Kellett, MACA
D	Presentation: Boom/Bust and the Role of Infrastructure – Mike Kalnay, MACA
E	Presentation: A Brief Overview of Infrastructure and Communities Initiatives at INFC – Bogdan Makuc, INFC
F	Presentation: InfraGuide – Harold Murphy, InfraGuide
G	Results of Priority Setting Exercise



## Introduction

Resource development adjacent to communities has a profound impact on those communities — on the social, economic, demographic, geographic and physical environment. Economic development related to such resource development has brought prosperity and good times during the “booms” and hardship and desolation during the “busts.”

Communities in the Northwest Territories (NWT) have experienced the highs and lows of large-scale, non-renewable resource exploration and development. In the 1970s, the proposed Mackenzie Valley Pipeline (MVP) resulted in enormous exploration throughout the entire Mackenzie Valley and Beaufort-Delta regions, which in turn generated a great deal of economic activity along the route and in the region. When the Berger report recommended that the proposed pipeline not proceed at that time, communities along the route that had profited from the economic boom of exploration and speculation began to experience the adverse affects of industry withdrawal.

Thirty years later, with the re-emergence of the proposed MVP, a very different context exists in the Northwest Territories. In addition to the settlement of a number of Aboriginal land claims agreements, as per Justice Berger’s recommendations, community governments have assumed greater authority and autonomy and are recognized now as a third level of government by the government of the Northwest Territories.

Communities adjacent to the pipeline route will experience significant impacts as a result of the proposed MVP. It is critical to ensure that community governments are poised to be able to take advantage of the opportunities that may arise from this resource development, but also that they are able to mitigate any potential adverse impacts. A key area where significant impacts are foreseen is community infrastructure, including water and sewer facilities, solid waste sites, municipal lands, roads and granular supply.

In response to the general acknowledgement of the unique pressures on infrastructure that would arise during the anticipated three-year construction phase of the MVP, Municipal and Community Affairs (MACA) and Infrastructure Canada (INFC) began to collaborate on a joint research initiative to improve understanding of the impacts of boom and bust economies on communities in the North which are dependent on a single-resource, with particular emphasis on infrastructure-related impacts.

In November 2005, INFC and MACA hosted an experts’ workshop in Norman Wells, NWT, in order to advance the joint initiative. (See Workshop Agenda – Appendix A.) The meeting was attended by 28 representatives from federal, provincial and municipal governments, the university-based research community, the oil and gas industry, and local engineering firms. (See List of Participants – Appendix B.)

The goal of the workshop was to improve understanding of the impacts of the proposed MVP project on local community infrastructure in the NWT, and to collaboratively develop

concrete suggestions for future research and community-based tools. The workshop was organized around three themes:

- how community infrastructure is impacted by resource development;
- planning for resource development; and
- strategies for moving ahead.

## **Overview of the Workshop**

### **Theme 1 – How Community Infrastructure is Impacted by Resource Development**

The first phase of the experts' workshop explored how community infrastructure is impacted by resource development in Northern communities. Infrastructure plays an essential role in resource development. Community infrastructure that is functioning well is a key factor in attracting investment. It enables the movement of workers to and from an area, and the transportation of construction materials in and primary products out. Conversely, activities related to resource development often hasten infrastructure decline. As community leaders discussed throughout the workshop, the relationship between community infrastructure and resource development needs to be more broadly acknowledged and explored by both industry and other orders of government in order to facilitate efficient and effective policy and decision making.

John McKee, Senior Administrative Officer of Fort Liard, and Meryvn Gruben, Deputy Mayor of Tutoyaktuk, provided a compelling overview of the impacts that resource development has had on their communities in the past. Both communities have experienced significant impacts related to oil and gas exploration and development over the past 25 years. As Mr. Gruben and Mr. McKee explained, the wear and tear on their respective municipal infrastructures was quite substantial. The impacts include increased deterioration and subsequent maintenance costs for local roads due to increased traffic and heavy equipment use; lack of capacity to handle the increased sewage and solid waste generated from nearby camps; increased pressure to generate sufficient potable water for the camps; and improper storage and disposal of hazardous waste generated by the resource extraction process.

Their experience suggests that municipalities have tended in the past to bear the cost of the increased use of their infrastructure, including increases in administrative and employment costs, insurance and deferred maintenance and capital costs. The period from the discovery of a natural resource through exploration and development of the resource is generally quite short, therefore, communities need to be prepared in advance to negotiate with industry and other orders of government to mitigate the effects of an often substantial increase in use of the community's physical infrastructure. The current state of the infrastructure in a community also has an impact on the ability of that community to benefit from short-term resource exploration; for example, Norman Wells had an excellent water treatment system

that allowed it to provide service to the industry camps without compromising their ability to provide service for residents.

In conclusion, Mr. McKee and Mr. Gruben expressed the opinion that the benefits to communities from resource development will outweigh the negative impacts only if the communities are adequately prepared to take advantage of opportunities. Northern communities need the infusion of jobs and money provided by the oil and gas industry to survive, and thus they must be able to build the capacity to attract and retain industry investment in the community. For example, as Tuktoyaktuk's existing solid waste dump already exceeds capacity, the town would be unable to accommodate solid waste from construction camps.

Sheila Bassi-Kellett from MACA gave a presentation on the predicted impacts of the MVP on local communities as described in the Mackenzie Gas Project Environmental Impact Statement. (Refer to Appendix C for more details.)

Ross Papirnick, from the Mackenzie Gas Project (MGP) explained that the camps along the MVP route will only be occupied for three to four months of the year for two years, and will be entirely self-sufficient. Decommissioning strategies for the camps have already been formulated and will include the conversion of camp infrastructure into community infrastructure where appropriate. Mr. Papirnick also suggested that communities need to demand better relationships with industry in order to ensure that communities become better places while industry is there, and that the legacy of resource development in communities is a positive one.

Professor David Lertzman from the University of Calgary suggested that to arrive at new and innovative answers to old issues, we need to shift our perspective, to look around for examples of sustainability that already exist. Boom and bust cycles have long been a reality in the region, and to benefit from the accumulated knowledge of traditional cultures requires a shift in our conception of development away from a purely economic one, to one that takes into account the human and environmental indicators of development. Sustainable development is an inherently participatory process, and to be successful it requires the full participation of everyone involved.

