

Eleke tse di – Watch Each Other:

A Socio-Economic Issues Scoping Study for a Potential All-Weather Road to Whatì, Tłıchǫ Region, Northwest Territories

Alistair MacDonald, Environmental Assessment Specialist

June 10, 2014 (revised final version March 12, 2015)

Submitted to: Sjoerd van der Wielen, Lands Manager, Tłıchǫ Culture and Lands Protection Department

This is the first study, as a Tłıchǫ citizen, we have more control/power to say what is bad in a sense that, if we exercise the power we have we can control what happens in our community.

– Tłıchǫ citizen and Whatì service provider, December, 2013

I guess we need, the old saying is “eleke tse di” translated as “watch each other.”

– Whatì councillor, November 2013

The findings herein are those of the author alone (Appendix A being a notable exception). Nothing in this submission should be construed as to waive, reduce, or otherwise constrain the rights and interests of the people of Whatì or Tłıchǫ citizens, or the Tłıchǫ Government or Community Government of Whatì.

Special thanks go to the Tłıchǫ Government; Kerri Garner, Sjoerd van der Wielen and the Tłıchǫ Lands Protection and Culture Department; Whatì Community Government leadership and Senior Administrative Officer (SAO) Larry Baran; and all the people of Whatì who contributed to this study. I would like to acknowledge the strong leadership of the Whatì Chief, Alfonz Nitsiza.

Janelle Nitsiza and Dlootia Wedzin were Tłıchǫ Liaisons for this Project, and both were employees who worked directly for the Tłıchǫ Government. They skillfully conducted primary and secondary data collection and analysis in support of this project. If their work is reflective of the potential of Tłıchǫ youth, there is much hope for the future.

And to Albert, for letting me help pull net.



Executive Summary

The Government of the Northwest Territories (GNWT) funded this Tłıchǫ Government sponsored Socio-economic Scoping Study of potential social, economic and cultural benefits and risks of a proposed all-weather road to the community of Whatì.

The author worked with the Tłıchǫ Lands Protection and Culture Department to conduct research into the effects of all-weather roads on previously remote communities like Whatì. Previous studies of the pros and cons of an all-weather road to Whatì, as well as other NWT all-weather road proposals, were also studied. In addition, an extensive community engagement program was conducted, gathering information from over 100 members of the Whatì community, from all walks of life, in late 2013 and early 2014.

The author found that while there is a strong under-current of unease and in some cases outright opposition to the all-weather road by Whatì members, there was also a sense in many cases of inevitability that an all-weather road is coming and high potential for economic and, to a lesser degree, social benefits. Many people in Whatì appeared to be ready to change the dialogue from whether an all-weather road should be built (two separate surveys have shown over 80 per cent support for the idea), to where and how it should be built, how and by whom it should be built and operated, and how to prepare the community for the many benefits and risks all-weather access will bring.

People are particularly excited about:

- Access to more and cheaper goods;
- Long-term transportation solution (especially with climate change);
- Job and economic development opportunities from the road and mine (e.g., potential year-round employment for 6 to 8 maintenance staff) and increased business start potential related to greater economic activity;
- Increased mobility; access to the outside world;
- Reduced travel costs (reduced reliance on air travel) contributing to an overall reduced cost of living;
- Opportunities for employment in road building;
- Hospitality – hotels and restaurant;
- Housing for workers, people moving into Whatì;
- Reduced risk of fatal accidents from driving versus flying; and
- The opportunity to grow as a community.

People are particularly concerned about:

- Outsiders coming in – reduced safety and security and sense of community;
- Increased hunting, trapping and fishing pressures around Whatì and around the road route;
- Increased industrial development opened up by the road (not just the mine), and effects on the lands and water;
- Increased contamination and forest fire risks;
- Reduced emphasis on local cultural/harvesting activities;
- Kids (especially) accessing drugs and alcohol;

- People leaving the community far too often; and
- Becoming like Behchokò (a strong stigma about social crisis in Behchokò was expressed).

For many people, while on the economic side the all-weather road would open up all sorts of new opportunities, they are also concerned that the all-weather road will create a magnifying lens, whereby already existing vulnerabilities and weaknesses in the community – absentee parenting, drug and alcohol abuse, occasional community de-population to access goods and services elsewhere - will be magnified. To track and manage against these adverse changes, and to maximize benefits, there is a strong need for the Tłıchǫ Government to ensure adequate data gathering on culturally relevant social, economic and cultural indicators.

The Tłıchǫ Government should not underestimate the strong expressed level of interest of Whatì residents, across a wide demographic, to be actively involved in planning for, monitoring, and management of the risks associated with an all-weather road. Among recommended priority actions for Whatì and the Tłıchǫ Government is to put in place a plan, policies and programs that deeply involve community members in decision-making on how an all-weather road would be managed and monitored to reduce risks and maximize benefits.

There are many actions that can be taken by the Tłıchǫ Government and the Whatì Community Government, among other actors, to develop plans, policies and programs to further study, prepare for, monitor, and adaptively manage an all-weather road to Whatì. The author’s core recommendations for the Community Government and the Tłıchǫ Government (see Section 7) are:

- **Run verification and consultation sessions on the results of the SEIA Scoping Study.**
- **Establish All-weather Road Governance Systems** - Advanced clarity on management and monitoring roles of different levels of government will be critical to good planning. In addition, clarity on management of the large portion of the proposed road outside of Tłıchǫ lands is critical moving forward.
- **Set Up a Human Environmental Monitoring System** –There is a strong need for a committed community-engaged social, economic and cultural monitoring and effects assessment system be put in place prior to, not as a reaction to, change caused by an all-weather road to Whatì. Appendix C identifies some potential criteria and indicators for a Tłıchǫ Human Environmental Monitoring System.
- **Readiness Committee** – Development of a standing All-Weather Road Readiness Committee should be a priority, including delegates from the Tłıchǫ Government, Whatì Community Government, GNWT, the Inter-Agency Committee, and (potentially) industrial developers.

Commitments agreed upon to date by the Tłıchǫ Government and Community Government of Whatì are identified in Appendix A.

Table of Contents

Executive Summary	ii
List of Figures and Tables	vi
List of Acronyms Used in this Report.....	vii
1.0 Introduction	1
1.1 Background – Information about the Potential All-Weather Road and the SEIA Scoping Study.....	1
1.1.1 What is socio-economic impact assessment?	1
1.1.2 Geographic Scope of the Study	2
1.2 Research Questions	4
1.3 Outline of the Report.....	4
1.4 Limitations of the Report.....	5
2.0 Methods Used and People Engaged in the Study.....	7
2.1 Case Study Information re: Effects of Roads on Communities.....	7
2.2 Baseline and Trend-over-Time Data Collection.....	7
2.3 Existing Data on Perceptions of an All-weather Road on Whatì	7
2.4 Primary Data Collection.....	8
3.0 Literature Review on Effects of All-weather Roads.....	11
3.1 Summary of Results of the “Effects of Roads” Case Studies.....	11
3.2 Potential Socio-Economic Effects of All-weather Roads Identified in Recent NWT EAs .	15
3.2.1 The Tuktoyuktuk All-weather Road EA	16
3.2.2 The Ongoing Mackenzie Highway EA	17
4.0 Whatì – Socio-economic Conditions, Values and Priorities	19
4.1 What Life is Like in Whatì – a Socio-Economic Profile.....	19
4.1.1 The Tłıchǫ	19
4.1.2 Whatì Location	20
4.1.3 History	21
4.1.4 Climate and Environment.....	21
4.1.5 Population.....	22
4.1.6 Governance.....	22
4.1.7 Culture	23
4.1.8 Education.....	25
4.1.9 Business.....	25
4.1.10 Employment and Income Levels	26
4.1.11 Housing	28
4.1.12 Infrastructure	28
4.1.13 Health and Social Services	28

4.1.14	Natural Resources Potential.....	29
4.1.15	Land Use Planning	29
4.2	Whati Community Life and Values.....	32
4.2.1	Whati’s Community Identity and Perceived Sources of Strength.....	32
4.2.2	Tḥchḳ Values.....	34
4.2.3	Future Priorities, Goals and Aspirations.....	35
4.2.4	Community vulnerability and change over time	36
5.0	Whati Residents’ Perspectives on an All-weather Road	41
5.1	Previous studies and On-Land Winter Road Studies.....	41
5.1.1	Technical All-weather Road Studies	42
5.1.2	Whati-Based Studies on Support for an All-weather Road	44
5.2	Results of the 2013-2014 SEIA Scoping Study.....	46
5.2.1	Transportation Benefits and Risks of an All-weather Road	46
5.2.2	Social and Health Benefits and Risks of an All-weather Road	50
5.2.3	Wildlife, Harvesting and Culture Benefits and Risks of an All-weather Road	56
5.2.4	Economic Benefits and Risks of an All-weather Road	59
5.3	Key Benefit and Risk Themes by Whati Demographic Group	63
5.3.1	Youth	63
5.3.2	Adult male residents	64
5.3.3	Women (Female Elders and Mothers).....	65
6.0	Summary of Findings and Recommended Next Steps	66
<u>6.1</u>	Key Findings of the Whati All-weather Road SEIA Scoping Study	66
6.2	Discussion	67
6.3	Potential Research Priorities.....	68
7.0	Conclusion and Recommendations	69
<u>7.1</u>	Recommendations	69
<u>7.1.1</u>	Recommended Immediate Next Steps.....	70
7.1.2	Medium-to-Long Term Steps	71
	Bibliography 1	72
	Bibliography 2: Materials Used to Develop Section 3.1: “Effects of Roads” Case Studies	75
	Appendices	77
	Appendix A: Tḥchḳ Government and Community Government of Whati Commitments	78
	Appendix B: Whati Residents Engaged in the SEIA Scoping Study	80
	Appendix C: Potential Criteria and Indicators for a Whati/Tḥchḳ Human Environmental Monitoring System	83
	Appendix D: Tḥchḳ Winter Road Opening / Closing Dates: 1983 to 2013	86

List of Figures and Tables

Figure 1 : Map of Potential All-weather Road Route (“Old Airport Road Route”)	3
Figure 2 : Example Focus Group Worksheet Filled in by Participant	9
Figure 3 : MVRB Issues Scoping for the Proposed Mackenzie Highway (MVRB 2013)	18
Figure 4: Tłıchǰ Agreement Boundaries	19
Figure 5: Whatı Community Boundaries	21
Figure 6: Percentage of Adults Who Practice Traditional Activities	23
Figure 7: Percentage of Residents over 15 with High School Diplomas	25
Figure 8: Relationship of Old Airport Road to Tłıchǰ Lands	31
Figure 9: Select Tłıchǰ Values (from Gibson 2008)	35
Figure 10: Whatı Winter Road Access: Average Number of Days Open	48

Table 1: Households Reporting on Fish and Meat Obtained through Hunting and Fishing	24
Table 2: Aboriginals that Speak an Aboriginal Language	24
Table 3: Community Labour Force Activity 2011	27
Table 4: Benefits and Costs to Whatı During the Current Winter Road	37
Table 5 : Socio-Economic Benefits and Risks Identified in GNWT 2008 On-Land Winter Road Consultations (Kavik-AXYS Inc. 2008)	42
Table 6 : Findings of Nitsiza (2011) Survey: Benefits and Risks of an All-weather Road	45

List of Acronyms Used in this Report

CART	Community Action Research Team
DPW	Department of Public Works
EA	Environmental Assessment
EIRB	Environmental Impact Review Board of the Inuvialuit Settlement Region
GNWT	Government of the Northwest Territories
IBA	Impact Benefits Agreement
Imbe Program	Tłı̨chọ Imbe Program for Youth
ITH	Inuvik to Tuktoyaktuk Highway Project
MACA	Municipal and Community Affairs
MVRB	Mackenzie Valley Review Board
NWT	Northwest Territories
RCMP	Royal Canadian Mounted Police
SAO	Senior Administrative Officer
SEIA	Socio-Economic Impact Assessment
STD / STI	Sexually Transmitted Disease / Infection
TCSA	Tłı̨chọ Community Services Agency
TG	Tłı̨chọ Government
TK	Traditional Knowledge (of Tłı̨chọ citizens)
TLU	Traditional Land Use

1.0 Introduction

1.1 Background – Information about the Potential All-Weather Road and the SEIA Scoping Study

The Tłıchǫ Government is conducting studies to consider the impacts and benefits of an all-weather road to Whatì. These studies are being funded by the GNWT Department of Transportation, and include a Socio-Economic Issues Scoping Study and a Traditional Knowledge and Traditional Use Study. These studies were initiated in the fall of 2013.

Alistair MacDonald (“the author”) was contracted by the Tłıchǫ Government to work with a Tłıchǫ Liaison from the Tłıchǫ Culture and Lands Protection Department to conduct a community-led Socio-economic Issues Scoping Study (“SEIA Scoping Study”) on the potential effects of an all-weather road for the community of Whatì.

The purpose of the SEIA Scoping Study was to identify:

- the issues most relevant and of concern to the community of Whatì,
- the community’s current ability to manage and monitor these issues, should an all-weather road proceed,
- gaps in those abilities, and
- recommendations for plans, programs and policies to maximize benefits and minimize risks in a future with an all-weather road to Whatì.

The SEIA Scoping Study identifies potential benefits and risks of an all-weather road that residents of Whatì are concerned about, and provides an initial analysis of likely potential benefits and costs of an all-weather road, based on inputs from the Tłıchǫ citizenry, professional experience and review of case studies of similar developments on other communities.

This SEIA Scoping Study and the parallel Traditional Land Use/Traditional Knowledge Study (K’ągòò tlıi Deè: Traditional Knowledge Study for the Proposed All-weather Road to Whatì. Tłıchǫ Research and Training Institute, Tłıchǫ Government 2014) on the potential Old Airport Road route as an all-weather access corridor are meant to inform local and regional planning and preparedness, building on strengths and protecting the community in the case of the all-weather road proceeding.

1.1.1 What is socio-economic impact assessment?

Socio-economic impact assessment (SEIA) is a form of environmental assessment that focuses on social and economic impacts. It is a field of study that identifies what matters to the people about their way of life in Whatì. An impact is a change in conditions caused by a project or by a series of projects (cumulative effects). SEIA considers direct (e.g., new jobs building a road), indirect (e.g., increased flows of goods to communities as a result of an all-weather road) and induced (e.g., greater mining exploration activity as a result of easier access to the region).

Understanding what life is like in a community today and how it has changed over time (establishing a “baseline”) is critical to understanding the potential strengths and weaknesses in

the community that may be altered by a new development (in this case, an all-weather road into a previously winter road access only community).

This research reviewed, from a community perspective, how an all-weather road might affect what people care most about for better and worse, and the strengths to build on and weaknesses to avoid.

1.1.2 Geographic Scope of the Study

Over the years, a variety of alternative routes have been considered for an all-weather road to Whatì. In September, 2013, the Tìchq Government decided to conduct focused studies on socio-economic impacts on Whatì and traditional land use (K'àngò tìlì Deè: Traditional Knowledge Study for the Proposed All-weather Road to Whatì. Tìchq Research and Training Instiute, Tìchq Government 2014.) of Tìchq citizens, of a route alternative commonly known as the “Old Airport Road.” The location of this potential all-weather road route is identified in Figure 1.

Figure 1 : Map of Potential All-weather Road Route (“Old Airport Road Route”)



A NOTE ON ROUTING ISSUES

It is beyond the scope of this Report to identify alternative routing options raised by Whatì residents during interviews, focus groups and the community meeting for the SEIA Scoping Study.

The majority of issues related to socio-economic effects, unlike issues related to traditional land use, are not directly related to the routing option chosen. The vast majority of changes that would be expected to occur on the human environment would result from the change of Whatì becoming accessible for entry and exit by land year round, rather than during only a short winter road season. The changes would occur in the community, regardless of the route. Some effects that do rely on location of the route, such as implications on key cultural and harvesting sites, are raised in general terms in this Report. They will need to be considered alongside the results of the TLU/TK Study.

While no specific questions on routing were asked, when routing options and criteria to consider when determining the best routing option were raised in consultations, these were brought to the Tìchq Culture and Lands Protection Department attention and shared in a briefing of the Chief's Executive Council in April 2014.

1.2 Research Questions

The primary research for this SEIA Scoping Study was guided by the following questions:

- What is Whatì like, and what your biggest concerns for now and the future for the community of Whatì?
- What concerns and excites you about a potential all-weather road?
- Why do you believe these effects might occur?
- How could negative effects be avoided and beneficial effects increased? How can benefits and negative impacts be monitored?
- What type of information do you need to make an informed decision on the benefits and risks of an all-weather road on your community and people?

Both benefits and risks reported by respondents are faithfully shared in this Report. In all cases, emphasis was placed on gathering information on potential beneficial aspects of an all-weather road first, before delving into potential adverse effects. This was a conscious decision based on professional experience indicating that when confronted by uncertain future changes, people are risk averse and more often than not emphasize potential adverse changes over potential beneficial ones.

1.3 Outline of the Report

Section 2 lays out the SEIA Scoping Study's secondary and primary data collection and research methods, participants engaged, and analytical methods.

Section 3 is a summary of relevant findings of literature review of potential socio-economic effects of all-weather roads, including recent information from environmental assessments (EAs)

in the NWT and a detailed summary of “Effects of Roads” case study research. This Section was developed in response to strong demand by Whatì residents to learn more about how past all-weather roads have affected other remote communities. This information is critical to help Whatì and Tłıchq Government understand the different types of impact pathways that may emerge if and when an all-weather road is built, and prepare to maximize benefits and avoid bad changes.

Section 4 provides a socio-economic scan of current conditions and trends-over-time in Whatì, using publicly available data. This contextual background is added to by identification, primarily from the 2013-4 fieldwork of Whatì residents’ perspectives on Tłıchq values, goals, aspirations, priorities and fears. These indicators of what matters most to Whatì residents identify existing elements of resilience and vulnerability facing the community, which may be impacted for better or worse by the building of an all-weather road.

Section 5 first provides a summary of findings of previous research into the desire for, and perceived effects of, an all-weather road to Whatì, including data collection from 2006, 2008, 2010 and 2011. It then presents results of the primary data collection for the SEIA Scoping Study - consultation with well over 100 Whatì residents in 2013 and 2014. Results are presented by theme (transportation; social and health; wildlife, harvesting and culture; and economics), and by demographic group.

Section 6 provides a discussion of the findings, potential high priority action items and research, and describes recommended next steps.

Section 7 provides closure to the Report with recommendations for the three levels of government to consider in preparing for a future with an all-weather road.

1.4 Limitations of the Report

This study involved research with a broad cross-section of the community of Whatì, but this is not a population level analysis. During the pre-construction planning stage, additional surveying may be required to ascertain all families’ perspectives on the all-weather road and how to prepare for it, and to prioritize action items for planning, programs, policies, and community investments.

Issues not focused on in this Report include: which road route to choose; legal and financial mechanisms for road building and management; formal cost-benefit analysis of the all-weather road vs. other options; and financial feasibility.

This is not a quantitative economic evaluation of the benefits and costs of a potential all-weather road, although the GNWT has invested in such analysis. A limited scope study of this nature was completed by Nichols Applied Management (2006), which was updated to present day and focused on the Old Airport Route in a May 2014 study by Nichols Applied Management, also made available by the GNWT as part of the *Project Description Report* for the proposed Whatì All-Weather Road.

There is no focus in this Report on legal requirements for access agreements or other required negotiated agreements to allow for applications for an all-weather road land use permit or water license to proceed.¹

¹ For a more detailed discussion on these issues, see Kavik-AXYS, Inc. (2008b).

This study did not ask respondents to formally weigh in on whether they are in support of an all-weather road to Whatì. Previous surveys have posed that question and in both cases, the majority of polled residents of Whatì supported an all-weather road (Nitsiza 2011; Community Government of Whatì 2006). The focus of this SEIA Scoping Study was to identify the benefits and risks the people of Whatì are interested in or concerned about and to identify ways in which all responsible authorities and affected groups can prepare for a future with an all-weather road, should it occur.

The focus is on benefits and risks to the people and community of Whatì, not all Tłıchǫ citizens.

2.0 Methods Used and People Engaged in the Study

A mixture of secondary (existing) data and primary data (collected through new research by the SEIA Study Team) was integrated into this study.

2.1 Case Study Information re: Effects of Roads on Communities

During the fall of 2013, the SEIA Study Team collected information from a wide variety of case studies of benefits and adverse effects of previous all-weather roads, in Canada and around the world. Learning from the types of changes that have happened to other communities facing similar change is critical to Whatì preparing for a potential future all-weather road.

Case studies focus on those communities and previously remote regions that have gone through the process of becoming “connected” over the past 35-40 years through new roads. The literature review serves to enhance understanding of the issues and potential impacts of the proposed project on the community of Whatì and the Tłchq Region in general, looking at effects of new roads on both the human and biophysical environment.

This “effects of roads” literature review makes up Section 3 of this Report. Review of the findings of recent EAs of proposed all-weather roads in the NWT is the subject of Section 4.2.

2.2 Baseline and Trend-over-Time Data Collection

Baseline and trend-over-time data collection involved searches in various databases for existing information on Whatì and the Tłchq Region in general. Reviews of census data was conducted, and a baseline of publicly-available information compiled to describe socio-economic characteristics such as:

- Education;
- Services and infrastructure;
- Number of houses;
- Health and mortality;
- Demographics (population, age distribution);
- (Paid) employment and income;
- Traditional livelihoods;
- Local economy;
- Community transportation access; and
- Recreational amenities.

This contextual information is summarized at the outset of Section 4.

2.3 Existing Data on Perceptions of an All-weather Road on Whatì

There is a history stemming back many years of considering routes, options and impacts of different types of roads to Whatì. This Report draws on this previous work.

The Tłchq Government and Whatì Community Government have worked collectively to consult internally on the road in many different sessions. Past work includes:

- Two surveys on whether there is support for the road (Community Government of Whatì 2006 and Nitsiza 2011);
- Consultations in Whatì in 2010 about perceived benefits and risks of an all-weather road;
- Analysis of notes made available by the Tłıchq Government from previous meetings and consultations where the prospect of an all-weather road was raised; and
- Consultation sessions in Whatì by the Tłıchq Government, the Community Government of Whatì and an Inter-Agency Committee in June 2013,² and by other research (Conference Board of Canada 2014).

2.4 Primary Data Collection

The SEIA Team travelled to Whatì for six days of fieldwork in late November-early December 2013 and the Tłıchq Liaison conducted additional interviews in Whatì in March 2014. During this time, the SEIA Team:

- Presented at and listened to community feedback at a community meeting hosted by the Culture and Lands Protection Department, introducing both the SEIA Scoping Study and the TLU/TK Study. The community meeting had over 80 attendees;³
- Ran a focus group/workshop with 20 high school students and two teachers;
- Conducted eight focus groups with 53 Whatì residents of all walks of life, gender and age; and
- Ran individual interviews with 20 people, including three with elders in their own homes.

Overall, focus groups and interviews gathered input from 95 Whatì community members. The breakdown of respondents was as follows:

- Twenty high school students,
- Nineteen adult males,
- Fourteen adult females,
- Ten female elders,
- Ten service providers/administrators,
- Nine youth between 18 and 30 years of age,
- Eight male elders, and
- Five Community Government councillors.

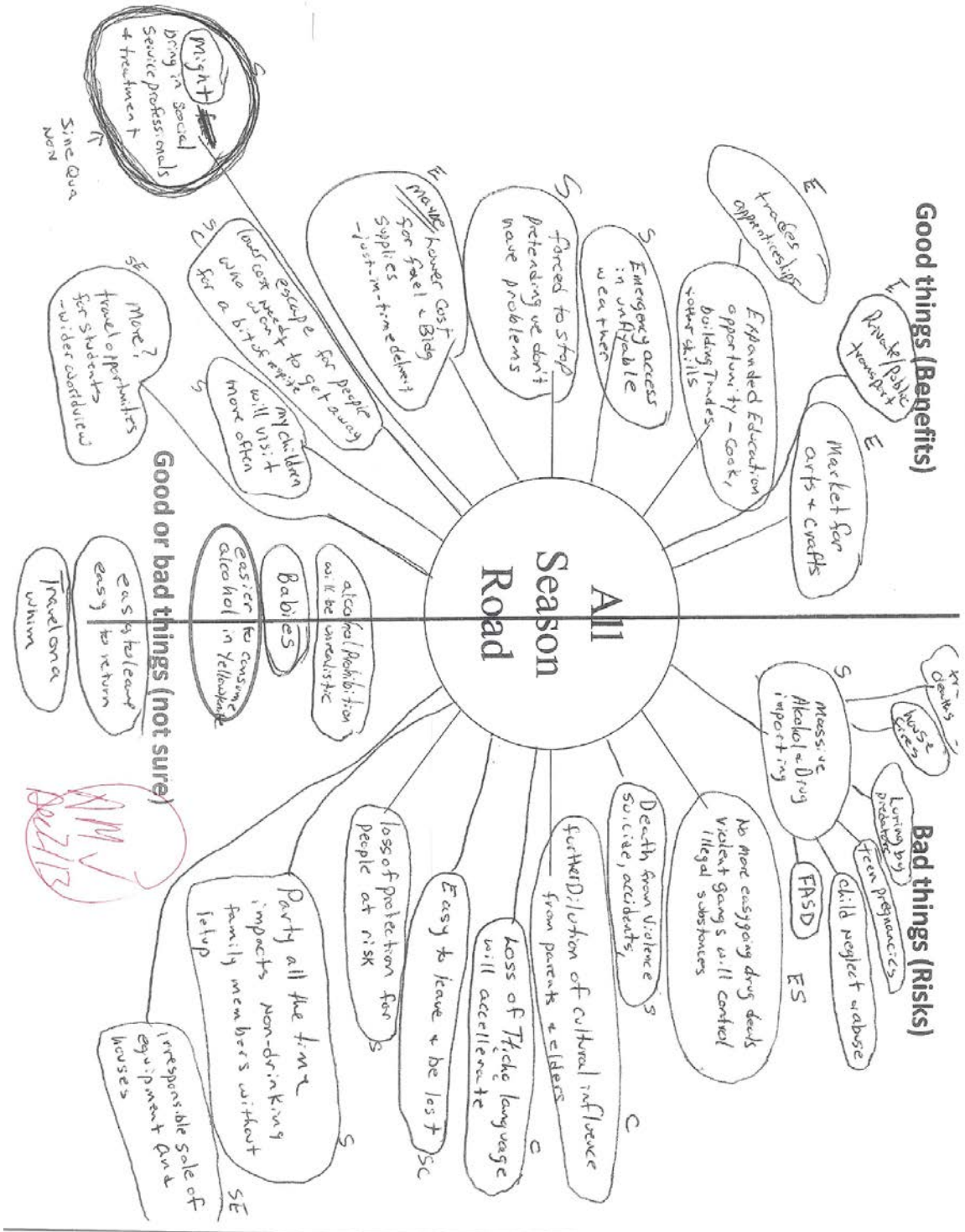
See Appendix B for a full list of people involved in the focus groups, interviews, and community meeting for this study.