Reconciling the desire to attract and accommodate industry with the need to ensure the sustainability of community infrastructure is a key issue confronting community decision makers as they prepare for the pipeline. While there is no easy or apparent solution to this problem, participants discussed a number of possible mitigation strategies. These included developing more timely and robust communication between industry, regulators and communities, and slowing down the decision-making process to allow communities, government and industry to keep pace with each other. Workshop participants also indicated that communities needed more time to develop the tools and targeted research that will allow them to make informed decisions and to formulate effective strategies regarding community infrastructure.

## Theme 2 – Planning for Resource Development

The next phase of the workshop focused on the tools and resources needed to effectively plan for resource development. As much of the region has already experienced the highs and lows of resource development, and all of the communities in the Mackenzie Valley are preparing in some manner for the current pipeline, community leaders from the region are uniquely positioned to identify what is involved in the preparation process, and the tools, resources and skills they will need to ensure the most beneficial outcomes for communities.

Alec Simpson, the Town Manager of Norman Wells, described a town that is well prepared for the pipeline. Previous resource exploration and development in Norman Wells has taught the town a number of things regarding what is needed to prepare for resource development, such as:

- Appropriate legislation, including municipal by-laws and the capacity to use and enforce them;
- Planning tools to control speculation;
- The ability to participate in regulatory hearings and to be kept informed of all proceedings and outcomes; and
- The need for communities to be the locus of communication between industry and other orders of government.

As a result of the town's past experience with resource development, Mr. Simpson indicated Norman Wells has been able to better prepare this time for the advent of the MGP. The community has established an advisory committee composed of local business owners and government. As well, recent MACA legislation, increased funding, and a community web site have improved the preparation process.

The perspective of how smaller communities in the Mackenzie Valley are coping with the development process was given by Wilson Dimsdale, MACA's Resource Impact Coordinator for the Deh Cho Region, and former Band Manager for the Pehdzeh Ke First Nation, and Daniel Steiner, Lands and Resource Manager for the Pehdzeh Ke First Nations, based in the community of Wrigley. The planning and preparation process in Wrigley has been very taxing on the community. The community has barely enough resources to deal with ongoing business, let alone evaluate, assess and prepare for the MGP. A small pipeline working group has been created by members of the community, but they are a tiny group of citizens attempting to deal with an industry giant. Wrigley is also attempting to diversify its economic base, creating a by-pass along the winter road near Wrigley with a motel and restaurant that will serve both tourism and pipeline-related traffic, and is also considering building a jet fuel station and a sawmill.

Professor Eric Rapaport, from the University of Northern British Columbia, shared his experience working with communities in Sweden facing similar issues. Based on this experience, he made a number of suggestions for how communities can be pro-active in their dealings with industry. His suggestions included:



- Incorporating local environmental impact assessments into the community-planning process, and using them as a tool with which communities can proactively negotiate with industry;
- Allowing communities access to the camps in order to monitor and evaluate industry compliance with by-laws and other regulations. There needs to be established consequences for non-compliance — at the most extreme, communities should be able to dismantle the camps; and
- Ensuring that industry clearly indicates how project-specific infrastructure will be used when the project is completed, or provides plans for decommissioning the infrastructure.

Ultimately, without economic diversification northern communities will remain at the mercy of the unpredictability of the natural resource industry. Economic diversification remains a challenge in the North due to factors such as isolation, harsh climate, high cost of living, and uncertainties associated with climate change. Community representatives expressed concern that if the MVP project does not go ahead, they do not know how their communities will survive. Long-term strategies to increase the resiliency of northern communities might include investing in assets, such as cultural and social infrastructure (e.g., theatres, recreational complexes) that will attract investment, people, and businesses to the region.

### **Theme 3 – Strategies for Moving Ahead**

The message conveyed by community representatives throughout the workshop was that in order to make good decisions for their communities they need time and information, both of which have been difficult to come by in the current stage of the pipeline development process. Tools that facilitate the flow of knowledge would enable community decision makers to do their job more effectively and efficiently.

In this session, an overview of the tools and strategies currently available to communities in the NWT to help prepare for the pipeline was presented. Participants discussed tools that have been successfully used in other regions to enhance community sustainability throughout boom-bust economic cycles and could be applied to communities in the Mackenzie Valley. The experiences of other regions in planning and preparing for resource development also provided important insights into the process from a regulatory and policy perspective.

Peter Clarkson, Mayor of Inuvik, described how the Town of Inuvik has embarked on various projects to make the community more resilient to the boom and bust economic cycle of resource development. The town hired full-time development officers, and invested in a GIS system to manage community infrastructure. Inuvik's efforts at economic diversification projects included the sale of municipal land and hosting the Inuvik Petroleum Show, an annual event. Continued oil and gas exploration and development in the region will also provide ongoing opportunities for economic diversification, especially the establishment of permanent research, tourism and recreational facilities.

Professor Sean Markey, from Simon Fraser University, discussed his experiences with regional government initiatives in Northern British Columbia, specifically why they have been beneficial for areas economically dependant upon natural resources. In northern British Columbia, regional governance models have provided opportunities for regional resource profit sharing, a regional trust fund, and regional marketing and co-op purchasing, in effect creating economies of scale for remote communities by leveraging and sharing resources at a regional level. Professor Markey suggested that the NWT would also benefit from integrated regional cooperation and investment, as it could facilitate the creation of regional investment tools, technical capacity pools, increased information sharing among communities, GIS data collection, and increased training and development capacity.

Mike Kalnay from MACA gave an overview of the actions and strategies currently being undertaken by MACA to facilitate the Pipeline development process for communities. (Refer to Appendix D for more details.)

Bogdan Makuc from Infrastructure Canada explained the Department's Integrated Community Sustainability Plan. (Refer to Appendix E for more details.)

Harold Murphy presented an overview of the InfraGuide and discussed how a Northern Communities addition to the InfraGuide could be accomplished. (Refer to Appendix F for more details.)

## **Conclusion**

The final phase of the Workshop was devoted to a priority-setting exercise in which participants suggested a number of possible next steps for the research initiative. These included the following (the full results of this exercise are presented in Appendix G):

- A case study to document and monitor the impacts of the Mackenzie Valley Pipeline on local community infrastructure. The study would address the need for solid baseline information on community infrastructure (including roads), and the need to develop monitoring techniques, as well as undertake actual monitoring during all phases of pipeline development.
- A set of tools for community leaders that will facilitate access to critical information and technical support on issues such as the total life cycle costs of infrastructure, resources for negotiating with other governments and industry, and the like. Possible tools could include:
  - Regular workshops targeted to community government managers (Senior Administrative Officers, Band Managers) on technical support and tools (could be virtual);

- An overall guide for community governments highlighting potential issues, strategic considerations, etc., as related to community interests in resource development;
  - Written guidelines for communities dealing with industry (“How to” guides). Industry would contribute to develop these guidelines; and
  - Build on and expand best practices to include regional approaches, petroleum shows, capacity inventories, and community information sharing in order to document community experiences with resource development in the past. This would include developing a Northern Communities Best Practice addition to the InfraGuide.
- In order to build on the momentum created at the Norman Wells Workshop, and to further explore the next steps for the research initiative proposed at the Workshop, Mayor Peter Clarkson of Inuvik proposed a follow-up Experts’ Workshop for the spring of 2006. The group expressed interest in continuing to involve the academic community so that there is access to student research/writing expertise for the project, and perhaps even for community-specific initiatives that could be mutually beneficial.

Many concrete suggestions for future research were tabled at the workshop, which concluded with a renewed commitment from Infrastructure Canada, MACA and local communities to continue to work together to conduct relevant, targeted research that will support communities affected by the proposed development of the Mackenzie Valley Pipeline.



## **Appendix A: Workshop Agenda**

### **Tuesday November 15**

Opening comments by co-chairs (Debbie DeLancey/Guy McKenzie)

Opening comments by Mayor Clarkson

Background of research project

- Purpose/intent
- Overview of participants
- Desired outcomes

Round table introduction of participants – *who you are, background, what's your interest in this issue and what do you hope to get out of this workshop* (2 minutes each)

### **Theme 1 – How Community Infrastructure is Impacted by Resource Development**

Define the theme – Co-chair Debbie DeLancey

Presentations:

- John McKee, SAO, Fort Liard – overview of experiences
- Mervyn Gruben, Deputy Mayor, Tuktoyaktuk – past experiences/current pressures
- Sheila Bassi-Kellett, Municipal and Community Affairs – community impacts as described in the Mackenzie Gas Project Environmental Impact Statement
- Ross Papirnick, Mackenzie Gas Project
- David Lertzman, Professor, University of Calgary

### **Wednesday November 16**

Recap of presentations on Theme 1

Discussion/Round table

- What issues/questions do we want explored/answered?

### **Theme 2 – Planning for Resource Development**

Define the theme - Co-chair Guy McKenzie

Presentations:

- Alec Simpson, Town Manager, Norman Wells – the RDIG experience

- Wilson Dimsdale/Daniel Steiner, Wrigley - experiences in planning to address impacts
- Tim Coleman, Mackenzie Valley Pipeline Office, GNWT– GNWT’s actions to plan and prepare for MVP
- Eric Rapoport, Professor, University of Northern British Columbia

Discussion/round table

- What issues/questions do we want explored/answered?

### **Theme 3 – Strategies for Moving Ahead**

Define the theme – Co-Chair Debbie DeLancey

Presentations:

- Peter Clarkson, Mayor, Town of Inuvik– strategies in preparing for the Mackenzie Valley Pipeline
- Sean Markey, Professor, Simon Fraser University
- Mike Kalnay, Municipal and Community Affairs – current actions and strategies being undertaken by MACA
- Bogdan Makuc, Infrastructure Canada – Tools and actions being undertaken
- Harold Murphy, InfraGuide – approaches to maintaining community infrastructure

Discussion/round table

- What issues/questions do we want explored/answered?

### **Thursday November 17**

Where do we go from here?

Define the actions we need to undertake to move forward:

- What questions do we want answered?
- What should planning guidelines address for communities?
- What do communities need to do to plan?
- How can we maximize the lifespan of community infrastructure?
- How can we utilize the current trend to emphasize ‘sustainable infrastructure’ to address the unique pressures of resource development

Next steps

Assign tasks/responsibilities

Tour of Norman Wells municipal infrastructure

## **Appendix B: List of Participants**

### **Community Representatives**

Peter Clarkson	Mayor of Inuvik
Alec Simpson	Senior Administrative Officer - Norman Wells
John McKee	Senior Administrative Officer - Fort Liard
Daniel Steiner	Lands and Resources Manager - Pehdzeh Ke First Nations
Mervin Gruben	Deputy Mayor - Tuktoyaktuk
Paul T'seleie	Councillor - Kasho Gotine Charter Community Council
Brian Desjardins	Manager of Communications - NWT Association of Communities

### **Federal Government Representatives**

Guy Mc Kenzie	Associate Deputy Minister - INFC
Margaret Hill	Director, Research and Analysis - INFC
Amelia Shepherd	Research Analyst - INFC
Bogdan Makuc	Cities and Communities Representative - INFC
Harold Murphy	Technical Advisor - InfraGuide

### **NWT Government Representatives**

Debbie DeLancey	Deputy Minister - MACA
Sheila Bassi-Kellett	Director of Corporate Affairs - MACA
Mike Kalnay	Director of Pipeline Readiness - MACA
John Picek	Regional Superintendent Inuvik Region - MACA
Barry Harley	Regional Superintendent, Sahtu Region - MACA
Wilson Dimsdale	Resource Impact Coordinator, DehCho region - MACA
Tim Coleman	Director, Mackenzie Valley Pipeline Office - Department of Industry, Trade and Investment
Jayleen Robertson	Policy and Planning Advisor - Department of Transportation

### **Industry and Engineering Representatives**

Richard Fielden	Engineering consultant
Gary Strong	Engineering consultant
Ross Papirnick	Community Relations - Mackenzie Gas Producers

### **Researchers/Academic Representatives**

David Lertzman	Professor - International Institute for Resource Industries and Sustainability Planning-University of Calgary
Eric Rapaport	Professor - School of Environmental Planning - University of Northern BC
Sean Markey	Associate Professor - Centre for Sustainable Communities - Simon Fraser University

## Appendix C

# Community Impacts of Resource Development *including* highlights from The Mackenzie Gas Project Environmental Impact Statement

Overview for the Boom and Bust Workshop  
November 2005



## Community Impacts of Resource Development

- Three key areas where pressure is felt
  - Inability of community infrastructure to handle increased usage and demand resulting from exploration and development
  - Cumulative impacts on the quality of life in NWT communities
  - Human resource capacity
- Infrastructure such as water and sewer systems, solid waste sites, land development, roads, granular supplies could be impacted