At the community meeting, SEIA Scoping Study Worksheets were distributed and written and verbal comments from the crowd recorded. In addition to taping and taking notes from these sessions, participants were provided with worksheets they could fill out on these issues and many took advantage of this opportunity. An example issues scoping worksheet is provided overleaf as Figure 2.

² Whatì Inter-Agency Committee (2013).

³ Written material was also gathered in the “All-Season Road Comment Box,” put in the Community Centre at the meeting. People could write down notes or fill out an entire scoping worksheet.

Figure 2 : Example Focus Group Worksheet Filled in by Participant



Honoraria were paid by the Tłıchǫ Government to interviewees and focus group attendees. All adult participants were requested to fill out written consent forms, which included a copy to the Tłıchǫ Bill of Rights for Research Participants. While participants were asked to identify whether they wanted their names used in this Report, a subsequent decision was made to identify only the demographic grouping the commenter came from.

3.0 Literature Review on Effects of All-weather Roads

3.1 Summary of Results of the “Effects of Roads” Case Studies

The SEIA Team collected information from a wide variety of case studies of benefits and adverse effects of previous all-weather roads, in Canada and around the world.

New roads may bring both positive and negative changes to the areas around them, and may have impacts on individuals, communities, the environment, and wildlife. This Report gives an overview of some of the changes that have occurred when all-weather roads were introduced into isolated places that previously were either inaccessible by road or accessible only ally. Some of the changes described here occurred during the road construction phase and were only temporary impacts, while others are long-term impacts that continue to be felt and are associated with the permanent, ongoing use of the road.⁴

Road development fundamentally transforms isolated communities into accessible ones, and brings to them the advantages and disadvantages of closer contact with and influence from outside communities. Road construction often resulted in positive changes such as the creation of road-related jobs (for construction and for maintenance), increased access to economic opportunities, and a new ability to travel easily and to maintain distant social networks. Many of the same communities also noticed negative changes such as the displacement of some residents, an influx of crime and competition for resources, and threats to the social, economic, and cultural status quo.

Pressures and tensions created by road construction may have effects on resource access and abundance, social dynamics, and decision-makers’ predispositions towards additional development. In particular, the increasing through traffic of people into and out of previously remote areas can cause disruptions of social and community dynamics.

SOCIETY—POSITIVE IMPACTS

Roads generally increase access to and mobility away from isolated communities. Specific benefits that have come from this mobility have included an increased ability to expand social networks, maintain social ties, and form new connections with previously distant and often inaccessible communities. They also have made it easier for community members to move between places, import supplies, access schooling, recreation, and community services, and conduct trade and be in contact with outside communities. Overall, all-weather roads have decreased travel time and travel inconveniences.

SOCIETY—NEGATIVE IMPACTS

Travel disruptions and displacement of residents, community services, and businesses may occur during road construction phases, but are usually short-term inconveniences, as is the loss of local work force to road-building crews. Longer-term disruptions and displacements have also been observed in areas where rights-of-way intersect and/or destroy established areas used for cabins, hunting areas, and areas of recreational importance.

⁴ In the interests of space, specific citations for each positive and negative impact are not included in the body text. A full list of case studies cited in this Section is included in Bibliography 2 at the end of this Report.

Access to the land, created by roads for both aboriginal and non-aboriginal people, can lead to increasing adverse impacts on culture, including increased external competition for fish, game, and other resources.

The influx of hunters who use the public access roads may cause resident populations to avoid or otherwise feel alienated from or less safe in their use of the land. Individuals in various communities have noted that new roads have resulted in feelings of alienation from the land, a fear of hunters and all other users including other indigenous people, and a sense of a loss of control over who can benefit from the resources and how they can do so.

The increased public access brought by new roads has in some cases resulted in a reduced sense of cohesion in the community: break-ins, loss of social relationships because of out-migration, loss of satisfaction with life in the community for those who remain, and reduced participation in community activities have all been noted. Some communities have seen an increase in theft or crime at cabins, poaching and stealing of traps, illegal squatting, import and increased community access to drugs and alcohol, anxiety about higher crime rates, and a decrease in the personal sense of safety and enjoyment of cabins, personal property, hunting areas, and areas of recreational importance.

ECONOMY—POSITIVE IMPACTS

Economically, roads have brought opportunities for growth through access to distant markets and wider distribution for locally-produced goods, opportunities to trade and provide services to in-migrating workers, access to technical innovations that increase production and productivity, and an increased ease in obtaining and securing investment capital because of road accessibility certainty. Roads have also led to employment opportunities, particularly in the creation of jobs in the sectors of road construction and maintenance, and tourism, as well as easier access to other non-road-related employment outside of the community.

It terms of direct costs to the community, new roads have helped to eliminate or reduce the costs of maintaining all roads, and have reduced operating costs (fuel and maintenance) for vehicles. They have also allowed for economic gains in efficiency gains in travel time needed to access markets, and decreased prices for essential goods due to easier import and access.

ECONOMY—BENEFIT UNCERTAIN OR NEUTRAL

Some of the economic changes affected by road development are not clearly positive or negative. For example, depending on the duration of displacement and/or relocation situation, some businesses and community services saw increased numbers of clients, while others lost some of their clientele, with increasing long-distance shopping outside the community for goods and services.

ECONOMY—NEGATIVE IMPACTS

Cheaper travel per trip benefits overall may be linked to a mixture of benefits and adverse effects between different parties. For example all-weather roads have increased community members' ability to travel more often and independently, which does tend to result in increased total costs

for vehicle operation (increased fuel, maintenance, and licensing costs),⁵ and negative effects on the prior local transportation industry (e.g., air) due to year-round road access. Other negative changes in economic status have resulted from indirect costs of the road such as increased commodity prices due to increased demand with influxes of workers and relocated residents; increased rental rates and new housing costs for displaced residents; re-establishment costs for displaced businesses and community services; increased competition in marketing of goods harvested in remote areas, resulting in decreased price of locally-produced commodities; and a reduction of land area available for sustaining local livelihoods through hunting, fishing, or trapping.⁶

INDIGENOUS RIGHTS—NEGATIVE IMPACTS⁷

Infringements on indigenous rights can occur where roads divide lands in ways that do not reflect legal or community-set (culturally-defined) boundaries, or where squatters set up on traditional territory. Road construction has tended to disrupt the confidence of community members in terms of their land tenure rights, and thus caused conflict between road developers and community members, or between community members and those who were perceived to be in competition for resource use, access, or status as rights-holders. Conflicts over rights also arose in situations where road access led to resource extraction without consultation or permission, and increased resource use by neighbouring Aboriginal and non-Aboriginal groups, hunters, poachers, recreationists, and resource developers.⁸

HEALTH—POSITIVE IMPACTS

The travel enabled by all-weather roads directly increased community members' access to health services and infrastructure in larger centres. The ability to travel any time of the year also yielded a reduction in cases of seasonal depression that were aggravated by the sense of isolation caused by roads that were open only seasonally. Travel also indirectly benefitted community health by enabling greater access to all-terrain vehicles, cell phones or other communication tools, and markets, reducing the need for hunting for subsistence, and, by extension, reducing exposure to various health risks associated with hunting without such tools. Improved transportation routes also in some cases improved community health levels by decreasing accident rates related to poor road conditions.

HEALTH—NEGATIVE IMPACTS

Health risks associated with road development are largely side-effects of the increase in public access to previously remote areas, which thereby increases community members' exposure to communicable diseases, alcohol and drug use and abuse, and emotional and psychological losses stemming from negative impacts to community cohesion, support networks, and culture.

Road construction and ongoing road use have also been associated with exposure to pollution,

⁵ Although it is important to recognize that “per trip” costs to travel to outlying communities likely reduces due to reduced reliance on air traffic, for example.

⁶ For more information on the distribution of benefits and costs in relation to the proposed Whatì All-weather road, see Nichols Applied Management (2014).

⁷ No beneficial impacts on Indigenous rights from new roads were found in the research record.

⁸ These issues are likely to be of lower concern within the confines of Tłıchq Lands, given the Land Claim and Self-Government Agreement. However, for that portion of the road that is technically outside of Tłıchq Lands but still of importance to Tłıchq citizens, some of these issues may be of higher concern.

dust, noise, and increased heavy equipment and regular vehicle traffic. Increased chemical contamination may be found in plants and animals adjacent to the roadside, increasing long-term exposure to health risks from consumption of organisms affected by pollution and heavy metals, as well as through loss of food sources, and decreased physical activity due to ease of hunting from the road. Additional health risks come from the potential of hazardous material spills and the effects of industrial pollution from road traffic.

Some residents commonly express concerns that new road access would lead to increased accident rates due to higher traffic intensity.

CULTURE—POSITIVE IMPACTS

Where roads adjoined or allowed access to areas from which communities sustained their traditional livelihood, they have often increased the following for local residents:

- access to water resources, berries, hunting grounds, fishing holes, and trapping areas;
- options for performing traditional activities;
- the means by which individuals and communities could occupy the territory;
- the ease of communication;
- the ease of transportation of important resources and aid to elders; and
- the ability to stockpile (and freeze) easily accessed game.

CULTURE—NEGATIVE IMPACTS

Technological advances and social and economic changes brought into previously remote communities via roads have been linked to losses of traditional practices and cultural values. These have been manifested in the erosion of traditional relationships with the environment, changes in the means by which traditional practices occur, a loss of skills associated with traditional practices, younger generations spending less time in the environment, and generational conflicts.

Some community members have noted problems related to a loss of community values and an increase in individualistic thinking, exemplified by the fact that resources are no longer being shared with the community, the environment is no longer viewed as communal food storage and is now seen as a pool used to fill freezers and individual food supplies. In some instances, there has been a notable reduction in concern for ensuring the sustainable harvesting of resources, and the cultural principles of sharing, respect, mutual aid, and honesty are no longer used to dictate use of communal resources.

Through road access, though some people increase their regional knowledge of the landscape, they may also decrease their intimate knowledge of family territories, leading to power shifts affecting the distribution of rights and control over the land, less reliance on traditional knowledge cues to determine the presence and potential of specific resources, and competition and tension between communities with easy access to information regarding resource locations.

Decreased respect for elders, traditional practitioners, protectors and community-based values has also been noted, and has led to inter-generational conflict over resource use and harvesting methods.

The ability to maintain cultural practices has sometimes been negatively affected by the disruption of (largely via increased outsider access to) traditional resources and fishing and hunting areas. This leads to increased competition for resources with land-users from other areas, including licensed hunters and developers, and illegal loggers, poachers, and squatters, and the disruption of areas of cultural importance including historic habitation sites and graves.

Specific disruptions of socio-environmental relationships have been noted, particularly through decreased effort to get to know and use the resources of the territory; loss of identity, self-determination, and influence; loss of successful commons governance; loss of traditional knowledge, cultural understanding, relationships, and definitions of environment; loss of cultural principles associated with resource management and methods of harvesting; destruction or alteration of landmarks used to navigate and/or practice traditional activities; and a decreased ability to connect meaningfully with the environment / territory.⁹

HUMAN ENVIRONMENTAL IMPACT REDUCTION STRATEGIES IDENTIFIED IN THE LITERATURE

- Use Social Impact Assessment process to engage communities in the selection of routes and to identify and avoid, reduce, eliminate or accommodate for social impacts of road.
- Use biodiversity impact assessments, coupled with traffic prediction to identify priority ecosystem types and their relevance for biodiversity conservation in order to prioritize conservation goals.
- Expand focus on traditional teaching and values to younger generations as part of planning process.
- Increase opportunities for meaningful communication, participation and consultation during planning process, between project proponents and indigenous populations.
- Set up active community-based human environmental monitoring program (see Appendix C).

3.2 Potential Socio-Economic Effects of All-weather Roads Identified in Recent NWT EAs

Secondary data was collected from the GNWT Department of Transportation on other ongoing all-weather road proposals in the NWT. Information from both the Inuvik-Tuktoyaktuk Highway (ITH) and Mackenzie Highway projects has been collected and incorporated.

⁹ The text box on this page identifies human environmental impact reduction strategies from the “effects of roads” literature. The June 2014 draft of this report communicated additional information to the Tłı̨chǫ Government related to biophysical impacts. While largely beyond the scope of this SEIA, literature on impacts on the physical and biophysical environment of new roads to previously inaccessible communities was also canvassed, due to the linkages between the land and animals and the health of Tłı̨chǫ society, economy and culture. Those materials are in the possession of the Tłı̨chǫ Government if required for future planning purposes.

3.2.1 The Tuktoyuktuk All-weather Road EA

The Final Report of the Joint Review Panel for the proposed Inuvik to Tuktoyaktuk Highway (ITH - EIRB 2013), a proposed 140 km gravel road making the Arctic coast community of Tuktoyaktuk an all-weather community, recommended approval of that Project. Findings related to social, economic and cultural impacts for that proposed Project included (all material from EIRB 2013):¹⁰

BENEFICIAL IMPACTS

The Project would cause strong economic stimulus to the local and territorial economies, related primarily to oil and gas development, shipping, and tourism, and is likely to cause local training and employment benefits to, in particular, residents of Tuktoyaktuk. Key economic shifts from the proposed road include:

- Food freight to Tuktoyaktuk is estimated to drop from \$3.00/pound via air to \$0.15/pound via road, contributing to a lower cost of living.
- The highway is expected to create substantial construction stage employment and business opportunities for local and regional workers and companies, and 42 long-term NWT jobs doing maintenance for the life of the road.
- The proponent (the GNWT) estimates regional tourism will grow by 10 per cent as a result of the highway, and that tourists will stay for 1.5 days longer.
- Improved and cheaper access to government and medical services are expected.

PRIMARY ADVERSE IMPACTS (RISKS)

The Joint Review Panel indicated the above noted benefits need to be balanced against concerns about:

- Increased outsider harvesting access for fish and game in general.
- Increased outsider access to –and damage to - critical habitat, harvesting and cultural locations for Inuvialuit.
- Negative social influences on Tuktoyaktuk, such as increased access to and consumption of drugs and alcohol.
- Species of high cultural value to the Inuvialuit, including caribou and grizzly bear, will likely see disturbance, mortality and habitat loss effects.

Mitigation for potential impacts on community services and infrastructure, and the health and wellness of individuals, families and communities were arrived at without the application of specific mitigation (EIRB, 2013, 83). The GNWT indicated that existing departmental monitoring and management programs would be adequate to deal with any likely changes to the social environment.

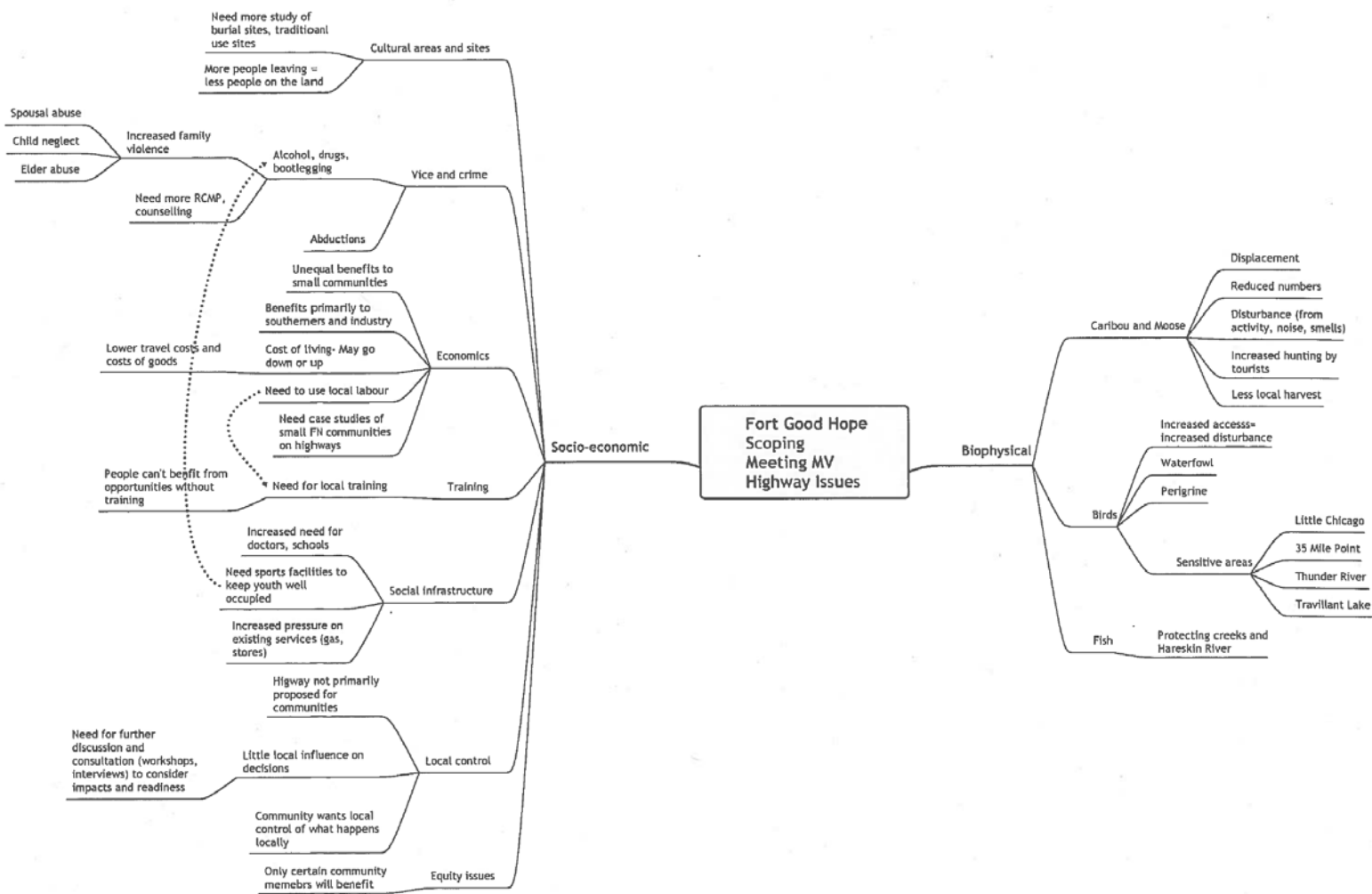
¹⁰ Please note that these findings are illustrative of key benefit and risk themes only. Given differences in climate, geography, culture and socio-economic conditions between the Arctic Coast and the Tłı̄chǫ Region, it should not be assumed that the effects outcomes of an all-weather road to Whatì would exactly mirror the ones reported here.

3.2.2 The Ongoing Mackenzie Highway EA

More recently, the Mackenzie Highway Expansion from Wrigley to south of Inuvik has been referred to EA under the MVRB.¹¹ While preliminary emphases by the proponent (again the GNWT) have been to focus on purely economic effects assessment (e.g., Johnson and Azzolini 2009), more recent MVRB issues scoping sessions from fall 2013 have seen strong emphasis on social and cultural impacts as well, across a wide range of Valued Components. Figure 3 is an example from the scoping session held in Fort Good Hope; MVRB (2013) includes many more examples from other communities. The issues raised in these scoping sessions clearly indicates that concerns of community members go beyond economic benefits and into serious social and cultural impact realms that merit close attention in the planning and regulatory processes.

¹¹ The public registry for this ongoing EA is accessible at http://reviewboard.ca/registry/project.php?project_id=672.

Figure 3: MVRB Issues Scoping for the Proposed Mackenzie Highway (MVRB 2013)



4.0 Whatì – Socio-economic Conditions, Values and Priorities

4.1 What Life is Like in Whatì – a Socio-Economic Profile

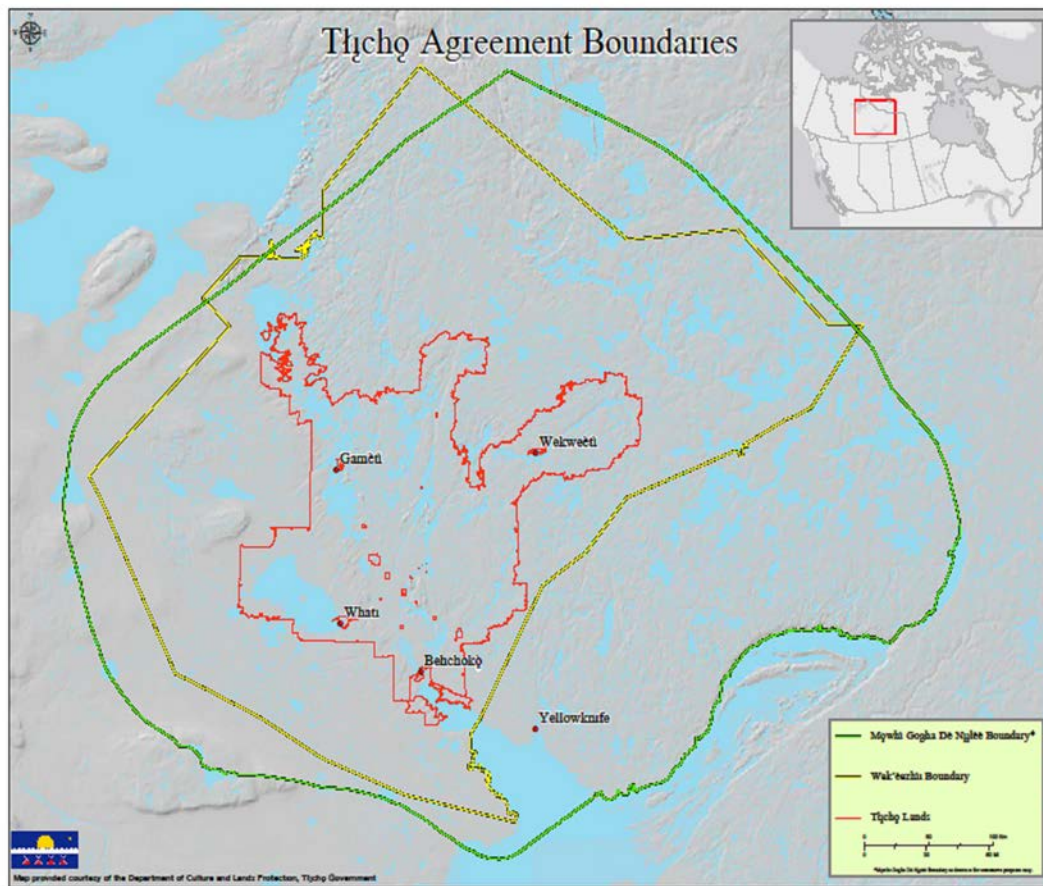
This Section identifies important information related to the way in which people in Whatì live, including some observations about changes over time. It offers an overview of the community's location, history, society and culture, as well as information on community governance, economic conditions, and infrastructure.

4.1.1 The Tłı̨chų

The Tłı̨chų are an Athapaskan-speaking group of Dene who traditionally live between Great Slave and Great Bear lakes in the Northwest Territories of Canada.

Figure 4 identifies some of the administrative boundaries identified for the Tłı̨chų's traditional lands, defined through the *Tłı̨chų Comprehensive Land Claim and Self-Government Agreement*:

Figure 4: Tłı̨chų Agreement Boundaries



The largest boundary, termed M̄qwhì Gogha Dè N̄ittlèè, or the M̄qwhì trail was described by a historic leader. This is generally considered the boundaries of T̄ich̄q land use and occupancy. The Wek' èezhii Boundary outlines the area within which T̄ich̄q co-management bodies – the Wek' èezhii Land and Water Board and the Wek' èezhii Renewable Resources Board – have jurisdiction. Some 39,000 square kilometres of land are owned outright by the T̄ich̄q Government (the lands within the T̄ich̄q Boundary in Figure 4).