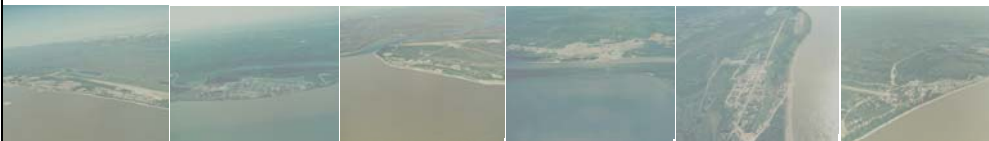




Infrastructure	Impact	Possible Scenarios
Water Supply	<p>Any new demand for water services will create an impact. This demand may come from increased community population growth, or industrial users' requirements for camp installations and other industrial uses. The capacity to meet these demands stretches the limitations of a community's current water system, and in some instances, may not even exist.</p>	<ul style="list-style-type: none"> <li>•Inadequate supply</li> <li>•Violation of water licenses</li> <li>•Capacity to pump</li> <li>•Capacity to treat</li> <li>•Capacity to distribute</li> </ul>



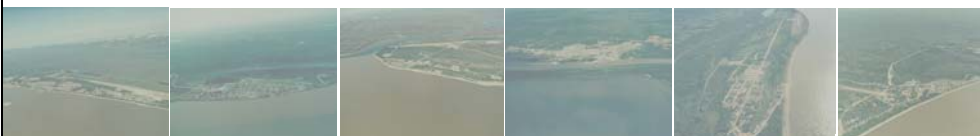
Infrastructure	Impact	Possible Scenarios
Sewage Lagoons	<p>Similar to the demands for water, development creates the potential for increased demands on the sewage system. The approach taken to respond to these impacts will depend on the existing capacity of the sewage system.</p>	<ul style="list-style-type: none"> <li>•Inadequate capacity to haul</li> <li>•Capacity to dispose</li> <li>•Capacity to treat</li> </ul>



Infrastructure	Impact	Possible Scenarios
Solid Waste Sites	<p>Increased population and/or industrial activity results in a greater production of solid waste that occupies the available space in the solid waste sites and necessitates the need to advance capital project planning (e.g. garbage trucks and solid waste sites). In addition, the type of solid waste for most communities in the NWT has been a municipal type solid waste. Industrial activities result in industrial type solid wastes, which can be of a toxic nature.</p>	<ul style="list-style-type: none"> <li>•Inadequate capacity to haul</li> <li>•Industrial waste capacity</li> <li>•Hazardous materials issues</li> <li>•Decreased lifespan</li> </ul>



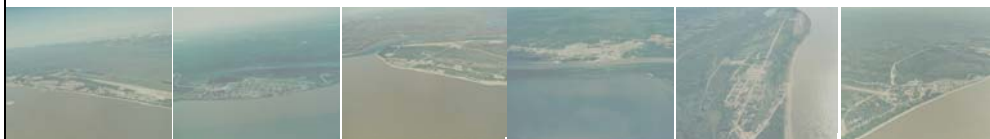
Infrastructure	Impact	Possible Scénarios
Land Development	<p>Increased population creates a proportional demand for housing and the associated need for lots to place housing. In addition, secondary/support industry needs result in additional requirements for commercial lands and industrial lands, including storage yards, warehouses, and production shops.</p>	<ul style="list-style-type: none"> <li>•Lots not available to meet demand – especially industrial lots</li> </ul>



Infrastructure	Impact	Possible Scenarios
Roads	<p>Wage economies result in more vehicles per capita in a community. In addition, industrial activities result in heavier type vehicles on the community road systems. More and heavier vehicles will accelerate the wear and tear to the community roads, thus requiring increased maintenance.</p>	<ul style="list-style-type: none"> <li>•Additional wear and tear on roads</li> <li>•Increased use of mobile equipment</li> </ul>

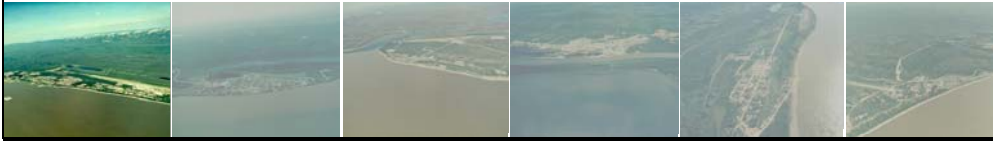


Infrastructure	Impact	Possible Scenarios
Granular Material Inventory	<p>The base material for infrastructure development and maintenance in a community is gravel. Good granular sources close to communities are scarce in the NWT and gravel stockpiling is an ongoing challenge. Increased demand results in an increased requirement for large scale operations in order to be economically viable.</p>	<ul style="list-style-type: none"> <li>•Insufficient granular materials for community use – for roads, lot development, etc.</li> </ul>



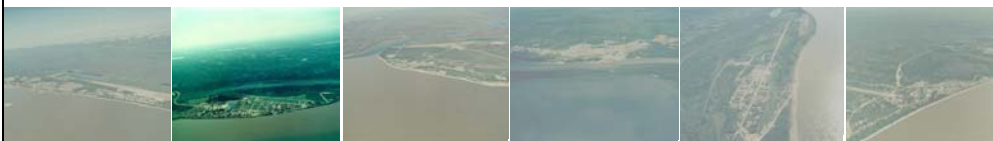
## Purpose of the MGP Environmental Impact Statement (EIS)

- The EIS was developed over three years by the Mackenzie Gas Project incorporating input from communities likely to be affected by the proposed pipeline
- It follows direction set by the relevant regulatory agencies that are responsible for assessing and regulating resource development projects in the NWT



## The EIS includes:

- An overview of the project for the purpose of an environmental assessment
- A description of the bio-physical and socio-economic baseline conditions
- An assessment of potential impacts organized according to key questions and developed with community input
- A description of mitigation measures to mitigate adverse bio-physical and socio-economic impacts
- A summary of environmental management plans designed to reduce or manage adverse bio-physical impacts, while enhancing impacts to the communities of the NWT



# Timing of the Project

## Three phases to the MGP

- Pending regulatory approval and decision by industry to proceed, design and construction are scheduled to last for three years
- Operations will begin after that and will last as long as gas production makes economic sense
- Decommissioning and abandonment will then get underway after that in accordance with regulatory requirements