As noted in the T̄ich̄q Land Use Plan, much change has occurred in the past century and a half among the T̄ich̄q, speeding up in the latter part of the 20th century:

Fur traders came in the 1800s in search of fur bearing animals... This eventually led to the fur trading post at Nihshii (Old Fort Rae) being established in 1852 and the eventual establishment of permanent communities for the T̄ich̄q people. In the last 30 years, the T̄ich̄q have changed with the times. Natural resource development and governments have brought a wage economy to the North and the T̄ich̄q have been affected both positively and negatively by these changes... Though the T̄ich̄q people have come to rely partly on store-bought food and modern comforts... many T̄ich̄q still maintain their connection to the land, depending on it for their livelihoods, whether for food, trapping for furs or crafts. (T̄ich̄q Government 2012, 14)

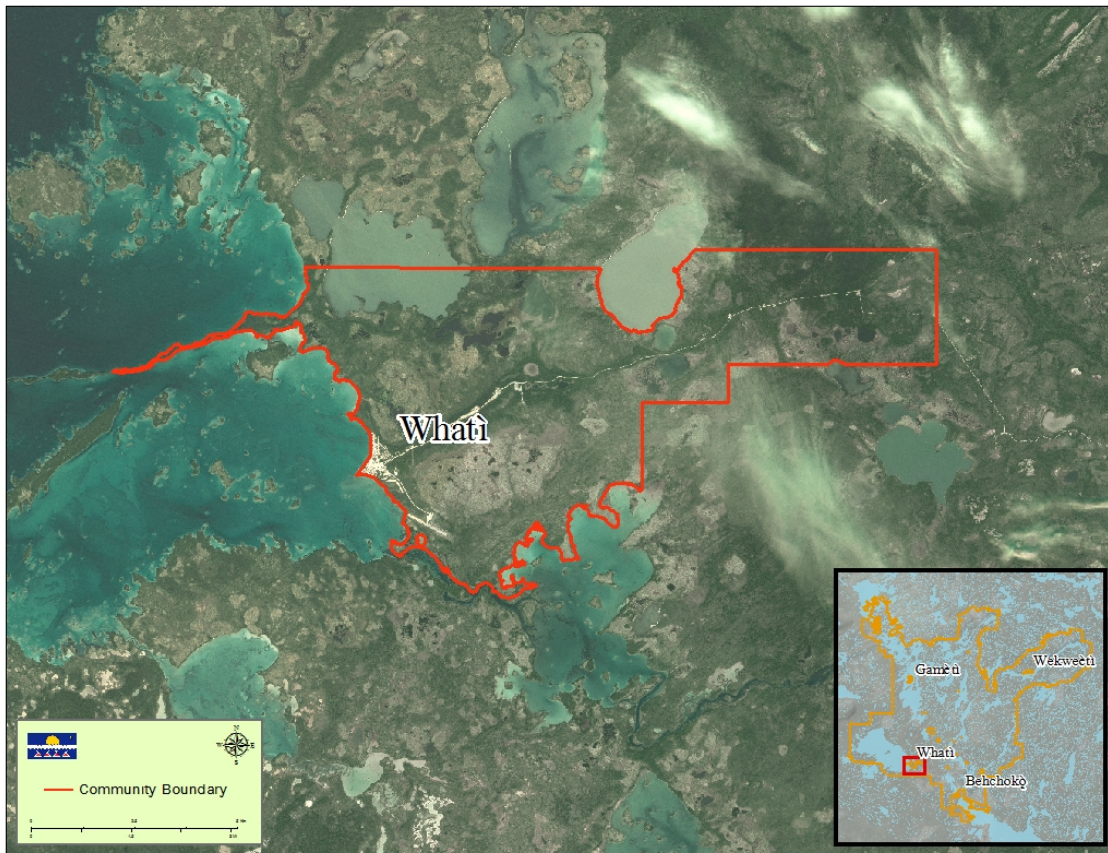
The current T̄ich̄q population is approximately 3,000 and they live primarily in the four T̄ich̄q communities: Gamètì, Behchok̄ò, Whatì, and Wekweètì. Behchok̄ò is the largest T̄ich̄q community with approximately 1950 people as of 2011. Behchok̄ò houses the central offices for the T̄ich̄q Government and the T̄ich̄q Community Services Agency. The communities of Gamètì, Wekweètì and Whatì are isolated, smaller communities located to the north and off the main NWT highway system. They are only accessible by regular scheduled commercial air service most of the year. However in the winter, from January through March, a winter road highway is built across the tundra and frozen lakes joining these communities (T̄ich̄q Government 2012).

4.1.2 Whatì Location

Whatì, an official community with T̄ich̄q Community Government, is located 164 km northwest of the territorial capital city of Yellowknife. The community sits on the southeast shore of Lac La Martre, or Tsoṭi (Figure 5). It is a relatively isolated community. It has no all-weather road, and over the past four years, on average, the winter road has opened for 10-11 weeks a year, between the months of January and April, inclusive.¹² When the road is open, Whatì citizens use it to travel to Behchok̄ò and Yellowknife to buy goods and supplies, and to access hunting areas. The winter road extends 122 km from the Behchok̄ò access highway. The boundaries of Whatì are surrounded by the T̄ich̄q Nawoo Ke Det'ahot'ii cultural heritage zone, which is characterized by its extensive marshlands, and is currently subject to a proposed mining development, the Fortune Minerals NICO Project, to the east.

¹² In 2009, the winter road was open from January 21 to April 12 (10 weeks); in 2010 and 2011, from January 14 to April 8 (11 weeks); and in 2011 and 2012, from January 25 to April 19 (11 weeks). See also Appendix D. Other forms of access include snow machine in winter, air travel, and canoe/boat in summer.

Figure 5: Whatì Community Boundaries



4.1.3 History

The North West Company established a trading post in the Whatì area in 1793, which was again used in the early 1920s. Trade in the area was usually centred in the larger communities, though traditional knowledge recognizes that there is a long history of use and of conflict between the Tłı̨chǫ and the Chipewyan in the hunting and fishing grounds around Whatì. Traditional knowledge also recognizes Mezi, a respected elder, as the first person to have built a cabin on the site of Lac La Martre, sometime between 1850-65. Whatì was commonly known as the community of Lac La Martre until 1995, though it has also traditionally been referred to as Tsoti (fouled water lake) and Mine Go Kola (net fishing with houses). In January 1996, it was renamed “Wha Ti,” meaning “Marten Lake,” and on 4 August, 2005, the current spelling was introduced and the name was officially changed as a result of the signing of the *Tłı̨chǫ Community Government Act* and the *Tłı̨chǫ Land Claims and Self-Government Agreement*.

4.1.4 Climate and Environment

Whatì has a subarctic climate. The summers are very short, dry, and mild, while winters are characterized by cold weather. Blizzards, snowstorms, high winds, and prolonged periods of extreme cold are not unusual. In the summers, forest fires and wildfires may affect the local climate. Average temperatures in January are in the range of -21 to -29 and in July are in the

range of 14 to 17 degrees Celsius (2003-2007 statistics).¹³ The terrain is flat or slightly rolling, and there are waterfalls located about 45 minutes southeast of Whatì on the Riviere Lac la Martre. The area is rich in fishing and hunting. Whatì area lakes host trout, whitefish, burbot, and northern pike, and the area's marsh lands are used as feeding and nesting grounds for geese, ducks, cranes, and many other migratory bird species.

4.1.5 Population

According to the NWT Bureau of Statistics, in 2012 Whatì had a population of 519, and a stagnant average yearly growth rate of 0.4 per cent from 2001. In 2005, Whatì's population was estimated at 502. According to the NWT Bureau of Statistics (2006), this was not expected to grow much if at all to 2014, when 514 residents were predicted. The population is predominantly Aboriginal (97 per cent), and there is a roughly equal distribution of males (274 / 53 per cent) and females (245 / 47 per cent). People under the age of 24 make up 46.6 per cent of the population, and people under the age of 14 represent 29.7 per cent, making the population relatively young. Compared to the NWT average, Whatì has a much higher percentage of large households comprising six or more individuals (20 per cent compared with 5.6 per cent). It also has a higher percentage of single-parent families (29.2 per cent compared with 21.3 per cent).¹⁴

Given relatively high birth rates among the Tłı̨chų population, this lack of population growth is likely related to out-migration for school and work from the currently job-poor community. This phenomenon, colloquially known as "brain drain," sees people seeking opportunities for education and work away from the community, and is a common concern among remote NWT communities.

4.1.6 Governance

On August 4, 2005 the signing of the Tłı̨chų Community Government Act and Tłı̨chų Land Claims and Self-Government Agreement established Whatì's status as a municipal corporation, alongside Behchokò, Gamètì, and Wekweètì. Through this Act, these four Tłı̨chų communities became independent public governments with powers and responsibilities similar to those of municipal governments of other NWT communities.

The council of the Community Government of Whatì consists of six members and is led by a chief who is elected by eligible community members. Elections are held every four years, on the third Monday in June, and the Chief and council are elected on separate ballots. Councillors cannot run for Chief, and there is a guaranteed minimum Tłı̨chų participation. Vacant Tłı̨chų seats are filled through by-elections.

All community lands are managed by the Community Government, which has the option to collect property taxes if it chooses. The Community Government of Whatì has the responsibility to plan community activities, public works, community improvements, and public utilities, including water delivery, water quality assurance, sewage services, fire protection, recreation, emergency response planning, and other services such as bylaw enforcement. It is also responsible for regulating land use and development, community planning, zoning by-laws, and leasing.

¹³ <http://www.statsnwt.ca/community-data/Profile%20PDF/Whatì.pdf>

¹⁴ <http://www.statsnwt.ca/community-data/Profile%20PDF/Whatì.pdf>

The Tłıchǫ Community Services Agency (TCSA) delivers public programs and services. In Whatı, TCSA is responsible for education, health, and both child and family programs. TCSA manages the Mezi Community School, Tłıchǫ Health Path Wellness Centre, and the Health Centre. In the past, Tłıchǫ Government has funded short term cultural projects, post-secondary scholarship programs, early childhood programs, and community health and social programs which were created by federal government initiatives mainly for Aboriginal communities.

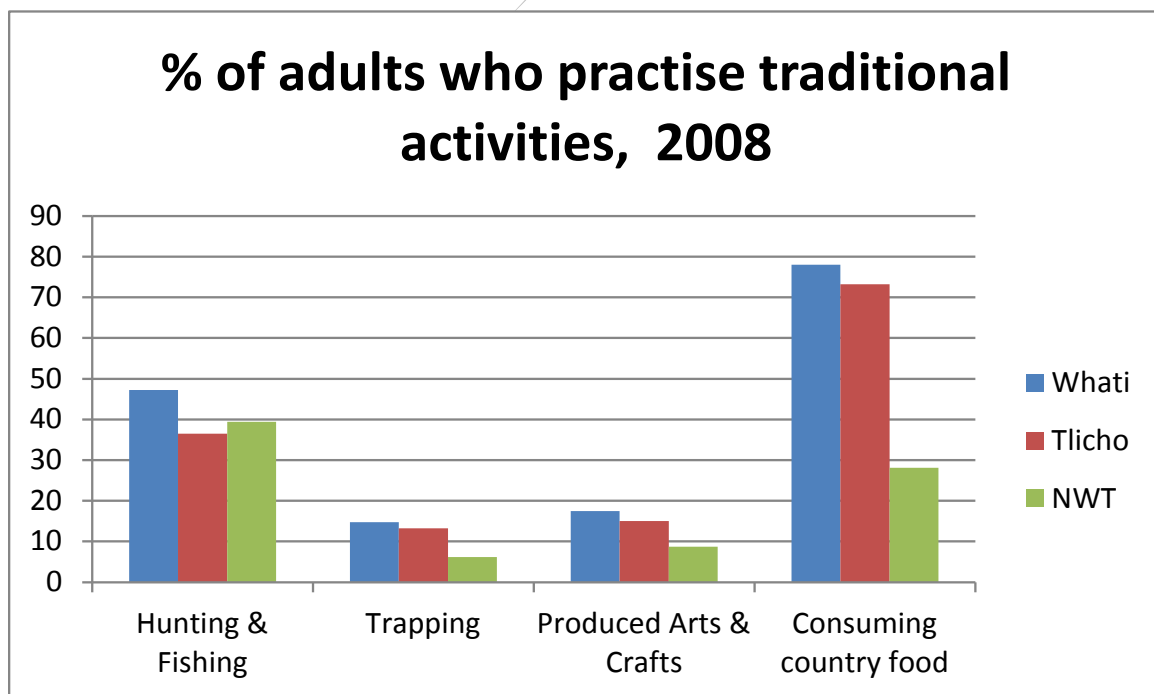
4.1.7 Culture

The community is known for its great fishing, scenic beauty and decorative arts. (Tłıchǫ Land Use Plan 2012, 11)

When a person visits Whatı in the summer, they are bound to run across an open door in the community where hand games are being practiced, hear the language being spoken, and see families spending time together over meals largely derived from the lands around them.

The culture, language and way of life are vibrant in this small community. Many people practice their traditional activities on a daily basis, speaking the language, eating country food, and visiting daily with their family. According to the NWT Bureau of Statistics, in 2008, 47 per cent of the population practiced traditional activities including hunting and fishing, and 15 per cent participated in trapping, higher than both the Tłıchǫ and NWT averages (Figure 6).¹⁵ Many women and youth enjoy making arts and crafts with raw materials from the land, and by doing so they pass on their traditional knowledge and skills from one generation to the next. The population of Whatı participates in traditional activities at a much higher rate than the general population of the Northwest Territories.

Figure 6: Percentage of Adults Who Practice Traditional Activities



¹⁵ <http://www.statsnwt.ca/Traditional%20Activities/>

The consumption of country food is an especially important aspect of the cultural life in Whatì, with 78 per cent of the population reporting that half or more of the meat or fish consumed in the household was caught through hunting and fishing in 2009. As illustrated Table 1 below, the popularity of country food has increased fairly regularly in Whatì since 1994, and this community has a higher reliance on country foods than other Tłı̨chǫ communities.¹⁶

Table 1: Households Reporting on Fish and Meat Obtained through Hunting and Fishing

Survey Year	Households Reporting that Half or More of the Meat or Fish Consumed is Obtained through Hunting and Fishing																	
	Tłı̨chǫ		Behchokǫ		Whatì		Gamèti		Wekweèti		Detah		N'Dilo		Yellowknife		NWT	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1994 ^a	..	..	..	50	..	71	..	81	..	81	..	61	..	..	..	9	..	26
1999 ^a	..	..	..	80	..	76	..	56	..	84	..	93	..	..	..	11	..	30
2004 ^b	467	66	297	63	91	73	57	75	27	75	43	67	64	70	626	10	3893	28
2009 ^c	511	74	341	73	92	78	52	73	23	66	56	70	50	45	742	11	4066	28

.. = data is not available

^a = GNWT 2008a.

^b = NWT Bureau of Statistics 2010c.

^c = NWT Bureau of Statistics 2009c; N'Dilo: NWT Bureau of Statistics 2010d.

The Whatì community's strong ties to culture are also evident in the overwhelming majority of the population that speaks the Tłı̨chǫ language fluently. In the NWT Bureau of Statistics table below, Aboriginal language fluency rates as high as 93 per cent are reported in Whatì, which is slightly higher than the Tłı̨chǫ community average, and dramatically higher than the average fluency rate in the Northwest Territories as a whole, as shown in Table 2.

Table 2: Aboriginals that Speak an Aboriginal Language

Year	Aboriginals (15 years of age and older) that Speak an Aboriginal Language																	
	Tłı̨chǫ		Behchokǫ		Whatì		Gamèti		Wekweèti		Detah		N'Dilo		Yellowknife		NWT	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1989	1329	96	878	94	239	99	134	100	78	100	95	94	..	..	3402	37	12 826	56
1994	1578	97	1057	96	256	98	174	100	91	99	132	89	..	..	4256	34	14 036	50
1999	1750	98	1153	98	304	98	185	98	108	97	117	77	..	..	2891	22	13 278	45
2004	1850	95	1192	93	346	97	207	99	105	96	125	83	61	..	3633	25	13 790	44
2006	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3766	26	13 390	43
2009	1736	90	1126	89	335	93	199	93	76	94	109	60	121	46	2840	18	10,119	20

.. = data is not available.

Sources: NWT Bureau of Statistics 2009d; N'Dilo: NWT Bureau of Statistics 2010d.

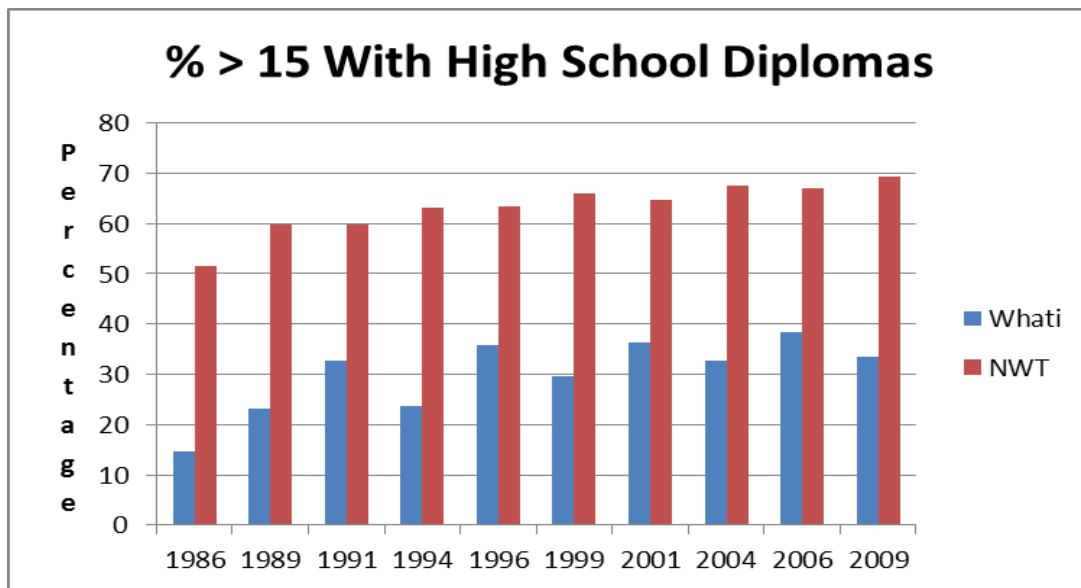
There are warning signs about language loss in both the monitoring data (DCAB 2006) and what participants in the SEIA Scoping Study indicated (see discussion on vulnerabilities in Section 4.2.4 below). As noted by the Tłı̨chǫ Office of the Cultural Coordinator (2013, 11): "Significantly... home use of Tłı̨chǫ was lower than mother tongue [English] and... this is a warning flag for cultural retention." Youth in particular are not speaking as much Tłı̨chǫ in recent years.

¹⁶ Unless otherwise noted, all data reported in the tables in this section is drawn from publicly available information from the NWT Bureau of Statistics - <http://www.statsnwt.ca/>.

4.1.8 Education

The community's first school was set up in a tent in 1953, a federal school was built in 1955, and the currently used Mezi Community School was opened in January 1983. Education levels in Whatì are below average for the NWT, and have not seen significant improvement over the past few years, as illustrated in Figure 7. Mezi Community School offers classes from kindergarten through grade 12, and there are no local post-secondary options. High school students from the neighboring communities of Wekweètì and Gamètì are offered home boarding with Whatì community members so that they may attend Mezi Community School.

Figure 7: Percentage of Residents over 15 with High School Diplomas



All elementary school students receive instruction in Tłıchq daily, and there are three Tłıchq language credit courses offered at the high school level. The school's cultural program makes use of cabins, snowmobiles, and boats to get youth out on the land. In addition to the programs offered at Mezi, the TCSA operates the Community Learning Centre, and has daycare and preschool programs, staff training, schooling programs, and services for school-aged children that provide assessments, intervention, and support to those who require it.

Whatì Community Government representatives indicate that the school is at capacity:

The Mezi Community School (built in the early 1980s) is currently near maximum student population, therefore additional classroom school space [will be required], additional teachers will need to be recruited, as well as new teachers residences will be required (pers. comm., Whatì SAO, September 28, 2014).

4.1.9 Business

Whatì has a very small business sector. Business is limited within the community due to the expense and difficulty of obtaining utilities, basic goods, fuel oil and gas. There are no longer any locally-owned private businesses. The Tłıchq government owns and operates the Tłıchq Investment Corporation, an entity that amalgamated the business interests of the Tłıchq communities' Band Councils and the Treaty 11 Council in 2005. Its businesses located directly

in Whatì are Lac La Martre Development Corp. Ltd., the Wha Ti Ko Gha K'aode Ltd community store, and Lac La Martre Adventures (40 per cent owned).

The Whatì Gha K'aode community store offers post office services, a cash machine, groceries, hardware, dry goods, post cards, souvenirs, a community bulletin board, and financial services. Other prominent businesses include Tli Cho Air Inc., a joint venture between Air Tindi and the Tłı̨chų Investment Corporation, that offers air passenger and cargo services to the Tłı̨chų communities. The Lakeview B&B, a 7-room B&B located on the shores of Lac La Martre, closed in the past decade; there is the potential for a forthcoming 8-room hotel (pers. comm., Whatì SAO, September 2014).

Infrastructure deficits, high costs of freight, lack of an adequate population base to support business activities, and effects of isolation due to the seasonal road have all been cited as business deficits. To this should be added a strong community emphasis on precaution when dealing with natural resource development. For example, there has been a reluctance to risk long-term decline in fish stocks in Lac la Martre with a commercial fishery, which led to the closure of this commercial fishery many years ago.

Similar concerns have been expressed in relation to embracing fishing tourism. To date, there exists only a very small tourism industry, with Whatì unable or unwilling to fully capitalize on “the pristine environment and exceptional fishing” through the development of wilderness lodges (Nichols Applied Management 2006). In recent years, the potential of ecotourism and cultural tourism has been of central interest to the Tłı̨chų Government.¹⁷ Currently, a relatively small fishing lodge on Lac la Martre is the only tourism operation on Tłı̨chų lands.

4.1.10 Employment and Income Levels

Reliance on wage economic activity has grown over the years in the community, but it still remains below overall NWT averages. Employment rates (as a percentage of people 15 and older) grew from between 20-28 per cent in 1986 to between 38 and 50 per cent in 2004 (NWT Bureau of Statistics 2006), but had fallen again to 34.3 per cent in 2011, according to Statistics Canada data (see Table 3 below).¹⁸

The population of Whatì is employed mainly in work supported and funded by the government social and infrastructure service provision. Some employment at diamond mines has occurred although, according to local participants in the SEIA Scoping Study, the amount has not lived up to Tłı̨chų expectations. Some community members work at the grocery store, or do government and administrative work related to public works, construction, road clearing, maintenance, day care supervision, or teaching. There are also some opportunities for afterschool employment at the local youth centre and with the recreation department.

The potential of increasing wage economic activity is constrained by the extremely small population, and both the remoteness and the seasonal inaccessibility of the community constricts

¹⁷ As noted in the Tłı̨chų Land Use Plan (Tłı̨chų Government 2012, 33): “Ecotourism – touring natural habitats in a manner meant to minimize ecological impact – can be beneficial as it can help to protect Tłı̨chų lands at the same time as providing local benefits for Tłı̨chų.” No mention is made in the Tłı̨chų Land Use Plan of potential for a new all-weather road to expand this market.

¹⁸ Accessed through the NWT Bureau of Statistics - <http://www.statsnwt.ca/labour-income/labour-force-activity/>.

tourism and the promotion of local business sectors. Compared with NWT standards, the average family income and average personal income are very low:¹⁹

- 2012 GNWT family and personal incomes averaged \$120,898 and \$56,861, respectively;
- 2012 Tłıchq family and personal incomes averaged \$80,034 and \$36,771, respectively; and
- 2012 Whati family and personal incomes averaged \$75,538 and \$35,212, respectively, lowest in the Tłıchq Region.²⁰

Most of the work that is available to the people of Whati is seasonal, including jobs in forestry, brush cutting, community garbage clean up, winter road construction and maintenance. Six Whati youth are hired annually through the new Tłıchq Imbe program, a six-week program that hires secondary and post-secondary summer students in each of the Tłıchq communities. Many community members are employed in trapping activities during the winter, as well as caribou harvesting, and many earn an income by selling traditional crafts and items such as moccasins, drums, purses, wallets, and paddles.

Compared to other Tłıchq communities, Whati has a relatively high unemployment rate (see Table 3). In 2011, Whati's unemployment rate was the highest of any community in the NWT, with the employment rate second lowest after Fort McPherson.

According to the GNWT's Bureau of Statistics (2013), those with high school diplomas or higher education are statistically better represented in the labour force (employment rate of 58.7 per cent) than those without (34.1 per cent). According to the GNWT, just under 11 per cent of the population received income assistance in 2009.²¹

Table 3: Community Labour Force Activity 2011

	Populati on 15+	Labour Force	Employ ed	Unemplo yed	Participat ion Rate (%)	Unemploy ment Rate (%)	Employm ent Rate (%)
NWT					75.4	11.4	66.8
Tłıchq					58.4	31.5	39.7
Behchokq	1,275	680	400	280			

4.1.11 Housing

According to NWT Bureau of Statistics, overcrowding has decreased since the GNWT began tracking this type of data, and so too has the number of houses in need of core repair.

Still, there are very high numbers of housing problems in Whatì. In 2009, of the 118 total households in Whatì, 72 (61 per cent) had housing problems, as defined by the GNWT, with problems ranging from pitching structures from shifts in the permafrost, cracks in the walls from shifting, faulty furnaces, broken windows and doors, frozen pipes, and poor insulation. In addition, 27 per cent of houses had suitability issues, 25 per cent had adequacy issues, and 22 per cent had affordability issues. Overall, 47 per cent of households were defined as being in core need.

Most of the homes in the community are privately owned (61 per cent). Forty homes are owned by the NWT Housing Corporation. According to Whatì Community Government representatives, there is no extra stock of housing to accommodate in-migration (pers. comm., Senior Administrative Officer, September 2014).

4.1.12 Infrastructure

The community has basic services and basic infrastructure. Its transportation system consists of gravel roads in summer, and winter roads during the colder months. Community infrastructure includes a school that also serves two outlying communities; a community learning centre; one grocery store that serves as the post office; a Catholic church; an RCMP detachment with two officers who live in the community; a health care centre with two registered nurses, one in-charge nurse, a community health representative, and two support staff; one airport and air terminal building; and a fire hall that has appointed chief and volunteer members. Services available in the community include ambulance service, television by satellite, internet access, and radio service from the local radio station. Electricity supply is supplied by diesel generator, and sanitation is trucked from the community.

The Community Government of Whatì has expressed strong concerns about existing and likely future limitations of existing municipal support infrastructure, “such as the existing Water Treatment Plant, the existing Lagoon System, or the existing Solid Waste facilities”, each of which may be strained beyond capacity in any future growth scenario (pers. Comm., Whatì Senior Administrative Officer, September 28, 2014).²²

4.1.13 Health and Social Services

The TCSA provides social services to its communities, and receives funding from the government of the NWT. In Whatì, the TCSA administers the Mezi Community School, the Ṯchq̱ Health Path Wellness Centre, and the Lac La Martre Health Centre. Health and social services priorities identified by the Ṯchq̱ Government include the development of a postsecondary scholarship program, a variety of short term cultural projects, early childhood development programs, and various community health and social programs created by federal government initiatives. Whatì is grouped with Behchoḵ into one catchment area. Child and family services include both family and child protection, child welfare, early intervention, foster homes, adoption, investigations, apprehensions and court work.

²² See Section 7’s recommendations for further discussion of this issue.

The Community Government of Whatì has also raised concerns about the current and future adequacy of the Whatì Health Centre, which:

Is currently at capacity, therefore any additional health services to be provided in Whatì will require both additional (new) office and residential accommodation. This would require ambulance as well as social and medical services (pers. Comm., September 28, 2014).

The Community Government of Whatì raised similar concerns with the RCMP detachment having inadequate office and holding-cell space.

From both a statistical perspective and in concerns raised by community members (see Section 4.2.4), community dysfunction is a major Whatì concern. For example, violent crime rates in 2010 and 2011 were much higher than the NWT average,²³ and this is linked to high reported drug and alcohol abuse issues.

4.1.14 Natural Resources Potential

The area to the northeast of Whatì is rich in mineral resources, including uranium, gold and poly-metallic deposits. Previous operating mines included Tundra, Colomac (near Wekweèti) and Rayrock to the east. Many Tłı̨chǫ people have ongoing concerns about how those mines were managed and cleaned up, and long-term effects on wildlife, land, water and human health. These perspectives have coloured opinions toward new mining prospects, including the recently approved Fortune Minerals NICO bismuth-cobalt-gold mine east of Hislop Lake, which was discussed in focus groups with mixed emotions. Fortune Minerals has indicated that to proceed, it needs an all-weather road out to Highway 3, which is one of the key factors that led to a revisiting of the all-weather road question by the Tłı̨chǫ Government.

4.1.15 Land Use Planning

In 2012, the Tłı̨chǫ Government finalized its Tłı̨chǫ Wenek'e –the Tłı̨chǫ Land Use Plan (Tłı̨chǫ Government 2012). With it, the Tłı̨chǫ Government has identified zoning and land protection directives throughout the 39,000 square kilometres owned by the Tłı̨chǫ people through the Tłı̨chǫ Land Claim and Self Government Agreement signed in 2003 and which became law in 2005. These lands are one of the largest single blocks of privately owned lands in Canada, and the Tłı̨chǫ Government owns all surface and sub-surface rights therein.²⁴ They are self-managed by the Tłı̨chǫ Government's Department of Culture and Lands Protection. These Tłı̨chǫ lands, as noted in Figure 8 below, do not cover the entire area of the proposed Old Airport Road all-weather road route, an important consideration raised by many Whatì citizens, in that many are concerned about how lands will be managed if they are outside Tłı̨chǫ control.

All of the proposed Old Airport Road route is within the greater confines of the Wek' èezhii Area, the area within which Tłı̨chǫ regulatory management boards, including the Wek' èezhii Land and Water Board, have decision-making powers on land and water use.

²³ 2010 violent crimes per 1,000 persons – Whatì: 186.6; NWT: 84.8; 2011 – Whatì: 122.6; NWT – 85.0. Whatì's violent crime rate has also risen faster than the NWT average over the past five years for which data is available. Property crime rates, in contrast, are well below the NWT average. Data from <http://www.statsnwt.ca/community-data/Profile%20PDF/Whati.pdf>.

²⁴ Certain existing mineral rights at the time of the Land Claim and Self Government Agreement were exempted from Tłı̨chǫ Lands; for example the Fortune mineral claims east of Hislop Lake.

Within the Tłıchq Land Use Plan, almost all of the area within Tłıchq Lands that would be impacted by making Old Airport Road an all-weather road would be within what is known as Tłıchq Nawoo Ke Det’ahotii – Cultural Heritage Zone (Tłıchq Government 2012, Map 12). The following is noted about this cultural heritage zone:

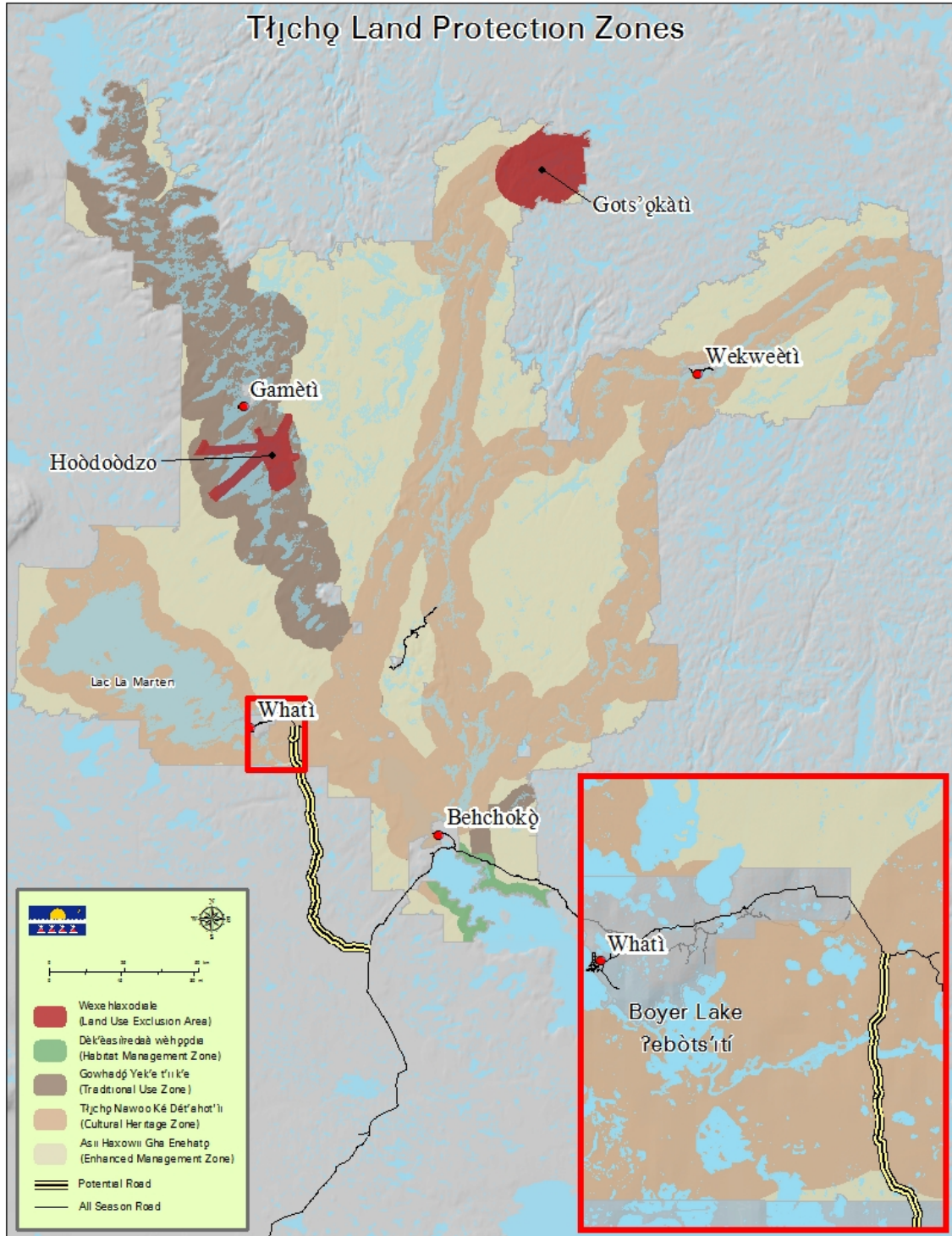
[The Cultural Heritage Zone] is connected to Chief Monfwi. Monfwi occupies a central place in Tłıchq history. Elders have said that Monfwi’s trails – where he walked and travelled – are crucial to Tłıchq history... These trails need to be protected and remembered for future generations. [They are] a fundamental part of Tłıchq heritage and identity. (Tłıchq Government 2012, 40)

Protection in the Cultural Heritage Zone is focused on preserving Monfwi’s trails and caribou trails, allowing Tłıchq to travel these trails to honour their past and respect their historic leader, and promote inter-generational sharing of stories and knowledge of Monfwi’s trails. A Transportation Corridor such as an all-weather road would be a potential land use; other activities such as hunting and fishing lodges, mineral or oil and gas exploration, would not.²⁵

The general area where the Tłıchq Land Use Plan applies to the Old Airport Road Route is outlined in Figure 8.

²⁵ An all-weather road might also require quarries/borrow sources within this area as well, which were not listed as one of the allowable activities for the cultural heritage zone, so an application to the Tłıchq Department of Lands would be required to figure out what is required to allow those activities.

Figure 8: Relationship of Old Airport Road to Tłıchǫ Lands



The Community Government of Whatì has also recently completed its own municipal Land Use Plan, with a focus on potential impacts from the development of the NICO mine; identification of a suitable site for a hotel/restaurant; and identification of a site for new elders housing (pers. Comm., Community Government of Whatì representatives, October 14, 2014).

4.2 Whatì Community Life and Values

Good practice of SEIA requires a focus on what matters most to the parties most likely to be affected by change. This Section describes community life in Whatì, the values that Whatì residents suggest guide what matters most to them and, by extension, what people love most about living in Whatì.

Please note that this section focuses first on responses by community members to specific questions related to a desired state of well-being and quality of life, and values held by community members. There will be differences – gaps – between this desired state and actual current status and trends over time; what we desire and what things are like today often differs. Where these gaps exist, vulnerabilities existing and improvements are required. In no way should differences between this aspirational state/description of things people enjoy about life in Whatì (Sections 4.2.1 through 4.2.3) and actual current well-being and quality of life indicators and concerns (Section 4.2.4 and portions of Section 4.1 above), be read as “inconsistencies”.

4.2.1 Whatì’s Community Identity and Perceived Sources of Strength

Whatì is a community where language, culture and identity are strong. It is a remote community in a beautiful place, and the land sustains the people and their way of life. The qualities described below are what make the community resilient to change (Conference Board of Canada 2014).

As Tł̨chq̨, our language, way of life, and water is important to us, and our Elders.
(Chief Nitsiza, September 2013)

We live here problem free, we eat whatever fish/ caribou we want, nothing makes us angry here. (Female elders, December 2013)

People in Whatì love the natural environment that surrounds them. There is clean water and no pollution, and people can be active outside, boating and fishing and traveling in the bush with their families. There is ample time to fish and spend time out on the land (Conference Board of Canada 2014). There is a baseball field for recreation. Youth are out swimming and spending time out on the water. The land sustains everyone, and as one male elder said: “All the animals that we survive on are here” (Tł̨chq̨ Government 2010).²⁶ There are berries, traditional medicines, and fur bearing animals, fish and caribou. People fish in every and dry the fish. The area is good for fish harvesting. It is easy to travel to Edézhíe (Horn Plateau) for trapping, hunting and fishing. Caribou travel to the area, and hunters have travelled all over this area in the past by dog team. “In Whatì there is good wildlife and fish. We don’t want to go anywhere else. We love our land and community” (male elder quoted in Tł̨chq̨ Government 2010).

People feel that the community is safe, quiet and peaceful. “Ever since I was born, I lived here. It is nice and peaceful, it is not rowdy. I have a son and daughter and want them to have a good, peaceful life. It is good to live here” (female elder quoted in Tł̨chq̨ Government 2010). People spoke of how they love to hear the ducks in the spring, and of how beautiful the land is. “When we go out on the land, the water looks like glass, and we teach our children all these skills. We

²⁶ Several references are made in this Section to consultations from 2010 by the Tł̨chq̨ Government with Whatì residents regarding a potential on-land winter or all-weather road. It is worth pointing out that in recent years, the adequacy of the available wildlife to sustain Whatì and other Tł̨chq̨ communities has come into greater question, given reduction in availability and harvest-ability of caribou, in particular.

teach them our culture. One day we want them to have a good life. We live off the wildlife, we don't eat from the store" (female elder quoted in Tłıchq Government 2010). People feel safe in Whatì, and few people lock the doors.

Elders are a happy and healthy part of community – no angry people here.
(Whatì teacher, March 2014)

These characteristics make Whatì a wonderful place to raise children. Many young people choose Whatì as a place to live, to teach and raise children in. "We want our youth raised here the way we were brought up here" (Male elder quoted in Tłıchq Government 2010). "Our parents raised us here, our parent's parents lived here. Our families raised us to love our land. Because our ancestors selected a good area of land, we want to keep it...Just as our ancestors have loved our land, we love our land and we want it to last. As women, we care for our children. We don't want harm to come to them" (female elder quoted in Tłıchq Government 2010). Children can play outside anywhere, and people are certain they will be safe. People are happy in Whatì, and it is where people's heart and history is. One female elder said, "The reason why I like Whatì: we have our house here and I love all the people and I love the youth. I love our life in Whatì and the way that we live."

There is strong community and unity in Whatì, with respect between the generations. Women carry their babies on their back and families are close. It is a community made of family. People all eat together, in the family house. People maintain their spiritual beliefs and teach them to youth, and honour and help each other. It is a safe, comfortable and welcome atmosphere with open communication. For example, in a focus group of women these sorts of statements were made about life in Whatì (December 2013):

I really love it here. My neighbours help one another. We eat together, young girls and boys really appreciate each other.

People have a happy attitude. We are all related.

I love all the people, all the children, everything about Whatì.

We are all relatives, and it is peaceful and good.

I want my children to live well. In Whatì we all look after our people.

The culture and identity is strongly connected to the land. The community is part of the land, not separate from it, and is embedded in the landscape (Conference Board of Canada 2014). Whatì people, even among Tłıchq, are known as the "live off the land" people (Whatì female resident, December 2013). People practice the culture and language, and many youth talked of how it feels good to be Tłıchq person. They know about the past and the history through traveling on the land, when they learn about the stories around the lake and at the falls. Elders know all the names of the land, and they teach these names to the youth. People speak the language and take the time to practice the culture. "When something is going on in the community, everyone participates" (female elder quoted in Tłıchq Government 2010).

In the community, the spirituality is being taught to the children and people practice traditional games, dances and songs. Their knowledge is reinforced through traveling on the trails of the ancestors by canoe and snowmobile. People know that the elders used to go by dog team. "We travel once a year to Rae to celebrate. All the footprints are still there on the path that was used.

Importantly, “because there is no transportation, young people stay in the community” (male elder quoted in Tł̨chq̨ Government 2010). People do travel to other areas, and other communities. They love to be out in the bush. It is because of this travel that people know about stories and place names from the elders and Prophets about the region. There are so many burial sites in the region. “All the islands here have grave sites. It is a good place to live. We want to preserve this for the next generation” (male elder quoted in Tł̨chq̨ Government 2010). The culture is strong and multiple organizations try to support cultural activities.

According to some residents, Whatì is a self-contained community, and people have everything they need, such as firewood, health services, police and a school. If people need other services, they travel to Yellowknife, but they are anxious to come home again. Families are used to stocking up for the year during the period of time when the winter road is open, and women pride themselves in planning well for the family needs. It is a dry town, with strict rules in place about alcohol access.²⁷

The independence born of the land claim and self-government agreement has made people proud and strong. With self-government people say: “what makes us happy is our own government. It’s for our people” (Whatì female youth, March 2014). Community and leaders work together to take care of each other.

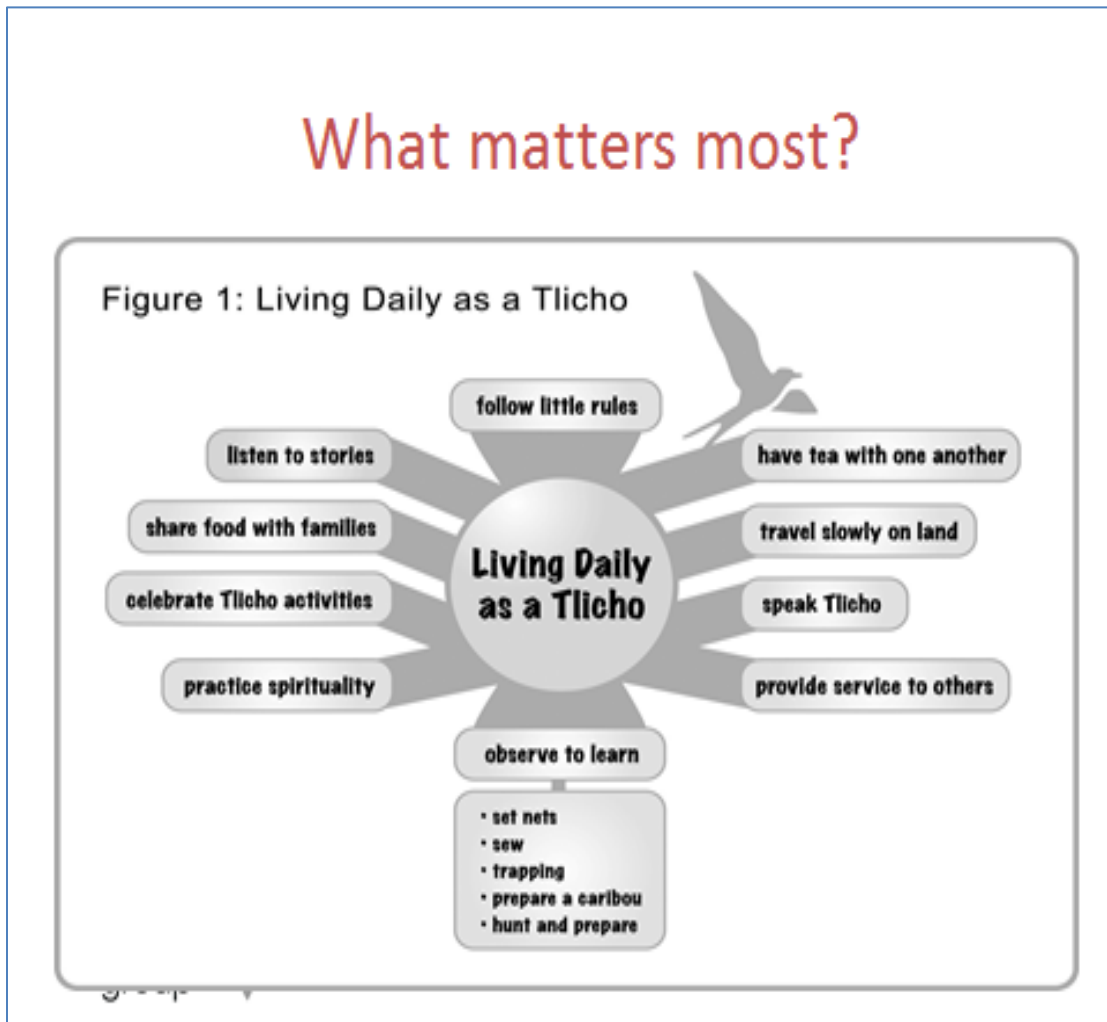
4.2.2 Tł̨chq̨ Values

The people of Whatì suggest that there are a number of core values that describe how people live together, treat each other and the land. Figure 9 reviews many of the activities, practices and relationships that make up the everyday life of a Tł̨chq̨ person. The values include:

- Respect for elders
- Respect for and adherence to Dene laws
- Sharing of traditional knowledge between generations
- Sharing in general
- Stewardship of resources so that there remains adequate food sources for the next year and the next generations
- Self-reliance and hard work
- Respect for Gonaewo – “our way of life”

²⁷ The author notes that despite its dry status, there remain substantial concerns about both drug and alcohol use in the community. Community Government representatives identified a 60 per cent increase in alcohol-related crime over the last year alone (pers. Comm., September 2014). This issue is discussed further in Section 4.2.4.

Figure 9: Select Tłıchǫ Values (from Gibson 2008)



4.2.3 Future Priorities, Goals and Aspirations

The SEIA Team identified priorities, goals and aspiration statements based on inputs from the 2013-4 SEIA Scoping Study sessions. These mirror other aspirational documents such as the Community Government of Whatı’s *Strategic Plan: 2014-2019* (Community Government of Whatı 2014). They include ecological, economic, social and cultural goals such as:

- Maintain clean water
- Preserve abundant fish and game stocks
- Continue wildlife harvesting on the land near the community
- Maintain traditions and culture, as it is culture that makes people resilient to social and economic pressures
- Maintain the strong participation in cultural activities, such as hand games and gatherings and family gatherings (e.g. ceremonies and funerals)
- Continue cultural practices on the land, especially traditional knowledge transfer between youth and elders
- Retain language

- Maintain community cohesion
- Maintain quiet contentment of the community
- Preserve and enhance the sense of safety and security in the community, especially for youth
- Retain strong family units
- Create conditions for lower cost of living, greater access to goods and services, and heightened economic prospects for community and members
- Create better physical infrastructure – old hotel went out of business; high maintenance costs
- Reduce social dysfunction, especially drug and alcohol use
- Protect the most vulnerable people from adverse effects/risks
- Train local people to run a healthy community
- Keep the best and brightest of youth living in the community; essential to community cohesion

The fears of the community members are simply the reverse of many of these goals. Overall, people place perhaps the highest priority on maintaining cultural practices on the land.

4.2.4 Community vulnerability and change over time

There are challenges that exist in the community, some related to remoteness and small community size, and others to rapid socio-economic and cultural change in recent years. These challenges include:

- Limited physical infrastructure; e.g., water delivery, lack of recreational facilities; housing maintenance;
- Lack of trained people;
- Lack of summer employment and post-high school employment opportunities for youth;
- Lack of social infrastructure and services, especially in the area of counselling and drug and alcohol programming;
- Lack of jobs in the community, so that “when young people finish school there is no job for them, it sounded like they would get training but no. this town isn’t that big” (Female elder, December 2013);
- Ongoing substance abuse, leading to “social drinking (that is) causing disasters” (Whati councillor, March 2014);
- Use of the winter road negatively affects school attendance, and causes a school absenteeism rate that is alarming (Whati female resident, March 2014);
- Use of the winter road negatively effects local store and community cohesion. It is described as three months of depopulation that causes a weak local economy;
- Limited access to fresh fruit and vegetables for a balanced diet;
- Use of the winter road that results in absentee parenting or “babysitter raised children” (Whati female resident, March 2014);
- Gambling addictions; and
- Language skills among youth are declining.

One of the defining elements of life in Whati today is that for nine months a year, it is a fly-in only community. Many of the benefits and costs of being a remote, relatively inaccessible community were discussed by community members when asked what life is like in Whati today.

Youth are pointed to as most at risk during the open season for the winter road. They leave the community on their snowmobiles to get to Behchokò, and often leave without telling anyone. Sometimes they leave too early in the season and place themselves at risk. The access to drug and alcohol, which does come into the community through bootlegging (via skidoo and the winter road) also places strains on the youth, shackling some of them to an addiction.

Another defining element of life in Whatì is that winter road itself. Many if not most respondents identified that the fabric of the community, fundamentally alters during the winter road season. The different types of social and economic issues, concerns and opportunities Thìchò citizens face or take advantage of during the current winter road season helps us to understand current seasonally fluctuating aspects of community well-being and quality of life in Whatì. Focus groups and interviews identified changes that occur during the current winter road season, summarized in Table 4 below. In addition, the text box on the next page shares an anecdotal perspective on the impacts of the current winter road season on the community, as shared by a Whatì youth.

Table 4: Benefits and Costs to Whatì During the Current Winter Road Season

Benefits to the Community During the Current Winter Road Season	Bad Changes to the Community During the Current Winter Road Season
<ul style="list-style-type: none"> • Increased access to the outside world and greater sense of freedom • Ability to stock up on cheaper non-perishable foods and equipment/materials needed for the coming year • Ability to go to bingo in Yellowknife • Community restocks on major supplies that would be extremely expensive to bring in via air freight • Able to get out and see family in other communities • Access to a greater variety of goods • Cheaper access to medical and other services 	<ul style="list-style-type: none"> • Increased access to drugs and alcohol • Increased public drunkenness, fights, abuse • Children left at home alone or without proper parental supervision • Decline in school attendance • Radically increased pressures on policing²⁸ • Elders may not have day-to-day supports • Mothers and grandmothers (especially) have trouble sleeping, due to safety concerns • Weekend “ghost town”; rapid depopulation • Increased vehicle accidents, injuries, higher potential for fatal accidents • Reduced sense of community safety and cohesion overall • Community store revenues go down • Reduced amount of traditional harvesting practices near community

²⁸ This was noted by RCMP representatives at the Special Inter-Agency Meeting in June, 2013, held in Whatì by the Community Government of Whatì, attended by the author, where a local RCMP officer noted that in the winter of 2012-3, the increase in calls and liquor seizures was dramatic: “100’s of percent in number of alcohol being seized [with] calls for service increased during this period compared to summer when you can go days without serious calls”.

Life in Whatì and the Winter Road: A Youth Perspective

One of the greatest priorities for Whatì residents is the protection and promotion of youth. The current winter road system has pros and cons, as shared in writing by one Whatì youth:

My entire life I've known the winter roads, I have had the privilege of learning the names of the ponds and lakes we cross, and encountering the many beautiful animals that roam throughout the winter road route. However, I have also witnessed substance abuse, parental neglect, motor vehicle accidents and many other negative effects that the limited access to the outside world has brought.

The winter road from Whatì to Highway 3 does make life a little bit easier. The road provides local residents with a chance to come to Yellowknife and shop for food, clothing, home appliances etc. It is much cheaper to travel by truck to Yellowknife, pick up the supplies needed and come back home, as opposed to flying round trip Whatì to Yellowknife and vice versa at an estimated \$430, which does not include the price of freight and paying for the actual supplies. The short 2–3 months of winter road has always been a chance for families to purchase consumer goods they need for the coming year.

The bad effects that the winter road has had on Whatì vary from minimal to extreme. One negative effect is substance abuse. The winter road plays a big role in the process of smuggling in drugs and alcohol. When alcohol is sold in the 'dry' community, it can cost up to \$100.00 or more. The dealers sell to anyone, underage people, elders, people with addictions, who's to say how they will handle their alcohol? I have witnessed people get their stomach pumped, people drinking and driving into ditches, or head on collisions. Substance abuse is usually the cause of many physical and verbal fights. Drinking can't be taken lightly in Whatì; it's taken in big gulps that lead to many different roads.

Substance abuse also leads to child neglect, leaving kids with an unfit babysitter, older siblings or worse alone. Substance abuse does not only affect the person committing it, it also affects the people around them. Regarding the welfare of children, I missed many classes throughout elementary for various reasons during the winter road. We wouldn't get home [from bingo in Yellowknife] until about 1 or 2 in the morning, making me too tired to go to school. Every Friday the school was practically empty with the exception of some students and teachers, my classmates came in tired and cranky. The people who suffer the most from addictions are the children; sometimes it means bingo and cards matter more than full cupboards and fridges. I found to make the child happy you bought them frozen dinners, pop, chips, gummies etc., instead of taking the time to prepare a healthy, filling meal children adapt to living and eating unhealthy. From this, many young people are suffering from obesity, diabetes, and other health affecting diseases.