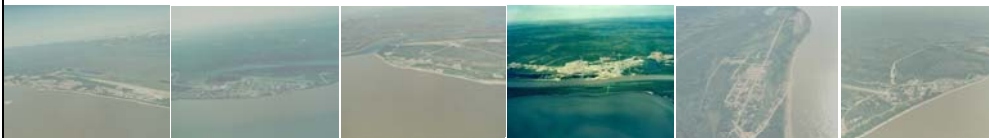
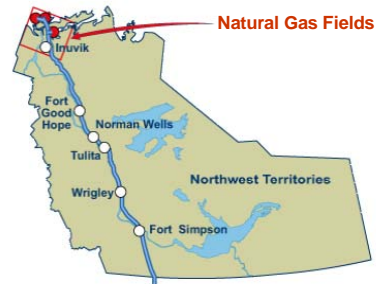


# Pipeline Route

Gas is collected in the Beaufort Delta

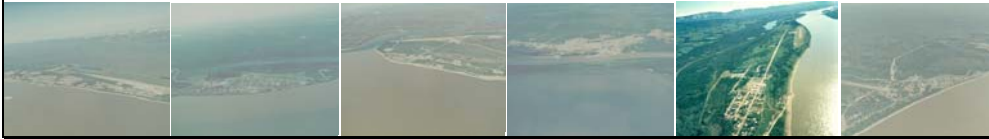
The pipeline route is through the Mackenzie Valley, adjacent to Inuvik, Fort Good Hope, Norman Wells, Tulita, Wrigley, Fort Simpson

During construction, large camps are planned adjacent to Inuvik, Fort Good Hope, Norman Wells, Fort Simpson and Hay River



## Issues addressed in the EIS

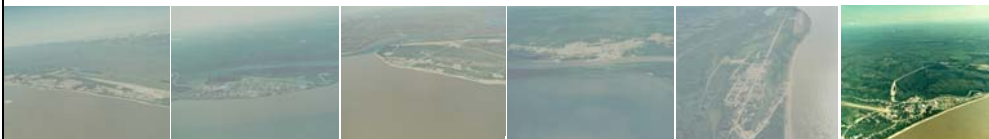
- **Bio-physical impacts of the project on the natural environment**  
- land, water (including ground water and water quality), soil, trees & plants, wildlife and fish
- **Socio-economic impacts of the project on communities and residents that will be affected by the project**



## Socio Economic Issues Identified

The Socio-economic impact assessment focus on the wellness of communities in key areas such as:

- **Communities and people**
- **Economic activity,**
- **Labour force/employment**
- **Income sources & amounts**
- **Cost of living**
- **Transportation and infrastructure**
- **Utilities, energy and communications (including water, sewage & garbage)**
- **Housing and recreation**
- **Governance**
- **Family and community wellness**
- **Health conditions**
- **Health care facilities and services**
- **Education and training**
- **Traditional culture**
- **Non-traditional land and resource use (including gravel)**
- **Heritage resources**



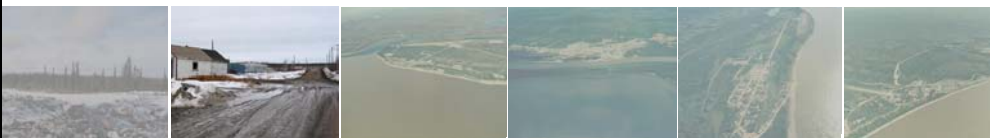
## Water, Sewer and Garbage

- In the EIS, the Mackenzie Gas Project advises there has been no analysis of the suitability of the community infrastructure for project use.
- However, they have stated that where camps are located near communities, the proponent and communities, with the possible involvement of the GNWT, could enter into an arrangement where the MGP is permitted to use community infrastructure – if both parties stand to benefit and if capacity of the infrastructure can meet current and future community needs (EIS Vol. 6 S. 4 , P. 4-27 to p. 4-30).
- Mackenzie Gas Project has proposed to use municipal services in Inuvik, Fort Good Hope, Norman Wells, Fort Simpson and Hay River (EIS Vol. 2, S.6).



## Local Roads

- In the EIS, the Mackenzie Gas project predicts increased barging activity, airport use and winter road use in a number of communities along the route (EIS Vol 2, S. 6,8; Vol. 6, S. 4).
- As a result, industry could be using municipal roads in a number of communities to transport materials and staff from barge landing sites, airports, etc. to pipeline camps and facilities.



## Local Government Employment

- Mackenzie Gas Project has stated that some qualified people will choose to leave existing employment to pursue higher paying or more fulfilling work on the project (Vol. 6, S. 3, p.3-13).
- Because a number of MGP positions are closely related to community government positions (e.g., foreman, office support staff, heavy equipment operator, etc.), community governments may lose existing staff to the project.
- Mackenzie Gas Project has identified training opportunities for the operations phase, but not for the construction phase.



## Fire Protection

- No specific mention is made of the project using community fire protection services (EIS Vol. 7, S.5).
- However, where camps and facilities are adjacent to communities, in the event of a fire, a community fire department may respond thus raising liability and capacity issues.





## Granular Materials

- Mackenzie Gas Project estimated that 5 million cubic metres of gravel will be required for construction of the project from existing/new “borrow sites” (EIS Vol. 2, S. 7).
- Several borrow sites identified are located close to communities – Inuvik, Norman Wells, Tulita, Wrigley, Trout Lake and Jean Marie River.



## Recreation Facilities

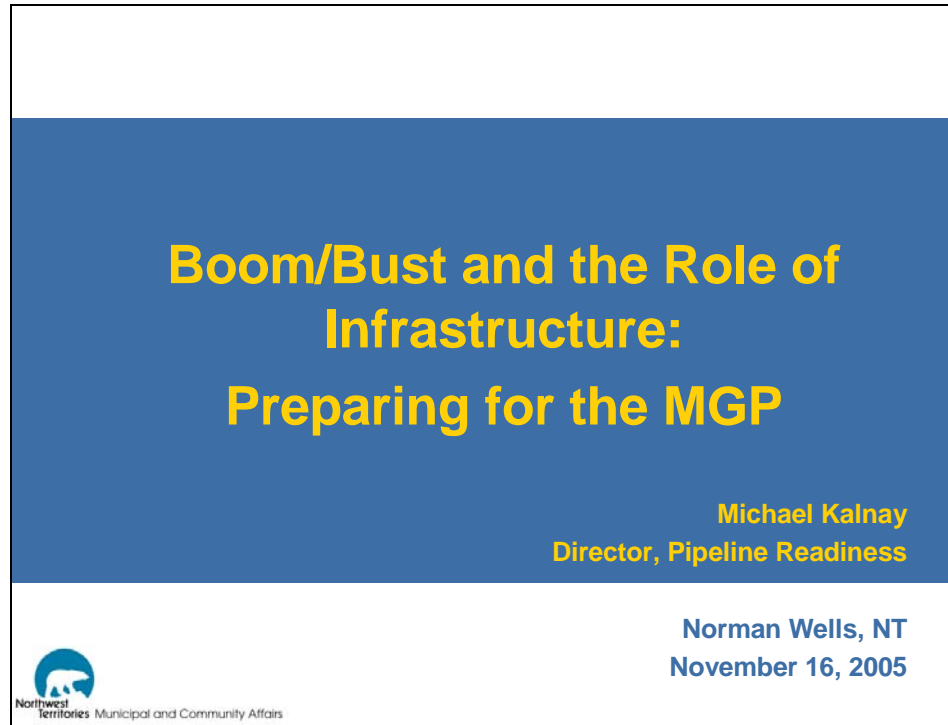
- Mackenzie Gas Project has stated that camps will be self sufficient and will include recreation facilities for employees.
- Mackenzie Gas Project has acknowledged that there may be pressures on recreation facilities in some larger centers during construction – e.g., local recreation facilities will be challenged if Fort Simpson experiences any sizeable increases in short term residents. (EIS Vol.1, p.33)
- Also, where required and in agreement with communities, the project might rent existing facilities (EIS Vol. 6, s. 4, P.4-52).