I have seen people drink and drive in the community and on the winter road. I know of people that have driven too fast on the slippery roads, I have seen vehicles collide into each other from drinking too much, I have seen people go into ditches and fallen asleep out the vehicle, I have seen people pass out under random vehicles for no apparent reason other than drunkenness. Underage kids being supplied with booze does not look good for our future; what if all this freedom turns into an addiction? What if we can't stop at one bottle? What if we go too far? There are far too many 'What if' scenarios to make drinking in the community alright.

I hold the elders of the Tłı̄chǫ region close to my heart, with that in mind, it is sad to say that a lot of elder abuse goes on during the winter road season. Many grandparents are left to take care of their grandchildren, abused with the task of having to feed, change, clean and take care of grandchildren. Grandparents should be there to teach traditional/life skills and tell stories to their grandchildren. When you have an elder that speaks strictly Tłı̄chǫ and grandchildren that speak strictly English you also have a growing language barrier that creates misunderstandings that lead to elder abuse. All of the things stated in this testimony are true. Sometimes people don't want to see the issues at hand, but substance abuse, child neglect, elder abuse are just some of the things that need to be looked at and solved. The advantages of an all-weather road are there; access to cheaper resources, tourism attraction, better chances of starting a successful business. The duty of the people in Whatì is to work together, help heal and deal with addictions, stay a community and keep doing community events and continue practicing culture, rather than a town where no one talks to each other or know each other.

There are already many changes to the community that people point to, such as:

- Fewer people out walking and visiting at night, especially youth, and more people are coming and going from the area.
- People are seen drinking out on the street, and there is an increase in substance abuse.
- More kids are at risk and being taken into care due to drugs, alcohol, absentee parenting, especially during winter road season, during which we don't know if young children are eating or not because of parents addictions." (Whatì male resident, November 2013)
- Fewer youth speak the language fluently. "Dogrib class is not in done in the language-teach real Dogrib words – My daughter understands and can say small words" (Whatì male resident, March 2014).
- Reduced youth daily practice of cultural activities. "Kids hang at Youth Center; they should be doing arts and crafts" (Whatì male resident, March 2014), and "each household head had a new beaded and embroidered jacket for Christmas, and now people shop" (written workshop comment, November 2013).
- Reduced time spent together out on the land, in that "not many youth want to go out on the land" (Whatì male youth, November 2014). Communal hunts are not as common or well attended, however "Community hunts were teaching occasions – now rush out with just skidoos by selves" (Written workshop comment, November 2013).
- There is a sense among many people that unlike the old days, you can't rely on the traditional lifestyle to make your living (Whatì male resident, March 2014)
- There are threats from climate change, with more unpredictable weather making it less safe out on the land for travel.
- There is more employment and more disposable income than in the past. Bad – more ways to spend money. People from town are not in the best position to take advantage of economic opportunities, for example mining, fishing, etc.
- The mines have brought employment money vs. homes where a parent spends a lot of time away from family.
- Increasing youth reliance on digital communication and television.
- Elders words are not listened to as strongly as in the past.
- Reduced sense of safety and security in the community already: "Ten years ago no need to lock the door, now it's mandatory. Now we worry about EVERYTHING!" (Whatì councillor, November 2013).
- Reduced terrestrial wildlife in recent years: caribou are much reduced in the area and there is concern about not having enough meat to sustain themselves and/or having to travel further to harvest.

There have also been concerns raised about reduced population health, with a common refrain being that "people used to die of old age," but now are succumbing to an increasing number of diseases. This concern was echoed in fieldwork completed in 2008 by Kavik-AXYS (2008b, 4-28), which noted "There are growing concerns among health professionals and community leaders about trends in the health of Tł̨ch̨q̨ citizens, especially relating to the incidence of certain infectious diseases and chronic conditions."

It is in this context that people of Whatì are considering the all-weather road. People love the community, its safety and security and strong sense of cultural identity, but they fear these key elements of well-being and quality of life are threatened by a number of pressures. Concerns about an all-weather road need to be understood in this context, and proactive planning and

communication is critical to reduce perceived risks and actual effects outcomes of additional rapid change should an all-weather road be developed.



5.0 Whatì Residents' Perspectives on an All-weather Road

5.1 Previous studies and On-Land Winter Road Studies

Nichols Applied Management (2006) notes that in the 2005/6 winter road, Tł̨chq̨ communities had only just enough operating days for re-supply. This prompted serious reconsideration of the long-term need, given climate change warming scenarios, for an all-weather access road. This prompted several studies over time. This SEIA Scoping Study and the 2014 Nichols Applied Management economic study expands on previous research focused on technical feasibility and routing (Kavik-AXYS 2008a), environmental and (to a lesser degree) socio-economic gap analysis (Kavik-AXYS 2008b), economic benefit-cost analysis (Nichols Applied Management (2006), and surveys of local people on their support for an all-weather road (Nitsiza 2011; Community Government of Whatì 2006).

By 2007, serious discussions and route identification analyses were being conducted for an on-land winter road system in the Tł̨chq̨ Region, necessitated in large part due to increasing temperatures due to climate change and associated increased difficulties in building annual winter roads, much of their span over lakes and rivers. It was recognized that such routes could in the future potentially be upgraded to all-weather road status (Kavik-AXYS 2008a).

A variety of potential benefits were identified from these potential on-land winter road routes:

- Enhanced inter-community transportation and access;
- Enhanced mineral exploration and development opportunities;
- Reduced supply costs to remote communities;
- Increased access to services for Tł̨chq̨ citizens;
- Increased employment and training opportunities for remote community residents; and
- Increased tourism opportunities (Kavik-AXYS 2008a; 2008b).

In February 2008, GNWT Department of Transportation representatives initiated a consultation meeting with Whatì residents in the community. Later that year, the results of a scoping study for an extended on-land winter road, which included results from the February meeting, was issued (Kavik-AXYS 2008b). The consultation included 17 Whatì residents and a community meeting. The following socio-economic related risks and benefits of an all-weather road were identified in that report:

Table 5 : Socio-Economic Benefits and Risks Identified in GNWT 2008 On-Land Winter Road Consultations (Kavik-AXYS 2008)

Topic Area	Benefits of an On-Land Winter Road	Risks of an On-Land Winter Road
Social and Health	More opportunities to visit other Tł̨ch̨q communities and families	Increased access and use of drugs and alcohol
	Safer transportation than existing winter road or air (aging planes, shorter winter road seasons creating risk)	
	Freedom to leave town more often	
Wildlife, Harvesting and Culture	Reduced magnitude of effects of a fuel spill or other accident (not over water)	Increased risk of a fuel spill through more traffic over a longer period of time
		Increased harvesting pressures by outsiders
Economics	Reduced inflation and lower cost of living – “people [in Whatì] are held hostage to whatever is charged in town because they can’t get out to competing stores.”	
	Better and cheaper resupply of goods to the community	
	Reduced risk of emergency supply rationing situations (e.g., mid-winter run out of gas)	
	Reduced cost to access services	
	Promoting tourism, seen as a sustainable future economic sector by Tł̨ch̨q	
	Access to more and cheaper goods in Yellowknife	
	(potentially) more training	
	(potentially) inadequate additional training leading to weak ability to take advantage of new economic activity	
	(potentially) more construction, operations and environmental jobs re: the on-land winter road	(potentially) inequitable distribution to Tł̨ch̨q of construction, operations and environmental jobs re: the on-land winter road

Overall, the GNWT’s 2008 consultations found that “participants in community meetings were largely supportive of the proposal to move the existing winter road to a land based alignment because it could be safer and result in a longer operations period... which would help to resupply communities and provide better access to outside goods and services” (Kavik-AXYS 2008b).

5.1.1 Technical All-weather Road Studies

In 1999 and again in 2006, the GNWT’s Department of Transportation contracted Nichols Applied Management (1999a – Inuvik to Tuktoyaktuk; 1999b – Mackenzie Highway Extension north of Wrigley; 2006 – Tł̨ch̨q Region) to conduct a limited scope economic evaluation of the benefits and costs of potential all-weather roads in the NWT. In the 1999 studies, Nichols Applied Management found that “the community benefits tend to be too small to warrant all

weather road construction on strictly economic grounds” (Nichols Applied Management 2006, 11). This was confirmed in the 2006 study on all-weather roads in the Tłıchǫ Region, which found that from this strictly economic perspective, the benefit/cost ratio was 0.20; well below 1, the point at which it makes economic sense to pursue an action.

However, the scope was limited to a cost-benefit analysis of the following associated with an all-weather road:

- Benefits were limited to assessment of cost of living and access benefits and avoided winter road construction costs, and
- Costs were limited to road and bridge construction capital and operating costs, and increased vehicle usage.

Not included were estimates of overall regional economic and social development benefits or costs. The 2006 study also critically noted that “the situation may be different if industrial benefits (e.g., mining) accrue to the road” (11). For industry, an all-weather road was noted as having the following benefits:

- Greater accessibility into the southern part of the Tłıchǫ Region;
- Reduced costs of exploration, leading to a likely increase in exploration activity;
- Reduced freight costs;
- Reduced inventory costs through increased certainty of supply;
- All-weather product shipment, reducing storage requirements and exposure to commodity price fluctuations; and in sum
- Reduced project risk/increased project viability and ability to finance.

Overall, Nichols Applied Management (2006) identified the following potential benefits of all-weather roads in the Tłıchǫ Region:

- Reduced freight costs, resulting in lower cost of living;
- Increased frequency of resupply, increasing the quality and variety of goods available in the community;
- Reduced cost of transporting people into and out of the community;
- Potential for increased tourism, increasing economic activity and business opportunities and jobs in the community (the study predicts that tourism activity is expected to be small);
- Increased access for residents of previously remote communities to businesses and services available in Yellowknife and other larger centres at points south;
- Increased mobility and reduction of isolation (and sense of same) among Tłıchǫ “remote” community residents;
- Reduced downtime associated with weather delays;
- Reduced sense of isolation;
- More engagement in regional events;
- Better access to training and education opportunities; and

- Reduced medical travel costs.²⁹

In summary, the Nichols Applied Management (2006) economic evaluation found that:

- An all-weather road to Whatì would significantly reduce transportation costs, approximately halving them from \$0.068 for each dollar of industry output to \$0.034;
- Transportation savings per year per person were estimated to be \$525, with an additional \$400 benefit per capita from savings associated with increased accessibility into and out of the community,³⁰ for a total of estimated monetary benefits (2006 dollars) of \$925 per capita;
- Despite this, from a purely economic perspective, the only rational reason to build an all-weather road would be if it increased the likelihood of the NICO Mine opening from 0 per cent to 75 per cent or greater, or if the road both increased the likelihood of NICO proceeding and made economically viable other as-yet undefined mining or hydro-electric projects; and
- Overall, building an all-weather road to Whatì would increase community benefits such as access to services, decreased cost of living, and reduced isolation. Nonetheless, these benefits are not enough by themselves to make the project economically viable, due to high construction and maintenance costs and the low population being served. Mineral development is critical to the economic rationale for the road, with the NICO Mine being the economic lynchpin.

Nichols Applied Management (2014) also completed an updated economic evaluation for the GNWT in May 2014 which has been shared as an appendix to the GNWT *Project Description Report* for the proposed all-weather road.

5.1.2 Whatì-Based Studies on Support for an All-weather Road

The citizens of Whatì have considered a road in many different forums over the years. Participants in several 2013 focus groups identified that elders had considered and rejected an all-weather or on-land extended season winter road concepts a variety of times over the years; that despite it having some benefits, due to the primary focus on the protection of wildlife, culture, and the sense of security and safety in the small community, the all-weather road option had always been rejected:

Our elders used to say twenty years ago, they said they would build an airport, because they don't want a road. (Whatì male resident, November 2013)

Recent surveys have indicated that there is now broad support for an all-weather road. In 2006, the Community Government ran a survey of 193 adults in which 80 per cent of the people who filled out a survey said they wanted an all-weather road (Community Government of Whatì 2006). In a survey conducted for the Community Government by Albert Nitsiza (2011), 82 per

²⁹ And, the author would add, associated increased access to health care and other social services housed primarily or solely in Yellowknife.

³⁰ Nichols Applied Management (2006) included vehicle costs and costs of accidents in this estimate.

cent majority were in favour of an all-weatherseason road,³¹ stating “Yes” to the following question, “Do you want an All-Season Road?”

Mr. Nitsiza also took notes of comments made by respondents, who identified a variety of benefits and risks of an all-weather road, including the following:

Table 6: Findings of Nitsiza (2011) Survey: Benefits and Risks of an All-weather Road

All-weather Road Benefits Identified by Whatì Members in 2011	All-weather Road Risks Identified by Whatì Members in 2011
<ul style="list-style-type: none"> • Reduced travel cost (especially reduced airplane travel - raised by numerous people) • Reduced food and fuel costs (raised by numerous people) • Reduced danger of flying (raised by numerous people) • Increased accessibility to jobs(raised more than once) • Increased youth opportunities (raised more than once) • Increased tourism opportunities; respect for land • More communication/access with outlying communities (raised more than once); more visits to and from relatives (raised more than once) • Ability to travel for shopping • Reduced risk of ice roads melting due to global warming 	<ul style="list-style-type: none"> • Increased hard drugs and alcohol in the community (raised by numerous people); more access to bootleggers; more “bad habits” • Financial problems • Family issues • Increased social problems; reduced community health; stability of community comes first • Security – more fights • Loss of culture • More people hitchhiking; people freezing to death on the road

Mr. Nitsiza indicated that many people were emotional about the subject, often sharing their fears first, but later indicating in response to his initial question that they were in favour of the road on balance based on some of the beneficial factors listed above. In an interview for the 2013-4 Scoping Study, Mr. Nitsiza indicated that:

[I] asked do you want an all-weather road and they talked a lot, they said they would see big changes, were not talking about little things were talking about big things, that will change the community, outsiders will come in, a lot of bootlegging, might lose a lot of young people, lose our culture due to people leaving for the weekend we live in an isolated town beautiful we will lose lots.

Another factor clearly weighing on the minds of respondents to the 2011 survey was a recent plane crash. Air safety was mentioned by 11 of the respondents as a factor for supporting an all-weather road, and was a key secondary support factor behind reduced expenses, more jobs, and increased mobility.

³¹ In the 81 households surveyed, 105 responses were recorded. 86 people (82 per cent) said “yes,” 16 people (15 per cent) said “no” to an all-weatherseason road, and 3 people (3 per cent) were unsure (Nitsiza 2011).

A close examination of notes from the 2011 survey indicates that several more of the respondents expressed comments indicating ambivalence about the prospect of an all-weather road. At least 17 (20 per cent) of the people who ultimately weighed in with support for an all-weather road identified negative elements of an all-weather road as well. The high level of support (82%) for an all-weather road from respondents should not be discounted; neither should the clear evidence of remaining concerns about how to prepare the community to avoid or minimize the potential bad changes noted in Table 6 above.

This continuing ambivalence of some community members to an all-weather road was also evident in the issues raised during Mackenzie Valley Review Board (MVRB) community hearings on the proposed Fortune Minerals Ltd. NICO mine where people in Whatì and Behchokò raised the following issues related to an all-weather road:³²

- Many community issues raised about extended highway access
 - Increased drugs and alcohol
 - Related social problems such as domestic violence
 - Cultural loss
- Many issues related to the anticipated road from the highway to Whatì and Gamètì
 - social issues- drugs, alcohol, related problems, but some cheaper goods
 - wildlife issues related to direct mortality from increased hunting access
 - fish issues related to crossings, fishing pressure from increased access

5.2 Results of the 2013-2014 SEIA Scoping Study

This Section identifies all-weather road benefits and risks and planning raised by the more than 100 Whatì community members from all walks of life,³³ consulted during the 2013-2014 SEIA Scoping Study.

The results are organized into four theme areas, including transportation, social and health wildlife, harvesting and culture, and economic aspects. In each case, both perceived potential benefits and risks of an all-season road, as expressed by Whatì community members gathered during the course of this SEIA Scoping Study, are identified. The relative extent of perceived benefits vs. risks on each of the four themes is reflected in the amount of discussion provided for benefits vs. risks for each theme.

5.2.1 Transportation Benefits and Risks of an All-weather Road

In interviews and focus groups, more transportation benefits were identified than risks. This is reflected in the discussion below.

³² These notes are drawn from a review of the transcripts from the NICO hearings, held August 27 through 31, 2012, and October 11-12, 2012, available on the MVRB website at http://reviewboard.ca/registry/project_detail.php?project_id=72&doc_stage=10.

³³ Including 95 interview and focus group attendees as well as other people who spoke at the community meeting.

5.2.1.1 Transportation Benefits

Citizen mobility in Whatì is significantly constrained by the lack of an all-weather road, and community members identified many transportation benefits. For the better part of the year, people can only get away by airplane, which is both expensive and can be unreliable. Concern about the safety of air travel is prevalent in the community as well. As noted by one elder in an interview in November 2013: “We can’t always rely on airlines; people avoid airlines and started boating in the summer (on the river).” Especially after the 2011 crashes, is the community raised strong concerns that flying poses a greater risk than driving.

Climate change is a topic often raised in relation to the winter road, which may become more constrained by shorter and warmer winters. The window for transport would be shorter and the loads that could be sustained on a winter road might become lighter. A male elder at a focus group in November 2013 said, “Climate change is making our land warmer every year, winter road may not be an option in the future. If the winter road doesn’t open how are we going to get our supplies in?”

There is strong social unease with continued reliance on a winter road only terrestrial access corridor, given shortening winter road access seasons associated with temperature changes in the sub-Arctic. As noted from Whatì resident comments in a community meeting on an on-land winter road (Kavik-AXYS 2008b):

Currently, the young people who are away at school hesitate to come home because they may get caught by weather and not be able to get back in time. Doctors cannot currently come into the community at regular intervals because of the unreliability of planes and their dependence on good weather. Even if people get sick, there’s no certainty that they will be able to get out and see their doctor, and eventually that’s going to cost someone their life.

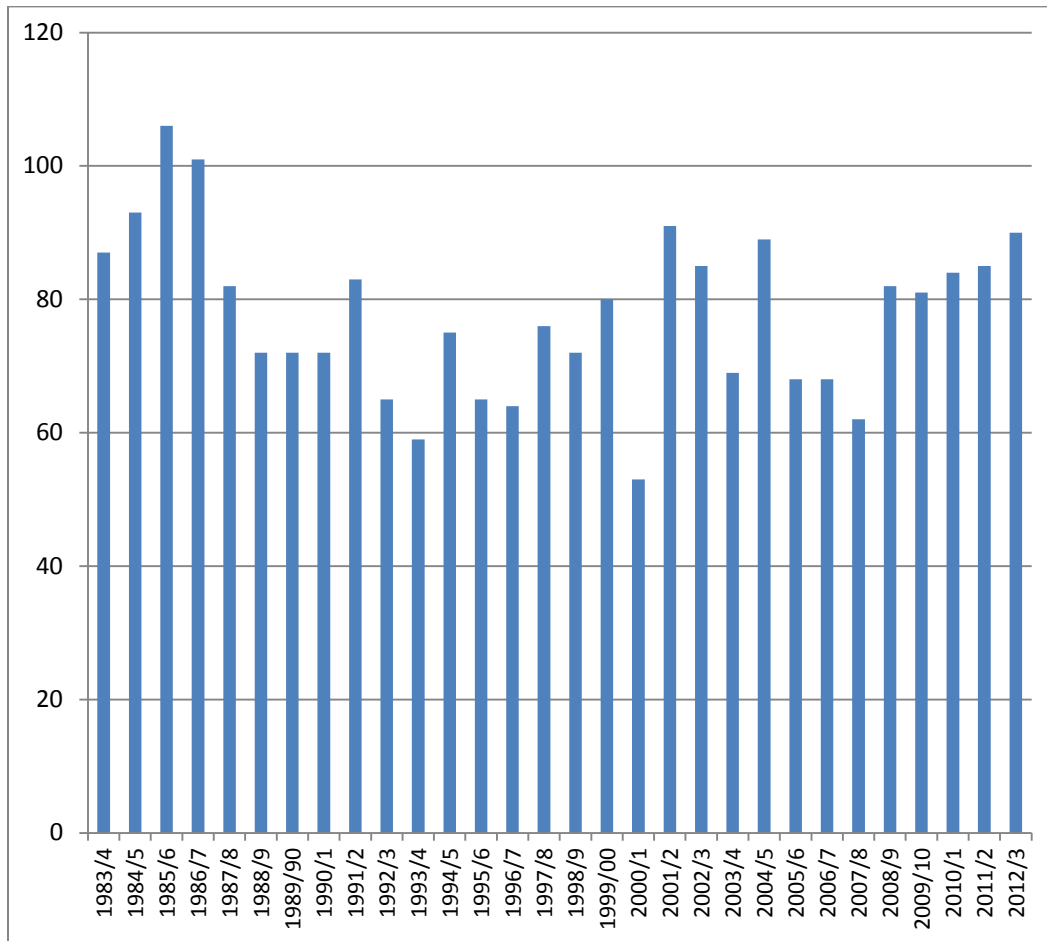
Climate change thus affects not only ease and cost of access, but the very future viability of Whatì as a functioning community.

There is some empirical support for concerns related to the effects of climate change on the length of time the Whatì winter road stays open and its future viability. Data provided by the GNWT’s Department of Transportation (see Appendix D) identifies the following based on the past thirty years of winter road building to Whatì. Up until about 1995, the Whatì Winter Road often opened in early to mid-January. Since then, it has generally opened in mid- to late-January or February. The last time it opened in December was 1986/7. Between 1983 and 2013, the Whatì Winter Road has been open on average for 78 days, with a decade-by-decade breakdown as follows:

1983-1993: average of 83.3 days
1993-2003: average of 72 days
2003-2013: average of 77.8 days

The increase between 2003 and 2013 is identified by GNWT Department of Transportation not as a result of colder temperatures, but a result of use in recent years of changing technology: “One thing to consider is, because we have less ice to work with at the beginning of the season, we have begun using different lighter equipment to offset the time issue by getting equipment on the ice earlier. If we used the same equipment we used 20 years ago, the contrast would be much greater” (pers. comm., Michael Conway, GNWT Department of Transportation, June 3, 2014).

Figure 10: Whatì Winter Road Access: Average Number of Days Open*



*In 2013/4, the Whatì Winter Road was open for 90 days, between January 22 and April 22.

This data and analysis indicates it is becoming harder and harder – and substantially more expensive, according to the GNWT Department of Transportation - to build a long functioning Whatì winter road over time, an issue Whatì residents are acutely aware of.

One of the primary benefits of an all-weather road is commonly recognized to be a lower cost of traveling from Whatì to Behchokò, Yellowknife and southern areas nine months a year. Plane travel is becoming prohibitively expensive for some people:

It seems like it will benefit us because of cost of living, climate, in the future if the winter road doesn't last then we will only depend on airlines that will raise all the prices extremely. (Whatì councillor, November 2013)

It'd be awesome to have an all-weather road because less money to spend on Air Tindi plane ticket. (High school student, November, 2013)

Airplanes for travel –that costs money, but if we run out of money in Yellowknife we have no money to pay to travel back here. (Male resident, public meeting in Whatì, September 4, 2013)

It is simply cheaper to travel by vehicle than by plane, as illustrated by this individual: “It’s too expensive to fly in and out, just like last year when we went to Yellowknife taking two boys with us for the Christmas holiday to spend it with family. The round trip alone was almost \$2000” (service provider’s focus group, December 2013). Freight is similarly cheaper to transport by an all-weather road, which will make a broader set of goods more affordable for Whatì citizens. Further, the road itself would allow local people better access to the resources along the Old Airport Road, such as greater access for trapping, hunting, and wood gathering (adult male focus group, November 2013), while of course also opening this option up for outsiders as well.

People feel they will have greater mobility with an all-weather road. They have more freedom to come and go and more accessibility to the outside world. This was remarked on especially by youth and teachers, who would be able to go on more field trips. Youth and working age people indicated they would leave the community on a very regular basis – some “every weekend.” The road might reduce some isolation that people feel, so they are linked to families further away: “I would use it to travel to my wife who is in school, grocery shopping, parts for my other snow machine” (Whatì male resident, December 2013).

Leadership reported a benefit of an all-weather road being reduced amount of time spent out of the community and easier (and potentially safer) access to Behchokò for meetings, as well as reduced weather delays.

Given limited funding available for transportation, there were some concerns raised that if the all-weather road does not proceed at this time, the community’s transportation needs may not be met for another 20 years, with funding likely siphoned away to other priority areas like the Mackenzie Highway Project (pers. comm., Chief and Council, April 8, 2014).

With the all-weather road there could also be improved communication with the installation of cell phone service along the road, contributing to safer driving on the winter road or by snowmobile. Given a wider spread of transits over time (there wouldn't be the same winter road pulse of hundreds of vehicle trips back and forth during a short period of time during sometimes difficult winter weather), vehicle incidents rates may reduce with an all-weather road.

5.2.1.2 Transportation Risks

The potential for increased fatalities with more traffic along an all-weather road was raised as an issue by Whatì residents. There are two sides to this discussion. From the first perspective, there is the possibility that development of an on-land, all-weather road will reduce accidents and fatalities that currently occur when people from Whatì (or any of the three Tłchq remote communities) attempt to use the winter road before it is fully established or after it has officially closed. This temptation may be brought on by the need to access goods and services too expensive or unavailable in Whatì prior to losing the land-based transportation route for another year. An all-weather road would remove this type of accident. In addition, numerous accidents along the current winter road may be attributable in part to the high level of traffic because people have a limited amount of time to obtain their goods via ground. An all-weather road would reduce the stress/panic of having to obtain goods in a limited amount of time (per. Comm., GNWT Department of Transportation, November, 2014). From this perspective, the all-weather road would create a transportation risk reduction benefit.

Alternatively, community members also suggested that the total amount of traffic in and out of Whatì will increase exponentially as a result of an all-weather road. Increased traffic could lead to increased risk. In addition, concerns were expressed by community members that fatigue,

hitchhiking, wildlife collisions, and substance abuse may all increase the risk of traffic fatalities should an all-weather road be built.

When driving all year becomes an option, and if more long-distance trips are taken over the course of a year, drivers face increased long-distance commuting risks. Where there are more long commutes, there are higher accident and fatality risks. If there is increased traffic, there is potential for increased accidents along all-weather road route on an annual basis. As one female said, there are already concerns about “lots of accidents on highways...family and friends not making it home” (December 2013). Female elders, in particular, raised extensive concerns about the worry they would experience if family members were always on the highway traveling: “I don’t want a road on our land, we have children, grandchildren, relatives, when something happens to our people we are afraid, we stay up at night thinking are they OK, and will they freeze?” (female elders’ focus group, December 2013). These types of comments were most often associated with concerns about younger people travelling more often in and out of the community with all-weather access.

5.2.2 Social and Health Benefits and Risks of an All-weather Road

In interviews and focus groups, more social and health risks than benefits were identified. This is reflected in the discussion below.

5.2.2.1 Social and Health Benefits

Many Whatì residents expressed that they are excited to have an increased ability to see family members that live outside of Whatì. Sentiments such as the following were common:

My grandchildren coming every weekend, or us visiting them more often.

Just the in and out access to the community, maybe I can see my parents and relatives more often.

Maybe my kids will visit more.

There could be increased connectedness in general with the outside world: “it will be easier to visit family in Behchokò, I wanted to go to so many funerals this fall but I couldn’t afford it, and I wanted to get kids out for tournaments” (Whatì male resident, November 2013). Community members would be able to visit the other Tłıchò communities more easily. This can be said of not only Behchokò, but also Gameti, the winter road to which could be started earlier with an all-weather road, allow for a longer visiting and inter-community transportation season.

Further, the road might help young people to not feel so isolated, confined, even trapped. Many young people feel that access to the outside world is important to their growth and development. Certainly, while there is the risk that people may leave Whatì, new people may also arrive, bringing new perspectives to the community and economic opportunities. “It is going to be like a small city” (youth focus group participant, November 2013). Interestingly, the opposing concern was also raised– that new people can bring risks to community cohesion.

There is the potential that students will be able to have better access to year-round educational opportunities. Some people thought there would be better learning opportunities and environments from greater access to the outside world, while others felt that the many distractions

of “24-7” in-and-out access may reduce youth³⁴ focus on education. For youth, additional recreational opportunities, through more trips outside the community as well as increased money, jobs and investment were raised as likely benefits. These opportunities could lead to better opportunities for students, and exposure to a wider worldview.

The all-weather road will also decrease the cost of goods, services and travel. Many service providers mentioned that the ability to leave easily will give them much needed respite from the daily troubles of the community. The ability to travel to Yellowknife will also decrease the cost of travel and goods.

There may be more food security and greater diversity of food choices. Currently it is difficult to get a good selection of fresh fruit and vegetables at the local store much of the year, items that are key to a well-rounded and healthy diet. An all-weather road would lower the cost of these types of foods and increase the reliability of their stock.

This year-round ability for independent and cheaper travel will also make health care services easier to access for the whole family, as well as more and more readily available social programs, potentially both in the community and in accessible larger centres like Yellowknife and Behchokò.

In the community itself, the all-weather road will facilitate cheaper options for construction materials, so that new hotels, stores and a much desired recreation centre will be much cheaper to build. Further, there will be more economic prospects in the local area, creating an incentive for youth to stay in the community. The fear of continued loss of some of the community’s best and brightest might be mitigated through the development of a stronger and more varied local economy.

An all-weather road and potential opening of the NICO mine could bring more jobs in or close to the home community. This is perceived largely as a social benefit as opposed to current diamond mine jobs with long distance commuting and long rotational shifts, which increases stress on families and exacerbates imbalances in the sexual division of labour in many households. It would also likely reduce the vulnerability of the community of Whatì to the previously mentioned “brain drain” phenomenon, by keeping more of the better educated and trained members of community living in their home community rather than forced by differential access to employment to move to larger centres like Yellowknife.

5.2.2.2 Social and health risks

The all-weather road worries people largely because they fear the ghost town effect. They worry that locals will leave all the time, changing the community forever, and creating risks for families. “We still sleep good” said one elder, and “we now live in peace and harmony,” said another. They fear this would all change if an all-weather road comes. People are worried that what they care most about in Whatì will change: the peace, quiet and strong family connections. According to some community members, people socialize politely and respectfully in part due to the community’s isolation, and this keeps the community strong. Indeed some people moved from Behchokò to Whatì in the 1970s in order to escape the influence of an all-weather road. In some people’s view, isolation strengthens bonds: For some nine months a year, “Yellowknife is isolated from Whatì – Isolation becomes insulation – strengthens the community” (Whatì Community Government representative, March 2014).

³⁴ Please note that the term youth used in the community is somewhat different from that of GNWT Bureau of Statistics, for example. People 25 and under were often considered to be part of Tłı̨chų youth.

Mothers and grandmothers are very concerned about what will happen to their children in a future with an all-weather road. Indeed this concern for children is held by many residents, as illustrated here:

In other words, part of the defining elements of Whatì has become its independence, its isolation, its own identity as a small, remote, cohesive community with strong ties to the land. Opening up an all-weather road could change all that. “Look people who live in Rae, they travel lots to Grande Prairie and Edmonton, we will start to do the same” (Whatì male resident, November 2013)

Since last year's winter road was closed, we sleep well, there's no heartache, if it opens, we don't have strong hearts. It burdens us, I am thinking half this town is related to me, nieces, nephews, grandchildren. It is painful when something happens within the community, it's heartache. I care about the safety. (Female elder, November 2013)

It is worthy of note that these concerns are as often as not related to perceived risks as real empirical outcomes; in other words, the level of fear and apprehension is not necessarily linked to statistical data about accident frequency. The loss of sleep discussed above was not due to a specific accident, but to a fear for family members when they are not in the community. Female residents expressed strong concerns about where their children are, and who they are with, what are they learning. Concerns were also raised that youth could leave at any time and parents would not know where they are.

Will people sleep?... if anything were to happen to our children on the road we wouldn't know. (Whatì male resident, November 2013)

Young ladies with families will not be able to sleep. (Male elder, November 2013)

Those who have lots of children may have heartache, people will not sleep well, elders, chief, police etc. (Male elder, November 2013)

Some respondents expressed concerns about being impacted even by the thought of an all-weather road:

We get stressed out thinking about it, talking about the all-weather road, it has affected people (Whatì male resident, November 2013)

Maybe if the road opens we will have heartache, we shouldn't think about a road just yet (female elder, December 2013).

The all-weather road also poses a perceived safety and security issue. How Whatì residents define safety and security is related to their comfort level with isolation and discomfort with the unknown and the ability of strangers to travel in. Right now, people know who is in town and have comfort that outsiders can't access the area and that youth have limited options for leaving. It is about control.

The current isolation also substantially curbs individuals' self-reported lack of self-control.³⁵ People said they know the perils of leaving the community every weekend, but also that they would likely exercise that option. Not having an all-weather road is a means of enforcing control over potentially destructive impulses.

Concerns were raised about new people migrating in for jobs might change the fabric of the community. There is a real concern with outsiders and strangers. Some residents referred to them as "people and things who don't belong here," with new people perceived as a threat to community cohesion and function.

People expect in-migration rather than out-migration to be the main trend in an all-weather road future. In-migration concerns were articulated in the youth focus group:

It's probably going to attract more people and tourists. It's going to attract outsiders, because there [will be] more jobs and more money I guess, more problems, more drugs, more alcohol. (Youth focus group participant, November 2013)

A variety of social and health risks associated with an all-weather road were identified by interviewees in focus groups and by participants in the community meeting. For example, one Whatì mother noted the following possible future scenario:

With the road we would have lots of change. Already we have sleepless nights with the winter road for three months; with the [all-weather] road we won't sleep. With peoples addictions - gambling/drinking, drugs – ditch our kids for bingos, all our pay cheques going to stuff like that. [Now] we go out on the land, we spend time with family, we get together and just communicate and socialize with each other. If the road comes it won't be like that, we will not be happy about it.

When talking about social risks of an all-weather road, Whatì residents raised strong concerns about changes they have seen in other NWT and northern Alberta communities when all-weather roads have come in (Wrigley, Jean Marie River, Fort Resolution and Meander River)³⁶ were among the communities mentioned). But for most respondents, their perception of all-weather road effects focuses in on Behchokò, their neighbours to the south, which has long been on the all-weather road grid:

Before they built the highways, living in Behchokò and Yellowknife was good but now there are too much accidents and too many problems. (Male elder, November 2013)

Thinking about the road, I am against it because I have children. When I go Rae I have relatives, every weekend they drink, I hardly see a sober friend, they don't go out on the land, for me it's because of the road. Our kids may lose control of our children; they may just focus on the road. (Whatì male resident, November 2013)

We looked at Behchokò, on weekends it is heartache, anytime they can leave to liquor stores anytime they want. STD's [sexually transmitted infections], not just that but we have to look at so many things, in Rae people are homeless. Will the road make it better

³⁵ Potential mitigation for this issue could include development or enhancement of services that help people develop better self-control, recommendations for which (and for many other issues identified in Section 5) are included in the 90 recommendations provided by the author in the draft report of June 2014.

³⁶ "Saw problems in Meander River; people aged fast once the road and oil and gas came in!" – Male elder, November 2013.

for us? No I don't think so, that is what I am saying, when I think about it—we do not want a road, for the people ahead of us. (Whatì male resident, November 2013)

Some people raised the possibility for creation of community divisions between those that can take advantage of the road, and those that are most at risk.

The most vulnerable populations are considered to be youth, young women and elders. Parents and youth alike are concerned about the ease with which they could hitchhike away from the community, and end up lost in Yellowknife. Youth said they may be prone to leave without telling their parents, and that they don't want to be faced with this pressure all the time.

Hitch-hiking and associated risks (accidents and abduction) are a strong concern, especially among women. There is a recognition that Aboriginal women are perhaps the most at-risk demographic in Canada. “We worry about our young people, even with the winter road young people leave without notice in random trucks.” (Female elder, December 2013) “Lots of aboriginal women go missing on the roads, especially our families, young girls, women, they may be hitchhiking, next thing you know they are gone” (Whatì councillor, November, 2013).

Some people also expressed concern that the ghost town effect might leave many vulnerable elders unsupported, that fewer people would be available to bring elders wood, wild meat, or assist with chores on a daily basis:

If we don't have help from the young people who will help us? I am home alone with the exception of having one daughter that works, if no one brings in my woods I can't do it. (Female elder, December 2013)

Other vulnerable groups include the “chronically unemployed,” substance abusers, and mothers of school age children. These sensitive groups may not have the resources other community members have to either maximize benefits or minimize adverse effects from change associated with an all-weather road. As noted in written comments from a long-time community social service provider, “The all-weather road represents a threat to vulnerable groups of people, especially those with existing addictions. We see the effects the winter road has on them and fear what might happen to them once a road gives year-round access to the outside. “

While ability to access outside educational opportunities will increase, there is strong concern that an all-weather road will cause local student attendance to flounder. Educators identified this as the current pattern during the time the winter road is open.

When the winter road is in, it acts as a “pressure relief valve,” because there is such a short window to travel out and bring back goods for the following year. The town “empties out” and there is a period of frenzied activity. Whether an all-weather road would have the same intensity of effect remains an open question. Because it is an all-weather road, it is hard to apply the winter road experience directly, as it might not translate into the same intensity of activity and potential for adverse social effects on a year round basis. Despite this potential mitigating factor of reducing the “pulse” effect of the current winter road, RCMP representatives have indicated concerns that “with [an] all-season road [we] expect this trend [of heightened importation of alcohol] all year round” (Whatì Inter-Agency Committee: 2013, 5).

If the mine does proceed, then there is a high potential for in-migration, which would put pressures on the schools, as more children would be in the community. The need for more teachers and improved infrastructure and facilities would be high.

An all-weather road could certainly make it easier and more affordable to bring alcohol and drugs into the community. Some people are reluctant to talk about social dysfunction issues like alcohol and drug abuse. However, there was consistent recognition that even in advance of an all-weather road, the community suffers from drug and alcohol abuse. This is perhaps the most common adverse effect identified by Whatì members. For example, 12 out of 18 high school students identified increased drugs and alcohol as a risk. Drugs and alcohol could destroy the town from the inside out, with increased substance abuse, trafficking drugs and alcohol, and access to harder drugs like crack:

Tìchq people see lots of things happen in our community which we don't like seeing everyday with the all-weather road. It will be worst with lots of drugs and drinking, kids getting out of hand with lots of drinking and drugs. I hope the road would not be built. (Written comment, community meeting, November 2013)

Easier access to drug and alcohol could contribute to:

- Late night noise and partying, and “things will get out of hand” (a term used by many elders);
- Family dysfunction;
- Gambling;
- Absentee parenting;

According to community members, easy access to Yellowknife and Behchokò may fuel bingo and other gambling addictions and associated social and economic problems. Several people mentioned that Behchokò people's easy access to Yellowknife was a major cause of increasingly costly gambling addictions.

Connected to this is a prediction of an increase in the crime rates (similar to during winter road now) and gang activity (comparable to Behchokò). This could spin off into many different social impacts. For example, as people are more involved in addictions, they get criminal records and negatively influence their future job prospects.

Drug and alcohol increases can also lead to many other changes, such as teen pregnancies, increased rates of sexually transmitted infections, child neglect and abuse, and increased occurrences of fetal alcohol spectrum disorder.

There will be more alcohol in town, not that there isn't now, but it will get worse. Crime rate will go up, more alcohol related offenses, and alcohol related accidents. I like it here most of the year, like the summer it is peaceful. You can raise a family here and go to bed with your door unlocked, no worries. I go to Behchokò, I go once around, I see more than a dozen people staggering, and this is on a Tuesday, it seems like every day. (Whatì male resident, December 2013)

Youth themselves were most concerned about the possibility of absentee parenting, where local youth are left by themselves or in care of a non-parent while parents travel out of the community for recreational or other reasons, especially to Yellowknife and Behchokò. In response to the question “What would change with the all-weather road,” one written comment was “Families looking and caring for each other, like leaving the community without finding someone to look after their children and parents.” The worry is that children will be left raising children. Strong

concerns about early childhood development in the face of absentee parenting were raised in a service providers' focus group in December 2013.

In turn, these social problems would lead to strain on social services, policing, and education. There is a need for “in community” social programs, especially drug and alcohol counseling. “The school [is] at capacity, the health center will be over whelmed” (service provider, December 2013). Some youth identified “more police,” likely coming into the community if it grows or faces heightened safety and security risks, as a negative. Others would view this as a positive.

Finally, there would be increased pressures on existing physical infrastructure such as water, electricity, roads, and housing stocks (pers. comm., Senior Administrative Officer, September 2014). In-migration would also lead to a strain on services and pressure on housing that is already overcrowded and unhealthy. Population increases could overwhelm certain aspects of infrastructure, according to community officials and service providers, including housing, sewage and water mains, the health centre, school, daycare, and recreational facilities (Whatì Inter-Agency Committee: 2013).

5.2.3 Wildlife, Harvesting and Culture Benefits and Risks of an All-weather Road

In interviews and focus groups, more wildlife, harvesting and culture risks than benefits were identified. This is reflected in the discussion below.

5.2.3.1 Wildlife, Harvesting and Culture Benefits

Few benefits of an all-weather road were identified for wildlife, wildlife harvesting, and culture. In one instance, an individual identified that the all-weather road would allow community members to more easily access the Old Airport Road area, potentially increasing Tłıchǫ hunting and trapping in the area.

If planned well, some people feel that Whatì could capitalize on the area's natural beauty (e.g., the falls on Lac la Martre River, Lac la Martre itself), drawing additional tourism revenue. This is discussed in further detail in the section on economic benefits below.

One possible benefit of an all-weather road on harvesting could be that there would be no rush to stock up on all items in a short amount of time, therefore leaving adequate time to continue traditional harvesting practices throughout the winter season.

5.2.3.2 Wildlife, Harvesting and Culture Risks

Information collected from Whatì community members suggests potential for, the all-weather road to pose potential risks to wildlife and traditional harvesting. People in Whatì are highly engaged in traditional cultural and harvesting activities. However, in recent years declines have been noted, especially among young people, and an all-weather road is seen by some community members as a potential contributing pathway to reduced harvesting on the land by community members. A November 2013 youth focus group member indicated that

They [adults] go out on the land and live, but because they can just go out and get food [from Yellowknife if the all-weather road comes], they'll probably use the road more and do trapping stuff less. It is easier to get food off the shelf and less country food.

If there is less harvesting, this would likely equate to reduced reliance on country foods and increased consumption of store bought foods: “We should eat our traditional food, whenever we buy store bought food then we throw it away” (Whatì male resident, November 2013).

Further, there are concerns that the fast pace of the wage economy may reduce the time available and desire expressed by youth and working age people to learn land-based survival and harvesting skills from elders. Some programs such as Junior Conservation Rangers could end up with fewer youth interested in them:

A lot of our people in the community will start losing our culture activities such as trapping, traditional games, hunting and fishing. (Written comment, community meeting, November 2013)

Traditional way of life will change, for example, trapping and fishing, people going out on the land all of that will slow down. We all know there will be more parties in town; no one is going to want to go to the bush. (Whatì male resident, December 2013)

My main concern will be our youth. I am afraid they will lose interest in our culture and cultural activities, as I find our youth really active in all our cultural ways, I am also concerned about my kids, wondering where they are, wondering if they will be on the highway. I am more concerned that our people will lose interest in our cultural activities due to a lot of traffic in all sorts of ways. Such as drugs, alcohol, people and tourists, most of the people will lose interest in cultural activities. (Whatì focus group participant, November 2013)

There are other concerns about culture and language associated with an all-weather road, such as reduced travel along traditional terrestrial and aquatic trails to important cultural sites by Tłı̨ch̨o citizens, given ease and speed of transit along all-weather road. “Lots of people worked on the river, there are ten different burial sites on the trail, people won’t be bothering to visit them” (Whatì male resident, November 2013).³⁷

It was also suggested that the all-weather road also could potentially lead to damage of spiritually important sites, loss or disturbance of physical cultural heritage sites, and inappropriate access of areas by outsiders. “I don’t want someone going to the falls in walking in the water, we need to keep it sacred, make sure its protected” (service provider, December 2013). There are “lots of traditional areas around, in the bush, lots of relatives, when people passed away the family buried them as is, with a little cross, if the heavy equipment drives over it, we won’t know because people don’t know” (male elder, November 2013).³⁸

Tłı̨ch̨o is the primary language in the community, and retention is high. This is not necessarily directly impacted by the development of an all-weather road, but greater outside access and communication is seen as one element that may reduce the value perceived in, and everyday practice of, the Tłı̨ch̨o language.

³⁷ Mitigation note: Among the many recommendations made by the author in the June 2014 draft of this report are enhancement of existing programs of the Tłı̨ch̨o Government that encourage their citizens to continue to practice their traditional way of life (e.g., organizing traditional canoe treks and communal caribou hunts).

³⁸ It is worth noting that the 2014 TK Study in relation to the proposed All-Weather Road identified no known grave sites along the Old Airport Road route (pers. Comm., GNWT DoT representative, January 2015), evidence of lower risk of road construction interference with this type of physical heritage resource.

[I want to] preserve the language, my daughter was talking to us in English and we respond in Tłıchǫ, she understands but she can't speak it, what am I doing wrong. (Service provider, December 2013)

I think our youth would lose their communication with our language and lose interest in our cultural activities, and there will be a lot more traffic in the community in all sorts of ways such as drugs, alcohol, vehicles, and people migrating. (Written workshop comment, November 2013)

Another concern is effects of increased access by outsiders on wildlife and fish. Concerns were raised that fish stocks in Lac la Martre are critical to Whatì sustenance now and into the future and that greater outside ("out of towners") access may lead to over-harvesting.

We live here because of the fish; we are worried about the fish. (Male elder, November 2013)

Living on this lake here we survive with fish. Whatever else we survive on, we pass it on to our children. What might happen if we have a year round road coming into our community? (Whatì male resident, Whatì community meeting, September 4, 2013)

Protecting fish stocks is clearly a primary concern, trumping economic development priorities – "we have to protect our fish, we had a fish camp and they shut it down for a reason [concerns about stock depletion], the elders did that" (Whatì male resident, November 2013).

People feel a strong responsibility to protect the land, and are concerned that a range of resources will be threatened, such as "the fish in the water, the woodland caribou will disappear in this area" (Whatì male resident, November 2013).

There are concerns with increased predation along a long line of sight, vehicle impact mortality and disturbance effects on both woodland and barren ground caribou (should they return to the area in coming years) in relation to a reactivated and much busier Old Airport Road route.

Outsider access is a major concern, expected to cause pressure on the land and animals in the region. Access through the Old Airport Road route and to Tłıchǫ territory to the north by non-Tłıchǫ recreational users, harvesters, people interested in mineral staking and other industrial activities, is of grave concern to many Whatì residents:

People will build cabins on the road, people will come out and do fishing on our lake, trapping, people will come in the fall time, and go to the end of the lake any time they want. (Whatì male resident, November 2013)

Strangers will be making cabins, hunting trails etc. people will come and take our lake resources. (Whatì male resident, November 2013)

If people start coming, they may damage cabins and other things. (Whatì male resident, November 2013)

[Already with the winter road] sometimes we see people from the Dehcho come in and hunt on our land. (Whatì male resident, November 2013)

Connected to this is a concern for how linear developments will impact on migrating caribou,³⁹ and on how pressures on fishing can impact on the fish population.

Concerns were also raised about increased wastage of game, disrespect for and reduction in game available for harvesting: “outsiders coming in and not respecting the lands like us, leaving carcasses” (Whatì female resident, December 2013).

Also there are concerns for contamination of water and of lands. Water quality may be altered by the road and by contamination from vehicles, recreational and harvesting area users, and increased industrial development. If there are accidents or spills of industrial vehicles along all-weather road route, there will be contamination to manage.⁴⁰

The youth focus group (November 30, 2013) identified additional garbage, pollution, disruption of old trails, harvesting and occupancy sites, and cultural heritage sites as potential impacts on wildlife and culture from an all-weather road.

5.2.4 Economic Benefits and Risks of an All-weather Road

In interviews and focus groups, more economic benefits than risks were identified. This is reflected in the discussion below.

5.2.4.1 Economic Benefits

It is worth noting that the majority of economic comments were in favour of the all-weather road, similar to transportation. It is widely recognized that increased, 365 day a year in-and-out access will increase overall economic activity.

People identify many job opportunities associated with the all-weather road. These include jobs associated with road construction, operations, maintenance and monitoring. “When this kind of construction goes ahead, a lot of people will need to be hired” (Chief Nitsiza, community consultation meeting, September 4, 2013). More positions for guides, bylaw officers, wildlife officers, truck drivers, service sector workers, among other existing and new positions, will be required to manage in-migration, tourism, and the construction, maintenance and management of the all-weather road.

The all-weather road is seen as a critical path toward mines, tourism, and other job opportunities, of critical concern to Whatì’s young demographic and high current rate of un- and under-employment: “There are young people without work, we are short of work for everybody, where are we going to find jobs for young people? This is a good example where we are going to find work for our young people.” (T̄chq Councillor, public meeting, September 2013). In a focus group with high school students, 14 out of 18 cited more job opportunities or “jobs” or “employment,” as benefits of the all-weather road.

³⁹ It is beyond the scope of this Report to delve deeply into the critical issue of how an all-weather season road may impact on critical woodland and barren ground caribou herd and individual movements, mortality and morbidity. See (K’agòò t̄lì Deè: Traditional Knowledge Study for the Proposed All-weather Season Road to Whatì. T̄chq Research and Training Institute, T̄chq Government 2014) for further discussion on this issue from a traditional knowledge perspective.

⁴⁰ Comments from the GNWT DoT suggest that individual spills along an all-weather road are likely to be of lesser magnitude than those on the existing winter road where a vehicle may fall through ice and have hydrocarbons leaking into the water (pers. Comm., GNWT DoT representative, January 2015).

There will likely be increases in skilled, high paid employment positions in the community, especially if the road enables the NICO mine to proceed, which would bring direct and indirect jobs to Whatì, increased purchasing power and disposable income, and thus induce additional economic activity (some in Whatì; much in Yellowknife and points south). Higher employment incomes will also offset increasingly expensive housing.

With the road will also come access to business development opportunities for Whatì residents and Tłı̄chǫ citizens and companies. Youth talked about increased business, associated employment, and potential for reduced cost of living and transportation as benefits.

Greater desire for, uptake of, and availability of training and education

Many young and working age Whatì residents, will need to “skill up” to take advantage of road, mine, and other economic activities likely to occur should an all-weather road be built. Already, one participant noted that “More adults are going back to school, because more job opportunities [are coming].” It is hoped that there will be adequate education and training infrastructure (both of which are largely suggested as insufficient right now by Whatì residents) for the development of more skills among the working age and youth demographic. Among the noted areas where expanded education opportunities are sought included: cooking, building trades, trades apprenticeships in general, Heavy Equipment Operations, environmental monitoring, and wildlife officer training.

There will be increased incentives to keep best and brightest in the community if good jobs and career paths are in place closer to home.

Induced effects of increased access creating business development and employment spin-off effects

An all-weather road may enable other economic development projects. For example, the long spoken of hydro transmission line project could become cheaper and feasible. The road could induce additional mineral exploration and mine development.

It will also allow tourism to develop as a viable industry, “a clean industry that we need to look at,” according to one of the Whatì Community Government councillors. Tourism including eco- and cultural tourism aligns well with Tłı̄chǫ values; “[Whatì will see] a lot more visitors, from people coming to site see, drive the road for fun, come and look for crafts, dry fish, see if they can hire someone to take them out on a boat or skjoring” (service provider, December 2013).