## **In Conclusion**

- **There are a number of areas in the Environmental Impact Statement that directly affect communities, municipal infrastructure and programs and services.**
- **Municipal and Community Affairs' staff are working to assist communities in identifying relevant impacts and prepare accordingly**


## Appendix D



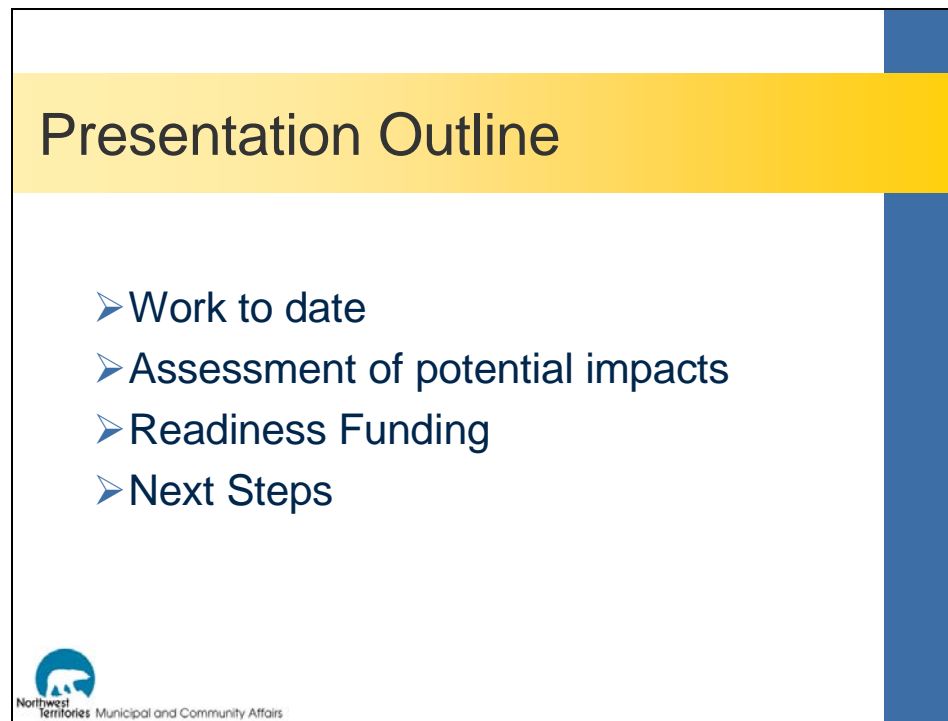
**Boom/Bust and the Role of  
Infrastructure:  
Preparing for the MGP**

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Northwest  
Territories Municipal and Community Affairs



## Presentation Outline

- Work to date
- Assessment of potential impacts
- Readiness Funding
- Next Steps



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## Work to date

- Terriplan Report
- Tool Kit
- Community Profiles
- Regional positions to support communities
- Resource Development Task Team
- Community Leaders' Conference



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## Assessment and Review of MGP

- Two purposes:
  - Identify potential impacts
  - Develop strategies to minimize negative and maximize positive opportunities



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## Assessment and Review of MGP - 2

- Themes from Assessment:
  - Impact on infrastructure
    - direct
    - secondary
  - Competition for staff
  - Fee for service possibilities
  - Many areas of mutual interest and opportunity



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## Community Government Leaders Conference

### **Preparing for the Pipeline**

- Inuvik, December 2004
- 50 Leaders from 20 communities
- Two key objectives:
  - Understand the process
  - Identify impacts and develop strategies



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## Community Government Leaders Conference

- Providing Information
- Knowledge Sharing
- Issues and Strategies
- Resolutions



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## Conference Resolutions

- Lobby for funding for community governments to participate in process and assess impacts and opportunities
- Hold regional meetings on infrastructure and social impacts
- Provide specialized technical support



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## Follow-up Conferences – Social Impacts

- Three held
  - Fort Simpson, Inuvik, Norman Wells
- Participants included community leaders, aboriginal governments, social agencies



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## Follow-up Conferences – Infrastructure Impacts

- 40 people from every community in Dehcho Region
- Inuvik – leaders discussed these issues at regular leadership meeting
- Sahtu focusing on social impacts right now



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## Community Government Funding

\$1.3 million in new funding:

- \$20,000 to 21 communities to prepare for NEB/JRP process
- Up to \$30,000 more to all 33 communities to review proposal, identify issues, opportunities, strategies
- Technical support from contractors through SOA



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## Discussions with MGP - Opportunities for cooperation

- SEA
  - Social impacts
  - Infrastructure impacts
- Other types of agreements with communities:
  - Fee for service
  - Contracts



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## Discussions with MGP – SEA Negotiations

- Protection of existing infrastructure, programs, and staff
- Enhancement of existing infrastructure, programs, personnel
- New infrastructure / services



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## Next steps

- Continue to work with communities as requested
- Coordinate infrastructure assessment
- Prepare interventions



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## Next Steps - 2

- Technical support
- Support discussion with MGP by MTAs and on behalf of other communities
- Represent community and MACAs Territory-wide interests at SEA discussions



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## Questions / Discussion



- **Thank you!**

Comments and questions welcomed at:  
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## Appendix E