More and potentially cheaper goods available in the community and to community members (e.g., in Yellowknife), and reduced cost of living in general

The greater and more reliable supply of goods and lower costs of same, due to lower costs of bulk and cheaper transport by truck than plane, is a key economic driver. Shipping things into and out of town more easily and cheaply may also reduce wastage of foods currently imported in bulk. The community store would be able to have a more reliable stock and food prices would go down because of the ease of resupply. Other economic benefits include:

- Lower costs to run the community for administration (e.g., heat, electricity, other fuel needs, as well as supplies and maintenance costs for Community Government);

- Ability to expand goods selection at the community store;
- Lower costs for travel out, such as less money spent on hotels in Yellowknife (calculated on a “per trip” basis – there may be more trips overall);⁴¹ and
- Cheap cost to travel for family members to visit Whatì.

Additional economic benefits have been identified in the study by Nichols Applied Management, completed in May 2014, that the author understands has been appended to the all-weather road *Project Description Report*.

5.2.4.2 Economic Risks

Economic Growth Leading to Inflationary Pressures

Some Whatì residents raised concerns that increased economic activity will not lead to net economic gains for locals, as cost of living tends to rise with income:

Cost of living is high, it has been said for long time, when our elders were alive, they always said things went up, even if the road comes thing will always be expensive, when we work pay goes high, look on the DPW [Department of Public Works] working on highway is mostly white people, people paying property tax, the cost of living will rise. (Whatì male resident, November 2013)

In-migration may lead to more expensive housing through inflationary pressures on limited housing stock.

Cheaper Outside Goods Threatening the Viability of Local Businesses

While suggesting that the cost of living could go down, some youth also said that local stores would lose business because people would buy what they need in Yellowknife. This was especially a concern in relation to the Community Store: “I think our own community store would close or shut down if the all-weather road occurs, as our people would be travelling more into Yellowknife for cheaper cost” (Written comment, community meeting, November 2013). Several residents expressed concerns that the al economic downturn associated with the current local winter road may be felt year round, with people leaving and buying food in the cheaper stores of Yellowknife: “[Right now] for three months the grocery store is slow and town is empty.”

There is a concern that the community store may lose out, prices may go up, or the store be closed or downsized if people choose to shop in Yellowknife: “It’s easier to go to Yellowknife, our store may close, other stores may come in and take over” (Whatì male resident, November 2013).

Distributional Inequity vs. Outsiders in Economic Benefits

Concerns were raised that outsiders will access the majority of jobs building and maintaining the road, or that those jobs are short term: “They’re saying there are lots of jobs to build the road

⁴¹ Access to a road will incur new costs, such as more money spent on gas and vehicle upkeep for personal vehicle travel, but these may be considered beneficial if the increased cost associated with more driving trips more than offsets the cost of more expensive per trip air travel currently relied upon.

right? Once the road is done, were gonna stop working right? All that money's gone and what are we going to do? I don't know how to say it but, jobs are there but once the road is done were gonna have no jobs after that" (youth focus group participant, November 2013).

There are concerns that benefits promised will not be secured. For example, "when Fortune Mineral Limited started talking about opening the mine, that's when the all-weather road discussion became bigger, the mine brought the road, they rushed into it, but I mean if the mine opens, how many from here will work? I heard lots of promises, how many do you know will keep promise (leaders) unless it is written" (Whatì male resident, December 2013).

Reduced Equality and Greater Marginalization of "Most Sensitive Receptors"

In the language of SEIA, "most sensitive receptors" are those groups of people least likely to be able to take advantage of good changes, and most likely to be subject to bad changes. In the case of an economic growth scenario, where prices may rise along with wages, those least likely to get and keep jobs are among the most sensitive receptors. This includes a class of "chronically unemployed" people,⁴² who may never have the capacity to get or keep jobs in the wage economy, along with other groups outside of the workforce. Elders living on fixed incomes, young families (especially young single mothers and single mothers in general, people with disabilities, and those members of the community committed to living a primarily traditional subsistence wildlife harvesting lifestyle on the land are also among those potentially most at risk to declining purchasing power, persistent poverty, and housing pressures.

How to protect the people at the low economic margins is of critical concern in any economic growth scenario. Protecting elders is one of the highest priorities; according to some participants and some elders themselves, elder economic marginalization is already a recognized issue in the community.⁴³ There are strong economic concerns among some elders that they will feel the brunt of inflation that comes with economic growth, but have no capacity to take advantage of the benefits: As one male elder put it, "nothing I have is valued (no jobs for me)".

⁴² This term "chronically unemployed" was shared by a Whatì community member who has worked as a service provider for many years in the community. By this person's definition, those persons "chronically unemployed" are subject to barriers such as addictions or lack of formal education, which means their only available work is generally seasonal at best.

⁴³ A study of Athabasca Chipewyan First Nation (ACFN) elders in Northern Alberta from 2006 found that ACFN elders are unable to meet their basic costs for fuel, food, water, electricity, other bills and personal needs. Elders were estimated to run an average net annual deficit of over \$4,000, and this does not include traditional hunting or recreational costs. As one ACFN elder said in that study, "I live on my pension and can't buy anything. I no longer can afford my boat, motors, and skidoo because they cost a fortune. So I can't get traditional meat" (Jacques Whitford 2006, A-1). Significant expenditures by elders through loaning or giving money to their children and grandchildren play a key role in elder poverty.

5.3 Key Benefit and Risk Themes by Whatì Demographic Group

This research and previous studies and consultations have found that different groups in the population have perspectives that vary. For that reason, this section highlights the distinctive views of youth, harvesters, and women.

5.3.1 Youth

Whatì youth are excited about the prospects of more gainful employment in their home community as a result of the all-weather road, a newfound freedom to leave the community more often and meet new people and have new experiences, lowered cost of living, and greater access to goods and services.



However, there are also substantial concerns with an all-weather road for the community's young people. A youth focus group (Tłchq Government 2010)⁴⁴ discussed the possibility that if there is an option to leave the community, that people will commute back and forth more and that this will have harmful impacts on people.

Youth expressed concerns about how a road could change the ability to know their culture, with lower participation in hand games and drumming, culture activities and gatherings and that there would be a loss of Tłchq culture. One youth said, "It is not tradition to go by road. Paddling to other communities is a tradition, by boat."

Youth were also worried that they would be abandoned by their parents and the kids would be left in charge of kids, while their parents left to go away. "We will be raising our siblings, and we don't want to be like they are in Rae [Behchokò]." They were concerned a road would bring more alcohol and drug abuse, verbal and sexual abuse into the community, and more crime against each other. "We want a healthy lifestyle for our families," said one youth.

Youth are also worried about elders, saying that if youth are gone more often because of a road they will lose communication with elders and with their cultural roots. "Elders will get lonely." Goals and concerns for youth related to the all-season road include:

- Whatì will become more like Behchokò;
- Youth want more opportunities for education and employment;
- Youth want to keep their culture alive;
- Community needs more wildlife officers/bylaw officers;
- Community needs a check stop if an all-weather road opens;
- Community needs to control the alcohol/drug abuse in the community;
- More employment opportunities (e.g., truck driver, businesses, tourism);
- School needs to expand to accommodate more students and needs; and
- More outsiders in the community are not seen as a good thing for youth.

⁴⁴ Images used in Section 5.3 are originally from Tłchq Government (2010).

5.3.2 Adult male residents

Adult male residents identified beneficial impacts on services, with grocery stores better stocked and more gas, clothing, hardware and supplies. They noted concerns with the current high cost of living, and the strong potential for the all-weather road to reduce this burden through cheaper gas for vehicles and heating oil for houses. Opportunities for additional employment and business starts are a high priority for this working age population, including jobs on the road (construction and operations) and at the NICO mine.



This sector of the population is also concerned that an all-weather road could change the migration routes and habitat of the animals they depend on. They also worry that there will be negative cultural change because people will not practice traditional ways as much. An all-weather road may alter the way that children are raised and negatively change family life, for many reasons, including that there will be much easier access to drugs and alcohol. There would be a lot more travel into the area, with tourists, other aboriginal hunters and visitors coming in to develop the land and build cottages along the road.

Generally the adult male residents involved in this study expressed concerns with the following that need to be aggressively mitigated and monitored in a future with an all-weather road:

- Effects on the land and wildlife and fish of increased access;
- Environmental contamination and legacy effects from road and mining;
- Climate change making the land warmer every year, so that winter road may not be an option in the future;
- The road increasing consumption of store bought goods and reducing country food harvesting and consumption;
- Safety-security issues related to reduced isolation;
- Increased levels of vehicle accidents (like in Behchokò);
- The safety of Lac la Martre, its fish and waters;
- The need for further consultation directly by leaders with Whatì residents in a face to face forum; and
- High cost of living and poor living conditions already being a problem for elders in Whatì, along with a concern that a road could increase expenses and crowding.

5.3.3 Women (Female Elders and Mothers)



While recognizing that there will be economic and transportation benefits, female elders and women were the community demographic most likely to have high concerns about an all-weather road.

Women are very anxious about the possibility of an all-weather road. Already women hardly sleep when the winter road is open, for fear of their children leaving the community: “Even with the winter road, I worry all night because (the youth) are gone on the winter road. We worry and do not sleep in the winter time. We don’t want an all-weather road.” Among some women, there is simply no trust for what a road might bring.

The first concern for women is their children. Youth could leave much more easily on a road, and their children could be taken much more easily away from them through accidents. Right now, women can very easily control the youth, and they listen well. With a road, there are concerns they would not listen and they could leave.

Young women could be very affected by this road. Older women worry about them leaving the community. They could be much more vulnerable with an on land road, and there could be much more abuse of women.

Women don’t want to lose their way of life, with their families together spending time out on the land. The road could alter the fabric of the community, and would in more drugs and alcohol.

A road could lead to more accidents. Women are concerned that people will drive on the road when it is not safe and that there will be more accidents.

There are many concerns about a road harming the land and animals and the ability to hunt and trap.

Women generally expressed views on:

- Concern about adverse effects on children and grandchildren;
- A heavy psychological toll re: concerns about safety of children and grandchildren;
- Concern that elders in the past said to say no to an all-weather road; and
- Reduced safety and security in the community if the all-weather road comes.

6.0 Summary of Findings and Recommended Next Steps

A variety of potential benefits and risks of an all-weather road across a variety of categories – transportation, social, health, culture, wildlife, harvesting, and economics - have been readily identified by Whatì community members. The author attempted to not make subjective judgements on the likelihood or magnitude of these potential impacts at the scoping stage, letting the concerns and prospects raised by community members speak for themselves. Where more benefits (e.g. in transportation and economics) or risks (e.g., in social and cultural/harvesting realms) are raised in the report, this is due to the relative emphasis of the input from community members that focused on benefits and risks under those themes.

Certain key themes that emerged are summarized below.

6.1 Key Findings of the Whatì All-weather Road SEIA Scoping Study

While there is still a under-current of unease and in some cases outright opposition to the all-weather road by Whatì members who engaged in this study, there was also a sense in many cases of inevitability that an all-weather road is coming. Many people in Whatì appeared to be ready to change the dialogue from whether an all-weather road should be built, to where and how it should be built, how and by whom it should be built and operated, and how to prepare the community for the many benefits and risks all-weather access will bring.

People are excited about:

- Access to more and cheaper goods;
- Long-term transportation solution (especially with climate change);
- Job and economic development opportunities from the road and mine;
- Increased mobility; access to the outside world;
- Opportunities for employment in road building;
- Hospitality – hotels and restaurant;
- Housing for workers, people moving into Whatì;
- Access to road system; and
- The opportunity to grow as a community.

People are concerned about the following:

- Outsiders coming in – reduced safety and security and sense of community;
- Increased hunting, trapping and fishing pressures around Whatì and around the road route;
- Increased industrial development opened up by the road (not just the mine), and effects on the lands and water;
- Increased contamination risks;
- Reduced emphasis on local cultural/harvesting activities;
- Kids (especially) accessing drugs and alcohol;
- People leaving the community far too often; and
- Becoming like Behchokò (a strong stigma about social crisis in Behchokò was expressed).

There are generally more adverse effect types identified than benefits. This is a typical outcome of socio-economic studies that focus on gathering feedback from community members themselves. Most people facing unknown change tend to envision the risks first and rewards later; people are fundamentally risk averse in nature. That said, and as noted again further below, the three levels of government involved in planning for an all-weather road should not underestimate the strong expressed level of interest of Whatì residents, across a wide demographic, to be actively involved in planning for, monitoring, and management of the risks associated with an all-weather road.

6.2 Discussion

Social, economic and cultural change is not necessarily either unidirectional or predetermined in nature. Different people in Whatì may experience the effects of change from an all-weather road in positive and negative ways.

For many people, while on the economic side the all-weather road would open up all sorts of new opportunities, many of the adverse effects are seen more as if the all-weather road creates a magnifying lens, whereby already existing vulnerabilities and weaknesses in the community – absentee parenting, drug and alcohol abuse, occasional community de-population to access goods and services elsewhere will be magnified, rather than new adverse effects occurring.

Among recommended priority actions for Whatì is to put in place a plan, policies and programs that deeply involve community members in decision-making on how an all-weather road would be managed and monitored to reduce risks and maximize benefits. This sort of “bottom-up, whole community” approach is identified as critical in community planning that gets proper buy-in and full implementation (see Conference Board of Canada 2014).

Most people are risk-averse by nature and desire above all to protect what they already have, in the face of uncertain change. This can lead to a fear of change and a typical reaction to see more risks than benefits of a likely change. Engaging the full community in learning about risks and benefits, characterizing their likelihood, magnitude and the ability to manage them, empowers people to confront and overcome these fears in a meaningful, communal fashion. Thus, tools like more community meetings, sharing of experiences from other jurisdictions where all-weather roads have already been built, development of committees to identify mitigation and monitoring priorities, and engagement of the community in the physical acts of mitigation, monitoring, reporting and adaptive management of changes should the all-weather road become a reality, are tools that serve multiple beneficial purposes.

There is a strong need for the responsible authorities, including the GWNT, Tłıchq Government, and the Community Government of Whatì, to ensure adequate data gathering on culturally relevant social, economic and cultural indicators. Appendix C identifies some potential criteria and indicators for consideration in the development of a Tłıchq Human Environmental Monitoring System.

There are strong proxy studies that can inform the planning process, such as the recent Joint Review Panel Report on the proposed Inuvik to Tuktoyaktuk Highway (EIRB 2013), its 51 recommendations, and the GNWT’s response to those recommendations (NWT Executive Council 2013). Some of the recommendations therein may assist the Tłıchq Government in developing plans, policies and programs to prepare for a future with a Whatì all-weather road. Regardless of differences between the Inuvialuit Settlement Region and the Tłıchq Region, the

fundamental socio-economic implications of a shift from a relatively remote al access community to an all-weather road community will likely be similar. The three involved levels of government need not re-invent the wheel in developing appropriate plans, programs and policies to prepare for an all-weather road. As this SEIA Scoping Study has hopefully shown, there are many examples of change and adaptation to learn from and build on.

6.3 Potential Research Priorities

There are a range of research areas that would add new insights to this work and to the planning process for an all-weather road to Whatì.

- In-migration modeling for Whatì in “road alone” and “road and mine” scenarios is critical moving forward. A critical piece of missing information is the expected increase in activities in Whatì, including but not limited to in-migration, attributable to the NICO mine proceeding. The Proponent (Fortune Minerals) was requested by the Tłıchq Government during the NICO mine EA to undertake an in-migration study for Whatì in a “road and mine” futuring exercise. In-migration modeling is critical in order to understand, for example:
 - Degree of required investment in physical infrastructure improvements (required should any population increase occur in Whatì);⁴⁵
 - Number of social services positions that need to be trained for and hired; and
 - Number of additional housing starts required.
- A workforce evaluation study to profile Whatì’s workforce and link them to potential jobs from the potential all-weather road construction and operations, as well as other economic development opportunities, would be a useful tool to focus short- to medium-term training priorities.
- It is recommended that the Tłıchq Government lever existing resources to conduct a more detailed all-weather road preparation study in the community of Whatì. For example, a Community Action Research Team⁴⁶ (CART)-style data collection and planning project focused on all-season road benefits and risks would assist in a community-centred identification of mitigation and management tools to avoid or minimize adverse changes and maximize benefits from an all-weather road. The existing Interagency Committee can also be leveraged to play a leading role in tracking and monitoring these changes.
- If issues related to tourism, non-renewable resource development, or other activities emerge as critical to the effects of the all-weather road along the “Old Airport” route, the author recommends further study using some form of the template and assessment guidance used by NWT-PAS for its studies of Candidate Protected Areas.⁴⁷

⁴⁵ As reported by the Community Government of Whatì at the Whatì Special Inter-Agency Workshop (2013), held June 12, 2013, capacity issues with the following current infrastructure and services will be felt “if population increases” – sewage and water mains, health centre, school, daycare and recreational facilities and gymnasium.

⁴⁶ CART is well known for its existing social science research and policy / plan development and implementation on Tłıchq sexual health issues.

⁴⁷ <http://www.nwtpas.ca/>

7.0 Conclusion and Recommendations

In this SEIA Scoping Study, Whatì residents expressed strong uncertainty about the balance of beneficial and adverse (good and bad) effects likely to occur as a result of an all-weather road being developed to Whatì. There are both short-term and long-term next steps that can help fill these knowledge gaps, which will likely both reduce some of the prevalent concerns associated with a potential all-weather road (although in some cases it may be equally importantly confirm those concerns), and identify impact pathways which need to be avoided or minimized through proactive planning and program/policy implementation at the community and regional level.

7.1 Recommendations

There are a variety of existing commitments and outstanding recommendations that can be implemented to maximize benefits and reduce negative change to the human environment from an all-weather road to Whatì. Appendix A lists commitments made by the Tłchq Government and the Community Government of Whatì in relation to all-weather road preparations as of February, 2015, in part informed by an earlier draft of this report. The GNWT has also made relevant commitments in its *Project Description Report* for the all-weather road.

In addition to these existing commitments, there are two sets of recommendations from the author of this study. First off, the June 2014 draft of this report included a list of 90 potential mitigation and monitoring recommendations shared with the three levels of government; they are available for future all-weather road planning exercises and include recommendations related to the following topics:

- Transportation;
- Community infrastructure;
- Health Services;
- Education and training;
- Public safety;
- Governance [of road];
- Economic development and cost of living;
- Wildlife habitat and harvesting protections; and
- Tłchq cultural transmission.

In addition to those recommendations, some high level recommendations are provided below. These recommendations are those of the author alone and have yet to be accepted or prioritized by the Tłchq Government, the GNWT or the Community Government of Whatì.

There are many actions that can be taken by the Tłchq Government and the Whatì Community Government, among other actors, to develop plans, policies and programs to further study, prepare for, monitor, and adaptively manage an all-weather road to Whatì. In the Tłchq Region, it is up to the people likely to be affected to choose how to prepare for change, a luxury hard fought for in the negotiation of a Land Claim and Self-Government Agreement, and one rare among Canadian Aboriginal groups.

The author's core recommendations for the Community Government and the Tłchq Government are:

- **Run verification and consultation sessions** –The Tłıchǫ Government and Whatı Community Government may want to have a strong presence at any follow-up SEIA and TLU study results reporting and verification sessions.
- **Establish All-weather Road Governance Systems** – For a variety of issues like land access and fish and wildlife harvesting levels, the GNWT, as the proponent of another northern highway under consideration (the Inuvik to Tuktoyaktuk Highway), indicated that it does not have a role in managing or monitoring issues that are governed within the rules of a finalized Land Claim Agreement. This is an important issue for the Tłıchǫ Government to clarify with the GNWT. Advanced clarity on management and monitoring roles of different levels of government will be critical to good planning. In addition, clarity on management of the large portion of the proposed road outside of Tłıchǫ lands is critical moving forward.
- **Set Up a Human Environmental Monitoring System** –It is recommended that a committed community-engaged social, economic and cultural monitoring and effects assessment system be put in place prior to, not as a reaction to, change caused by an all-weather road to Whatı. The Tłıchǫ Government, potentially with supports from federal, territorial, and local governments and industry proponents, should develop an integrated human environmental monitoring system via an independent monitoring agency, with final terms of reference, indicators, and data collection and reporting systems to be determined by the responsible authorities. Annual or bi-annual self-reported well-being and quality of life surveys may be an important part of this human environmental monitoring system. See Appendix C for example potential criteria and a fuller description.⁴⁸
- **Develop a Readiness Committee** – Expansion of the existing Tłıchǫ Roads Steering Committee and Working Group into an All-weather Road Readiness Committee should be a priority, including delegates from the Tłıchǫ Government, Community Government of Whatı, GNWT, the Whatı Inter-Agency Committee, and (potentially) industrial developers. Whatı elder and youth representatives should also be part of this Committee, tasked with identifying priority research and program development initiatives to better prepare the community for a future with an all-weather road. Enlisting the services of members of the existing Tłıchǫ Community Action Research Team, or training of a new Team focused on All-weather Road Preparedness, is recommended to ensure that the All-weather Road Readiness Committee has strong research, policy development and program implementation capacity.

7.1.1 Recommended Immediate Next Steps

1. Findings rollout and verification meetings in Whatı for the SEIA Scoping Study Report for verification and communications purposes.
2. Establishment of a Whatı All-weather Road Readiness Committee.
3. Tłıchǫ Government (and potentially the Whatı Community Government and the All-weather Road Readiness Committee) to gain observer status for the ongoing EA of the proposed Mackenzie Highway Project (contact www.reviewboard.nt.ca).

⁴⁸ In the development of a Tłıchǫ Human Environmental Monitoring Program over and above that of the NWT Bureau of Statistics, examples from the Inuvialuit Settlement Region's Inuvialuit Indicators Project (<http://inuvialuitindicators.com/>) and from Lutsel K'e's experience with Community-Based Monitoring (e.g., Parlee 1998) should be considered.

7.1.2 Medium-to-Long Term Steps

As preparations for a potential all-weather road continue, the following actions may be of benefit:

- Additional door-to-door family level consultation with Whatì residents about key issues and decisions.
- Additional consultation by the Whatì All-weather Road Preparedness Committee, with communities that have lived through the transition to all-weather road (e.g., Fort Resolution, Jean Marie River, Wrigley) and establishment of dialogue with Tuktoyuktuk regarding changes being felt in that community, before changes are encountered in Whatì.
- Tłchq Government to consider broadening its consultation on all-weather road effects to the three other potentially-affected communities – Gamètì, Wekweti and Behchokq.⁴⁹
- Invest in an in-migration and economic development scenario modeling exercise for Whatì, including all-weather road only and all-weather road and mine alternatives. A more detailed picture of socio-economic benefits and risks will emerge through this scenario analysis. The Community Government of Whatì has raised this issue of understanding likely population growth as a priority (pers. Comm., September 28, 2014; see also Recommended Mitigation #23 in Appendix A).
- Tłchq Government’s Planning Department to invest in an engineering study, in light of future in-migration growth scenarios, of the capacity of Whatì community infrastructure – e.g., lagoon, landfills, water treatment plant – to handle increased demand⁵⁰.

⁴⁹ Some respondents expressed strong desire for residents of other Tłchq communities to be involved in the study as well, indicating the all-weather road would affect more than merely the residents of Whatì. It was beyond the scope of this study to carefully consider potential effects on other communities. Moving forward, dialogue is recommended between the Tłchq Government and the community of Gameti in particular, as an all-weather road to Whatì may increase the average length of time the winter road to Gameti is open.

⁵⁰ Note: this is primarily a recommendation of the Community Government of Whatì, “should it be determined that the road is to proceed” (pers. Comm., September 28, 2014).

Bibliography 1

- Bureau of Statistics. 2013. *Summary of NWT Community Statistics 2013*. GNWT. Accessed from: <http://www.statsnwt.ca/community-data/Summary%20of%20NWTStatistics%202013.pdf>.
- Community Government of Whatì. (2014). *Our Focus for the Future: Strategic Plan 2014-2019*. Whatì, NWT: May 5, 2014.
- Community Government of Whatì. (2006). *Council Regular Meeting #CGRM03-06*. Whatì, NWT: March 20, 2006.
- The Conference Board of Canada. (2014). *Building Community Resilience in Whatì, Northwest Territories*. Conference Board of Canada: Centre for the North, March 2014.
- DCAB (Diavik Communities Advisory Board). (2006). *Annual Report 2004-05*. Yellowknife: Diavik Communities Advisory Board: Yellowknife.
- EIRB (Environmental Impact Review Board). (2013). *Final Report of the Panel for the Substituted Environmental Impact Review of the Proposal to Construct the Inuvik to Tuktoyaktuk Highway*. Joint Review Panel of the Environmental Impact Review Board of the Inuvialuit Settlement Region, January 25, 2013. Accessed at http://www.dot.gov.nt.ca/_live/documents/content/ITH%20EIRB%20Final%20Panel%20Report.pdf
- Gibson, G. 2008. *Negotiated Spaces: Work, Home and Relationships in the Dene Diamond Economy*. Unpublished Ph.D. thesis, Norm B. Keevil School of Mining Engineering, University of British Columbia.
- Government of the Northwest Territories Municipal and Community Affairs Community Operations Division. (2011). *Differences in Community Government Structures*. March 2011 Retrieved from: http://www.maca.gov.nt.ca/resources/Differences_in_Comm_Govt_Structure.pdf
- Jacques Whitford. (2006). *The Socio-economic Well-being of the ACFN Elders*. Project commissioned by ACFN IRC. June 2, 2006.
- Johnson, J. and L. Azzolini. (2009). *Mackenzie Valley All-weather Road Economic Analysis*. Prepared for GNWT Department of Transportation, September 16, 2009.
- Kavik-AXYS Inc. (2008a). *Multi-level Mapping and Route Analysis: Th̄chq̄ Transportation Corridor. Route Identification and Evaluation – Final Report*. Prepared for the GNWT Department of Transportation, January 22, 2008.
- Kavik-AXYS Inc. (2008b). *Th̄chq̄ Winter Road Realignment: Environmental Scoping, Existing Data Collection and Regulatory Requirement Identification – Final Report*. Prepared for the GNWT Department of Transportation, August 2008.
- MVRB. (2013). *Mackenzie Valley Highway Community Issues Scoping Diagrams*. Filed October 4, 2013. Accessed at http://reviewboard.ca/upload/project_document/EA1213-02_MV_Highway_community_issues__scoping_diagrams.PDF.