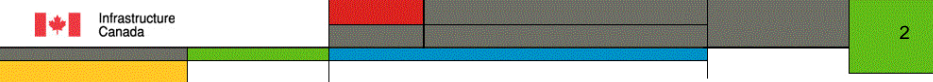

# A Brief Overview of Infrastructure and Communities Initiatives at INFC

*Presentation by  
Bogdan Makuc, INFC Cities Secretariat  
And  
Guy Félio, INFC Program Operations*

*Norman Wells Experts Workshop  
November 15-17, 2005*




[www.infrastructure.gc.ca](http://www.infrastructure.gc.ca)



## Communities and Infrastructure Portfolio

- Infrastructure Canada (INFC):
  - Cities and communities; infrastructure programs, policies and research and analysis; communications; administration.
- Select Crown corporations that have a role in community development:
  - Canada Lands Company
  - Parc Downsview Park Inc.
  - Vieux Port de Montréal
  - Queens Quay West Land Corporation





## Infrastructure Canada

- Public priorities for 2005-06
  - Advancing the New Deal for Cities and Communities
  - Managing and leveraging investments to improve the sustainability of Canada's public infrastructure
  - Building, connecting and sharing knowledge

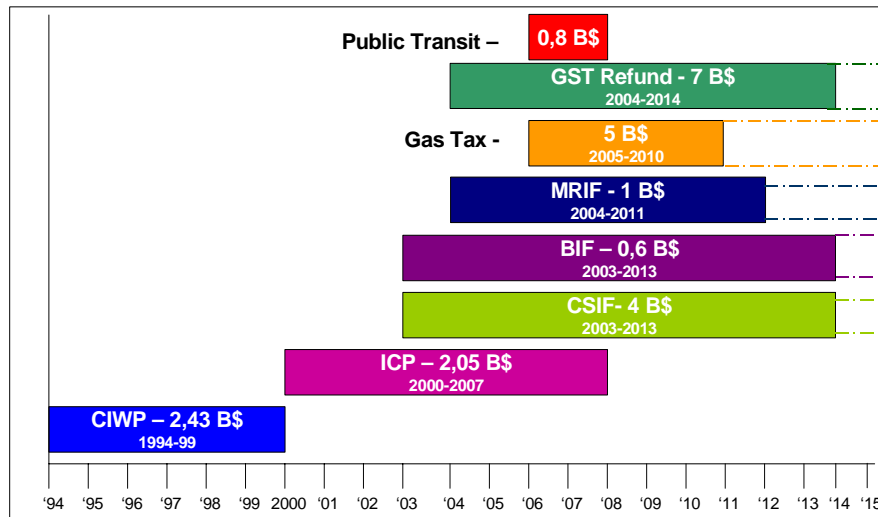


## Building Strong Relationships

- Strong relationships a key to infrastructure success
  - Local governments have been key partners
  - Respect for provincial / territorial jurisdiction
  - Expanded role of municipal organizations
    - In BC and Ontario, municipal associations responsible for delivering gas tax funds to municipalities
  - Includes federal regional development agencies, TC, IC, INAC+ as delivery partners
  - Practitioners community (engineers, planners, finance, etc.)
- International dimension new area of emphasis



## THE NEW DEAL AND INFRASTRUCTURE FUNDING



## New Deal Framework

- Based on a long-term vision of sustainable cities and communities
  - Sustainability is our overarching goal
- Stable, predictable and long-term funding
- Creating new partnerships and connections through use of specific tools including
  - Integrated Community Sustainability Plans
  - Seat at the Table
  - Framework for Tripartite Agreements
  - Building upon partnership delivery



# GAS TAX FUNDS



## Gas Tax Agreements

- \$5 billion over 5 years and ongoing
- Agreements set out basic conditions for funds
  - Environmentally sustainable municipal infrastructure – help to achieve clean air, clean water and reduced GHG emissions
  - Innovative funding approach – funds are upfront, are bankable, no federal role in project selection – municipalities decide on projects
  - Commitment to develop integrated community sustainability plans by municipalities
  - Also commitments to act on other elements of the New Deal – several items in NWT agreement



## NWT Agreement

- Signed on November 10<sup>th</sup> - \$37.5M over five years
  - Funding will reach \$15M in year 5 and will continue at this level
- All 33 communities will each receive a base allocation of 1%
  - Remaining will be distributed on a per capita basis
  - Formula developed in consultation with key community stakeholders
- Communities will be permitted to use funds to help build a stronger capacity for sustainability planning
- Communities can carry over gas tax funds to future fiscal years



## Integrated Community Sustainability Plans (ICSPs)

- Will help accelerate a shift in local planning toward long-term, integrated sustainability and balanced decision-making
  - Economic, environmental, social, and cultural dimensions
  - Community participation
- ICSPs is evolving concept – no single template
- Need to build guidelines and principles collectively to assist communities with ICSPs
  - EACC Roundtable – initial gathering of “expert opinion”
  - Draw upon expertise within federal family
  - Seek input from from P/Ts, municipal sector, Aboriginal organizations; key stakeholders; academics; other partners



## Building Capacity and Knowledge

- Many New Deal initiatives expand municipal capacity to address community sustainability and infrastructure / asset management needs
  - Gas Tax Agreements and ICSPs
  - InfraGuide
  - Municipal Rural Infrastructure Fund – 1%
  - Technology Road Map commitments (CCPE/CSCE/NRC/CPWA)
  - National Roundtable on Infrastructure



## Investments in NWT

- Corridors for Canada (\$65M) – a national priority project
- Municipal Rural Infrastructure Fund (\$16M)
- Infrastructure Canada Program (\$4M)
- National Satellite Initiative (total \$85M) – a national priority project – including a soon to be finalized agreement for NWT Broadband





# MUNICIPAL RURAL INFRASTRUCTURE FUND (MRIF)



## MRIF

- \$1 billion announced in Budget 2003
- Allocation formula: \$15-million minimal floor plus notional based on population – for the NWT, this means \$16 million
- Helps Canadian communities, especially small and rural ones, address some public infrastructure needs



## Eligible Categories

Similar to the Infrastructure Canada Program, but with additional measures to influence the quality of projects funded:

### Green Categories:

- Water and wastewater
- Municipal environmental energy improvements (new)
- Solid waste
- Public transit

### Other Categories:

- Culture, Tourism and Recreation
- Local roads
- Connectivity



## MRIF in NWT



## Agreement

- Signed on January 18, 2005
- NWT is receiving \$2 million more than it received under the Canada – Northwest Territories Infrastructure Program
- Fits the reality of NWT
  - Unique split between tax-based and non-tax-based communities