- MVRB. (2007). *Socio-economic Impact Assessment Guidelines for Environmental Impact Assessment in the Mackenzie Valley*. Yellowknife, NT: Mackenzie Valley Review Board. Accessed at http://www.reviewboard.ca/reference_lib/index.php?section=18.
- Nichols Applied Management. (2014). *Draft Report: Economic Evaluation of the TLI CHO Road*. Submitted to the GNWT Department of Transportation, May, 2014. Edmonton: Nichols Applied Management.
- Nichols Applied Management. (2006). *Economic Evaluation of All-weather Roads in the Tli Cho Region*. Draft Report, submitted to GNWT Department of Transportation, June 2006.
- Nichols Applied Management. (1999a). *Benefit-Cost and Regional Economic Impact Analysis: Inuvik to Tuktoyaktuk Road*. Cited in Nichols Applied Management (2006).
- Nichols Applied Management. (1999b). *Benefit-Cost and Regional Economic Impact Analysis: Mackenzie Highway Extension*. Cited in Nichols Applied Management (2006).
- Nitsiza, A. (2011). *Results of All-weather Road Survey*. Letter to Chief and Council of the Community Government [Whatì], October 9, 2011.
- Northwest Territories Bureau of Statistics. (No date). *Community Data Pamphlet*. Retrieved June 3, 2014. From <http://www.statsnwt.ca/community-data/Pamphlets/Whatì.pdf>
- Northwest Territories Bureau of Statistics. (No date). *Whatì Community Data Profile*. Retrieved June 3, 2014. From <http://www.statsnwt.ca/community-data/Profile%20PDF/Whatì.pdf>
- NWT Bureau of Statistics. (2007). *Summary of NWT Community Statistics 2007*. Government of the Northwest Territories: Yellowknife. August 2007.
- NWT Bureau of Statistics. (2006). *Community Profiles*. Accessed at <http://www.stats.gov.nt.ca/Profile/Profile.html>
- NWT Executive Council. (2013). *GNWT Response to Inuvik to Tuktoyaktuk Highway Project Review Panel Report*. Letter from the Honourable David Ramsay and the Honourable Michael Miltenberger to the Government of Canada, February 15, 2013.
- Office of the Cultural Coordinator. (2013). *Gonaowo t'a Nats'etso; Elets'ats'edu t'a Nats'etso. Tłıchq Language, Culture and Way of Life: A Report from the Cultural Co-ordinator 2010-2013*. Behchokq, NWT: Tłıchq Research and Training Institute, Tłıchq Government.
- Parlee, B. (1998). *A Guide to Community-Based Monitoring for Northern Communities. Developed in collaboration with the Lutsel K'e Dene First Nation*. Canadian Arctic Resources Committee: Northern Minerals Program, Working Paper No.5.
- Prince of Wales Northern Heritage Centre. (No date). *NWT Official Community Names*. Retrieved June 3, 2014. From <http://www.pwnhc.ca/programs/downloads/OfficialCommunityNames-WinMac.pdf>
- Tłıchq Government. (No date). *Whatì*. Retrieved June 3, 2014. From <http://Tłıchq.ca/community/Whatì>
- Tłıchq Government (2014). *K'agòò tlı̀ Deè: Traditional Knowledge Study for the Proposed All-weather Road to Whatì*. Tłıchq Research and Training Institute,

Tłıchǫ Government. (2012). *Tłıchǫ Wenek'e: Tłıchǫ Land Use Plan*. Behchokò, NWT:
The Tłıchǫ Government.

Tłıchǫ Government. (2010). *Whatì Transportation Consultation Meeting*. August 10-12, 2010.

Whatì Inter-Agency Committee (2013). *Whatì Special Inter-Agency Workshop Meeting Minutes –
“Moving Whatì Forward”*. Whatì: June 12, 2013.

Bibliography 2: Materials Used to Develop Section 3.1: “Effects of Roads” Case Studies

- Adam, Marie-Christine, Daniel Kneeshaw and Tom M. Beckley. (2012). “Forestry and Road Development: Direct and Indirect Impacts from an Aboriginal Perspective.” *Ecology and Society* 17(4): 1. <http://dx.doi.org/10.5751/ES-04976-170401>
- Barjum, Sarah, Kate Heller, and Dani Krumholz. (2007). *Roads of the Amazon: Social, Political, and Economic Impacts of Roads*. Website.
http://sitemaker.umich.edu/003_003/works_cited
- Butcher, Catherine. (2003). *Understanding Social Impact Assessment Using a Sustainable Livelihoods Approach: The Case of Two Roads in Central and Southern Ethiopia*. Accessed online:
www.sed.manchester.ac.uk/research/iarc/ediais/conference/Abstracts/Butcher.shtml
- Forman, Richard T. T., and Lauren E. Alexander. (1998). “Roads and Their Major Ecological Effects.” *Annual Review of Ecological Systems* 29: 207–31.
- Geneletti, Davide. (2003). “Biodiversity Impact Assessment of Roads: An Approach Based on Ecosystem Rarity.” *Environmental Impact Assessment Review* 23: 343–365.
- Kneeshaw, D., Larouche, M., Asselin, H., Adam, M-C., Saint-Arnaud, M. and G. Reyes. (2010). “Road Rash: Ecological and Social Impacts of Road Networks on First Nations.” In Stevenson, M. and D. Natcher (eds.), *Planning Co-existence: Aboriginal Issues in Forest and Land Use Planning*. CCI Press and Sustainable Forest Management Network, pgs. 171-184.
- Kumpula, Timo, Anu Pajunen, Elina Kaarleja, Bruce C. Forbes, Florian Stammer. (2011). “Land Use and Land Cover Change in Arctic Russia: Ecological and Social Implications of Industrial Development.” *Global Environmental Change* 21: 550-562.
- Kuryk, Don. (2003). *Winter Roads in Manitoba*. Paper delivered at 12th Workshop on the Hydraulics of Ice Covered Rivers, CGU HS Committee on River Ice Processes and the Environment, Edmonton, AB, June 19-20, 2003.
- Olsson, Jerry. (2009). “Improved Road Accessibility and Indirect Development Effects: Evidence from Rural Philippines.” *Journal of Transport Geography* 17: 476-483.
- Rescan Environmental Services. (1999). *Inuvik to Tuktoyaktuk Road Executive Summary Part I*. Accessed online: http://www.dot.gov.nt.ca/live/pages/wpPages/Documents_Planning.Policy.Environment.aspx#Inuvik%20to%20Tuktoyaktuk%20Highway
- Stevenson, Mark. (1995). *Social Impact Assessment of Major Roads*. Paper presented to 20th World Road Congress Montreal, Quebec, September, 1995.
- Trombulak, Stephen C. and Christopher Frissell. (2000). “Review of Ecological Effects of Roads on Terrestrial and Aquatic Communities.” *Conservation Biology* 14. 1: 18-30.
- Wood, Patricia K. (2003): “A Road Runs Through It: Aboriginal Citizenship at the Edge of

Urban Development.” *Citizenship Studies* 7(4): 463-473.

Yakovleva, Natalia. (2011). “Oil Pipeline Construction in Eastern Siberia: Implications for Indigenous People.” *Geoforum* 42: 708-719.

Appendices

Appendix A: Tłchq Government and Community Government of Whatì Commitments as of February, 2015

Appendix B: Whatì Residents Engaged in the SEIA Scoping Study

Appendix C: Potential Criteria for a Whatì/Tłchq Human Environmental Monitoring System

Appendix D: Tłchq Winter Road Opening / Closing Dates: 1983 to 2013

Appendix A: Tłıchǫ Government and Community Government of Whatı Commitments⁵¹

The following commitments were submitted on February 16, 2015, and later adopted by the Community Government of Whatı in its motion #2015-018:

The Tłıchǫ Government and Community Government of Whatı have reviewed the outcomes of research studies, and met on an ongoing basis with the Department of Transportation to discuss how to monitor and mitigate effects from the proposed all weather road to Whatı. The following mitigations have been reviewed and accepted by the leadership of both the Tłıchǫ Government and Community Government of Whatı.

Community Safety

Our goal is to strengthen community security and safety through resilient policing, policies and programs.

1. The Community Government of Whatı is investigating two options to strengthen community security: Community Bylaw Officer and the Aboriginal Policing Program. This is an issue that needs to be addressed jointly by the Tłıchǫ Government and the Community Government of Whatı, as well as other supportive agencies.
2. There is a need to provide on-the-land treatment for substance abusers, using the healing-power of the elders and the land. This is a social issue that needs to be addressed by TCSA, and one recommendation is to introduce the Nishi Program by accessing a variety of funding sources.
3. There is currently an alcohol prohibition in place in Whatı. Annually, TCSA, the RCMP and the GNWT allocates a large sum to prohibition enforcement and responding to the negative impacts which are most often ineffective. The Community Government of Whatı would like to review the possibility of revisiting the prohibition ban, in favour of more proactive resilience strategies for managing alcohol and drug consumption in the community.

Economic Development

Our goal is to strengthen community economic development through programs and resources.

4. The need has been shown for increased business acumen for local entrepreneurs, in order to maximize local procurement opportunities from the road and mine. The Tłıchǫ Government currently maintains Economic Development Officers (EDO) in the communities who assist Tłıchǫ residents in establishing their own businesses. It may create a larger benefit for the Tłıchǫ Government to redirect each local EDO to focus on local economic development issues.

Community Preparedness

Our goal is to prepare the community of Whatı for road development through programs,

⁵¹ Please note: a separate list of 90 potential mitigation and monitoring measures was provided by the author to the Tłıchǫ Government and Community Government of Whatı in June, 2014. It is understood that those recommendations will be available and considered during the planning stages for an all-weather road.

intergovernmental coordination, and provision of resources.

5. The Community Government of Whatì has an active Community Emergency Management Plan and completes regular training and exercises of staff, Council, and various community members. In 2014, the relevance of this training and preparedness was graphically demonstrated as wildland fires came within 5 km of the community.
6. The Community Government of Whatì is an active supporter of a local Inter-Agency Committee which includes the RCMP, Health, various TCSA agencies, and the Tłı̄chô Government. Whatì Inter-Agency responds to issues related to community preparedness. Issues such as emergency response, social programs, and the community & lands concerns are all brought to this monthly forum. Reasonable discussions about costs, liabilities and insurance will need to be addressed at this forum. Both parties commit to continuing this community forum in order to coordinate among agencies.
7. The Community Government of Whatì commits to clear and ongoing communication with citizens in the region, using appropriate means. These may include posters, door-to-door mail-outs, newsletters, as well as public meetings.
8. Housing stock and condition is an ongoing barrier to community well-being and preparedness. There is insufficient information on housing and the barriers, but key issues to investigate include income support, home ownership, property management, and local organization, as well as financing. A Local Housing Organization (LHO) is being established in Whatì, but there needs to be further development and information gathered. Both parties recommend a fact finding investigation on this topic, within the next six months and, based on the findings, further commitments can be made. In order to propel action forward on this topic, this issue should also be on the Tłı̄chô Chief Executive Council (CEC) agenda.
9. There is a need for locally agreed-upon goals and plans for Community Well-Being. The Whatì Inter-Agency Committee should develop a small set of community based goals of resilience. As an example: A number of local gardens, and the support of a community garden, could be an example, with goals set for 2020 and 2025. The Community Government of Whatì commits to forming a small set of community goals during the 2015 Strategic Planning process (March 6 & 7), and then monitoring progress towards goals over-time.

Governance

Our goal is to prepare the citizens and governments for road development through development of predictable regulations, policies and support of services.

10. There is desire for development of regulations and policies to manage the construction of cabins and design of hunting, trapping, and fishing in the area, in order to minimize impacts on local animal populations. The GNWT and the Tłı̄chô Government commit to working together to develop clear guidance on this topic, and provide effective management.
11. The Tłı̄chô Government will develop mineral policy for Tłı̄chô Lands, so that there is clear and predictable regulation in the region.

Appendix B: Whatì Residents Engaged in the SEIA Scoping Study

84 community members signed in for the November 28, 2013, community meeting on the All-weather Road Studies.

* *Italics denotes facilitator/presenter.*

Table B-1: List of attendees at the community meeting in Whatì – November 28, 2013

<i>Kerri Garner</i>	Louisa Nitsiza (cook)	Jonas Nitsiza	Edzo Nitsiza
<i>Petter Jacobsen</i>	Cindy Nitsiza (cook)	Eddie Nitsiza	Vanessa Nitsiza
<i>Alistair MacDonald</i>	Freddy Flunkie (foreman)	Louis Wedawin	Ted Nitsiza
<i>Janelle Nitsiza</i>	Bernice Beaverho	Joe Champlain	Celine Beaverho
<i>Jim Stauffer</i>	Rosella Sewi	Francis Simpson	Liza Nitsiza
<i>Mary Ann Jeremick'ca</i>	Child Sewi	Georgina Simpson	Tony Nitsiza
<i>Isidore Zoe (translator)</i>	Madeline Champlain	Lisa Marie Zoe	Larry Baran
<i>Jonas Lafferty (translator)</i>	Georgina Pomie	John Tinquì	Emma Simpson
Charles Simpson	William Eyakfwo	Micheal Moosenose	Lucy Nitsiza
Lois Stauffer	Charlie Jeremick'ca	Lucy Pomie	Marie Adele Beaverho Jr.
Sophie Williah	Charlie Quitte	Liza Jeremick'ca	Albina Nitsiza
Thomas Nitsiza	Maurice Zoe	Georgina Nitsiza	Catherine Simpson
Veronica Quitte	Richard Romie	Peter Moosenose	Rosa Romie
Benny Jeremick'ca	Jackie Bishop	Mary Rose Moosenose	Mary Jane Simpson
Thomas Nitsiza	Irene Zoe	Gordon Zoe	Celine Simpson
Dora Nitsiza	Bobby Nitsiza	Zoey Mantla	Jessie Moosenose
Marie Franki	Jessica Wetrade	Jimmy Simpson	BJ- high school teacher
Joseph Alexis	Rasinda Beaverho	Johnny Simpson	Albert Nitsiza
Lisa Nitsiza	Arnold Nitsiza	Larry Baron	Bella Nitsiza
Nora Romie	Patrick Nitsiza	Joseph Romie	Dene Simpson

Waylon Flunkie	April Smith-Nitsiza	Mike Romie	Rita Nitsiza
Cheyenne Nitsiza	Traven Nitsiza	Laura May Football	Janet Moosenose
Anika Romie	Janita Bishop		

Table B-2: 2013-2014 Fieldwork Participants

Demographic Group	Focus Group	Interview
Youth	Joshua Jeremick'ca Janet Moosenose Donovan Simpson Louie Nitsiza Bryan Nitsiza	Dene Coey-Simpson Waylon Nitsiza Tracella Romie Beverly Nitsiza
Adult male	Joseph Alexis Raymond Rabesca Moise Nitsiza John Beaverho Frankie Joe Nitsiza David Nitsiza Archie Zoe Edzo Nitsiza Peter Nitsiza Jimmy Laboline Mike Romie Richard Romie Georgie Mantla Joe Louis Moosenose Robert (Bobby) Nitsiza	Gilbert Nitsiza Albert Nitsiza John Tinqu Charlie Jim Nitsiza
Community Government Council	Michel Moosenose Alfred Flunkie Alex Nitsiza Ted Nitsiza	Sonny Zoe
Male Elder	Francis Simpson Louis Wedawin Jonas Nitsiza Jimmy Nitsiza Benny Jeremick'ca Narcisse Bishop Joe Champlain	Jimmy B. Rabesca

Female Elder	Rosa Romie Dora Nitsiza Sophie Williah Mary Adele Rabesca Laiza Jeremick'ca Lucy Nitsiza Madeline Champlain Margaret Nitsiza	Annie Simpson Marie Flunkie
Service Providers/ Administrators	April Smith-Nitsiza Mary Ann Jeremick'ca John Sarapnickas Tephaine Wedawin Jim Stauffer Louisa Beaverho	Larry Baran, SAO Benton Clarke-Hurley
Adult Female	Lisa Marie Zoe Bernice Beaverho Jatonia Steinwand Louisa Beaverho Tina Nitsiza Bertha Simpson-Moosenose Therese Romie Leona Nitsiza	Mary Jane Simpson Carolyn Coey-Simpson Mary Jo Simpson Cecilia Nitsiza Bella Nitsiza Cathy Simpson

Other participants included a focus group with 20 high school students and two teachers, November 28, 2013, who provided written and verbal response materials.

Appendix C: Potential Criteria and Indicators for a Whatì/Tłı̨chǫ Human Environmental Monitoring System

The Whatì All-weather Road Scoping Study Report recommends that the Tłı̨chǫ Government, potentially with supports from federal, territorial, and local governments and industry proponents, develop an integrated human environmental monitoring system via an independent monitoring agency, with final terms of reference, indicators, and data collection and reporting systems to be determined by the responsible authorities. Annual or bi-annual self-reported well-being and quality of life surveys may be an important part of this human environmental monitoring system.

This list of potential human environmental monitoring criteria is based on analysis of previous documents such as MVRB's (2007) *Socio-economic Impact Assessment Guidelines* and our experience working with Canadian Aboriginal groups. This is neither a comprehensive nor a minimum mandatory list, but rather a starting point for dialogue toward developing a set of indicators for a proper human environmental monitoring system to measure the well-being and quality of life among Tłı̨chǫ citizens, and a means by which to track change over time.

TABLE C-1: Potential Criteria and Indicators of a Tłı̨chǫ Human Environmental Monitoring System

Categories	Topics for Information Gathering
Demographics and Education	Population composition (including gender, age, race, growth rates)
	Population mobility (in- and out-migration data)
	Dependency ratio (essentially the ratio of how many youth and elders there are vs. working age people)
	Educational completion rates (high school, post-secondary, trades)
	Functional English literacy and numeracy rates
	Self-reported satisfaction with educational and training completion rates
	Trades and college completion rates
Economy	Main economic activity types within the community/region
	Labour force analysis (including labour pool analysis & identification of skill shortages and surpluses)
	Employment, unemployment and participation rates
	Preferred type of work
	Willingness to do shift work and work at long-distance commutes
	Income sources and amounts (individual and by family type; including social assistance)
	Average, mean, and median income (individual earner or family by type)
	Employment by occupation, industry affiliation
	Debt levels in the community
	Cost of living indices and expenditures by type (e.g., food, housing, travel, recreation), including comparisons to Yellowknife and Edmonton
	Role of barter and sharing in local economy
	Factors influencing employability and desire to be in the wage economy
	Quality of work environment and job satisfaction levels

Categories	Topics for Information Gathering
	<p>Locally owned (including community-owned) business ventures – number, diversity, and success and per cent of population self-employed</p> <p>Degree of reliance on government service jobs, resource sector, other sectors</p>
Infrastructure and Community Services	<p>Housing cost, housing conditions, ownership structure, per cent renting, household size and housing appropriateness, homelessness rates</p> <p>Transportation, utilities, energy, emergency, recreation and communications infrastructure and services</p> <p>Current governance and service provision responsibilities</p> <p>Access to health and social services in home community</p> <p>Satisfaction with health and social services (broken down)</p> <p>Crime and policing data</p> <p>Access to child care and early childhood development programs</p> <p>Social and protection facilities and services (access to and pressures on)</p>
Individual, Family and Community Wellness	<p>Physical and mental health conditions by age and sex, race</p> <p>Self-reported health status</p> <p>Sexually transmitted infection rates</p> <p>Teen pregnancy rates</p> <p>Lifestyle and health practices, perceptions and behaviours</p> <p>Diet, including per cent country food (e.g., estimated amount of current consumption and per cent of total meat intake from hunted animals)</p> <p>Individual and community health determinants as identified by Aboriginal groups</p> <p>Health care facilities and services available</p> <p>Wait times and need to travel for health care services</p> <p>Traditional medicinal practices in community and their use</p> <p>Family cohesion measures (e.g., per cent single parent families; divorce and separation rates)</p> <p>Amount of time spent with immediate and extended family</p> <p>Self-reporting well-being and quality of life data (via annual or bi-annual censuses), including mental and physical health status</p> <p>Self-reported sense of community cohesion</p> <p>Volunteerism rate</p> <p>Self-reported sense of control over one's own future</p> <p>Number of, nature, and attendance at communal events</p> <p>Inter-generational time spent together and respect levels</p> <p>Education and training programs and services</p> <p>Injuries due to accidents</p> <p>Suicide rate and other metrics of self-harm</p> <p>Birth rate</p> <p>Death rate</p> <p>Access to and use of Aboriginal cultural programming</p> <p>Aboriginal language use rates</p> <p>Psycho-social stressors identified by community members</p>

Categories	Topics for Information Gathering
	Social dysfunction measures (e.g., levels of alcohol and drug abuse, domestic violence, children in care)
Cultural retention and continuity	Time spent on the land (including sub-categories of “alone,” “with immediate family,” “with youth,” “with elders,” “community hunts”)
	Per cent of households that report harvesting off the land and self-reporting of barriers to harvesting
	Faith in country food
	Harvesting surveys including harvest counts, distance traveled, success rates
	Reporting system and feedback mechanisms for observed concerns on the land
	County food consumption rates (by amounts, species, body parts – e.g., organs)
	Per cent of population working on crafts
	Contribution (qualitative and quantitative) of the mixed and traditional use economy (e.g., per cent of income from trapping and craftwork)
	Per cent of population reporting hunting, fishing or trapping
	Continuity of communal sharing practices (e.g., per cent of harvesters reporting sharing outside the family; per cent of elders reporting receiving country foods)
	Language retention rates (including fluency, conversational, and other categories)
	Self-reported ability to travel freely on and enjoy the land
	Status of land alienation (growing, declining, staying the same)

Appendix D: Tłı̄chǔ Winter Road Opening / Closing Dates: 1983 to 2013

All data from the GNWT Department of Transportation.

	Winter Roads	Wha Ti Access	Gamètì Access	Wekweètì Access
1983/84	Open date	4-Jan	16-Jan	ALL-WEATHER ROAD OPENED FALL 1997
	Closing Date	31-Mar	31-Mar	
	Total Days Open	87	25	
1984/85	Open date	18-Dec	14-Jan	
	Closing Date	20-Mar	20-Mar	
	Total Days Open	93	66	
1985/86	Open date	18-Dec	11-Jan	
	Closing Date	3-Apr	2-Apr	
	Total Days Open	106	81	
1986/87	Open date	20-Dec	12-Jan	
	Closing Date	31-Mar	31-Mar	
	Total Days Open	101	78	
1987/88	Open date	15-Jan	8-Feb	
	Closing Date	5-Apr	5-Apr	
	Total Days Open	82	58	
1988/89	Open date	23-Jan	3-Feb	
	Closing Date	5-Apr	5-Apr	
	Total Days Open	72	61	
1989/90	Open date	19-Jan	2-Feb	
	Closing Date	10-Apr	10-Apr	
	Total Days Open	72	67	
1990/91	Open date	16-Jan	22-Jan	
	Closing Date	8-Apr	8-Apr	
	Total Days Open	82	76	
1991/92	Open date	15-Jan	24-Jan	
	Closing Date	7-Apr	7-Apr	
	Total Days Open	83	74	
1992/93	Open date	27-Jan	19-Feb	
	Closing Date	2-Apr	2-Apr	
	Total Days Open	65	42	
1993/94	Open date	18-Feb	18-Feb	
	Closing Date	18-Apr	18-Apr	

	Winter Roads	Wha Ti Access	Gamètì Access	Wekweètì Access
	Total Days Open	59	59	
1994/95	Open date	13-Jan	30-Jan	
	Closing Date	29-Mar	22-Mar	
	Total Days Open	75	51	
1995/96	Open date	15-Jan	2-Feb	
	Closing Date	20-Mar	20-Mar	
	Total Days Open	65	47	
1996/97	Open Date	20-Jan	7-Feb	
	Closing Date	25-Mar	25-Mar	
	Total Days Open	64	46	
1997/98	Open Date	23-Jan	7-Feb	
	Closing Date	9-Apr	9-Apr	
	Total Days Open	76	61	
1998/99	Open Date	25-Jan	8-Feb	
	Closing Date	7-Apr	1-Apr	
	Total Days Open	72	52	
1999/00	Open Date	1-Feb	14-Feb	
	Closing Date	20-Apr	12-Apr	
	Total Days Open	80	58	
2000/01	Open Date	20-Feb	10-Mar	
	Closing Date	14-Apr	14-Apr	
	Total Days Open	53	35	
2001/02	Open Date	24-Jan	11-Feb	
	Closing Date	25-Apr	25-Apr	
	Total Days Open	91	73	
2002/03	Open Date	27-Jan	10-Feb	
	Closing Date	17-Apr	17-Apr	
	Total Days Open	85	66	
2003/04	Open Date	13-Feb	9-Mar	
	Closing Date	22-Apr	22-Apr	
	Total Days Open	69	44	
2004/05	Open Date	14-Jan	28-Jan	
	Closing Date	13-Apr	13-Apr	
	Total Days Open	89	75	
2005/06	Open Date	7-Feb	16-Mar	

ALL-WEATHER ROAD NOT OPENED UNTIL 1997

	Winter Roads	Wha Ti Access	Gamètì Access	Wekweètì Access
	Closing Date	16-Apr	16-Apr	
	Total Days Open	68	28	
2006/07	Open Date	3-Feb	28-Feb	
	Closing Date	12-Apr	12-Apr	
	Total Days Open	68	44	
2007/08	Open Date	8-Feb	28-Feb	31-Mar
	Closing Date	11-Apr	11-Apr	8-Apr
	Total Days Open	62	43	9
2008/09	Open Date	23-Jan	21-Feb	11-Mar
	Closing Date	14-Apr	14-Apr	8-Apr
	Total Days Open	82	53	28
2009/10	Open Date	20-Jan	22-Feb	11-Mar
	Closing Date	11-Apr	11-Apr	8-Apr
	Total Days Open	81	48	28
2010/11	Open Date	14-Jan	5-Feb	14-Feb
	Closing Date	8-Apr	8-Apr	7-Apr
	Total Days Open	84	62	52
2011/12	Open Date	25-Jan	17-Feb	6-Mar
	Closing Date	19-Apr	19-Apr	10-Apr
	Total Days Open	85	62	35
2012/13	Open Date	22-Jan	13-Feb	7-Mar
	Closing Date	21-Apr	21-Apr	9-Apr
	Total Days Open	90	68	34