## Key Features

- Reinforced Partnership
  - Partnership with the NWT Government and observer role for the NWTAC on the Management Committee
- Green Target
  - At least 80% of the funding will go towards “green” projects



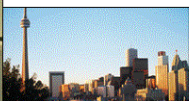
## Key Features (continued)

- Promotes Innovation
  - 20% of the funds earmarked for tax-based communities to go towards innovative technologies
  - NWT people proposing NWT solutions to NWT issues



## Thank You

For more information please visit us at  
[www.infrastructure.gc.ca](http://www.infrastructure.gc.ca)



## **Appendix F: InfraGuide**

### **Background**

InfraGuide began in 2001 as a pilot project to develop a network of practitioners, researchers and municipal officials involved in the municipal infrastructure field. The primary partners in this are the Federation of Canadian Municipalities, National Research Council and Infrastructure Canada.

### **Purpose**

The purpose of InfraGuide was to develop Best Practices as a tool that would help municipalities:

- Identify needs;
- Evaluate solutions; and
- Extend service life of existing infrastructure.

The intent was to do this in a collaborative manner by building on the experiences, both positive and negative, and expertise of a wide variety of stakeholders across Canada.

The areas of concentration are:

- Decision Making and Investment Planning
- Potable Water Systems
- Storm and Wastewater Systems
- Municipal Roads and Sidewalks
- Environmental Protocols

Each area of concentration has a Technical Committee of 9-10 individuals from across the country from diverse backgrounds.

### **Best Practice Process**

- Identify a Best Practice that needs to be developed;
- Select 8-10 subject matter experts to form a Working Group. The composition of the Working Group is intended to represent all areas of the country as well as a cross section of stakeholders i.e. Practitioners, Politicians, Academics, Federal/Provincial/Territorial, Private Sector etc.;
- Perform a detailed literature review on the subject matter;
- Survey 15 to 25 municipalities on the subject. The communities surveyed must include representation from small, medium and large communities;
- Survey Private industry and consultants in the field;

- Prepare a Draft Best Practice and circulate to Peers within the industry for comments;
- Revise the Draft and post on InfraGuide web site for all stakeholders to review; and
- Complete and circulate the final product. The final product is intended to be approximately 30 pages.

At this point over 50 Best Practices have been developed using this process.

### **Current Status/Activities**

Interim funding until 31 March 2006. A 5-year Business Plan is being developed and will be submitted later in November for consideration. (*Note: Business Plan has been submitted since meeting*)

At least 4 Regional seminars are being planned. These will be held in different parts of the country in conjunction with another event.

At least 6 Case studies are underway or being planned. These are intended to demonstrate how a community has used a Best Practice to address their municipal infrastructure challenges.

DMIP is exploring 2 collaboration opportunities.

1. Preliminary negotiations are underway with the Association of Consulting Engineers (ACEC) to contribute financially to the development of a Best Practice---Selection of a Professional Consultant.
2. Discussions are being held with Ontario Municipal Affairs (MAH) and Housing to develop a series of Workshops on Municipal Asset Management.

*Update: Since the Workshop, all of the tasks identified above have been completed.*

## Appendix G: Results of Priority Setting Exercise

Item	Recommendations	Endorsement
1.	Work with the NWT construction, engineering and professional sectors to assess resources available for community priorities.	
2.	Forecast a variety of planning scenarios for communities with the statistics bureau (post-construction).	C G X X
3.	Summarize planning information available to communities or develop predictive models.	
4.	Integrated Community Sustainability Plans (ICSPs) – MACA and NWTAC can develop a template that will support adaptable planning tool(s) – i.e., a framework for infrastructure planning within the concept of sustainability	
5.	<i>Regional approach to develop and maintain water/sewer systems</i>	
6.	Develop a Federal/Territorial/industry partnership on NWT transportation systems.	C G
7.	Ensure that communities have access to information and technical support on the total life cycle costs of infrastructure.	C C G
8.	Best practice on life cycle costing methods.	
9.	Build on and expand best practices to include regional approaches, petroleum shows, capacity inventories and community information sharing.	G G X X
10.	Create a case study that documents and monitors the situation of 3-4 communities.	C C G G X
11.	All weather road (Wrigley, Inuvik, Tuktoyuktuk) – Critical mass infrastructure plan through cooperative planning.	C
12.	Create a plan of action to help communities deal with human infrastructure shortages and competition (SAOs/Band Managers, foremen, contractors)	
13.	Human “net” – Regional advocates to disseminate information.	
14.	Fund/resources for municipalities experiencing infrastructure impacts without the opportunity to realize tax or fee revenue research options	C C G G
15.	Research best practices and innovation in adaptable, flexible northern infrastructure.	G G X
16.	“Thinking beyond the pipeline” – brainstorm on sustainable economy.	
17.	Overall monitoring of Mackenzie Gas Pipeline – economic, population, government costs.	
18.	Adaptation of ‘InfraGuide’ Best Practices for specific issues facing Northern communities	G X X

C = Community  
Government

G = Government  
(GNWT/MACA/IC)

X = Other  
(academic/industry)

19.	Baseline Assessment – Roads and other infrastructures	C C C G X
20.	Determine correlation between climate change and community infrastructure, and possible impacts on existing infrastructure in order to better plan for the future.	C G X
21.	“Bridge Building” – Effective cross cultural communications (i.e. training for industry).	C G X
22.	Target workshops to community government managers (SAOs, Band Managers) on technical support and tools.	C G G
23.	Post all documents from workshop on INFC/MACA/LGANT websites	
24.	Documenting Best Practices – E.G., for revenue generation.	C C G
25.	Targeted research – Supports through KOA, etc.	
26.	“Twinning” projects to look at similarities, shared experiences and goals.	
27.	Community Access to gravel – find solutions – e.g., additional resources, include in socio-economic negotiations, etc	
28.	Energy requirements to build/operate pipeline	
29.	Updates to community council/leaders (Recognize different information needs of claims groups).	C
30.	Guidelines for communities for dealing with industry (“How to” guides); partner with industry to develop.	G X
31.	<i>Opportunities for community information sharing – meetings, annual conference, etc</i>	
32.	Communicate new infrastructure responsibilities at the annual meeting (Partner with NWTAC, Construction Association, LGANT).	C G G
33.	Impact of regulations on community infrastructure.	

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