

LA GRANDE ALLIANCE

PROPOSED INFRASTRUCTURE PROGRAM

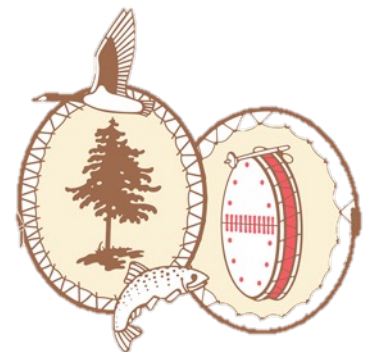
FEASIBILITY STUDIES

BOARD COUNCIL, SEPTEMBER 2023



**CREE
DEVELOPMENT
CORPORATION**

Société de développement crie



Grande Alliance Studies in Brief

Extensive Engagement

10 Community Information Officers (CIO)
3 Community Liaison Officers (CLO)
1,000+ people met
110+ traplines engaged

Technical Design

290+ Boreholes drilled
50+ geotechnical sampling stations



Study on Proposed Integrated Transportation Network

1200+ km of roadway
1000+ km of railway
1 marine harbour

Understanding Regional Economy

60 organizations surveyed

Environmental and Cultural Protection

221 archaeological and 10 cultural heritage sites recorded
250 bird species, 36 fish species, 54 terrestrial mammal species identified in the study area

Over 10,000 Pages of Reports!!

Studies in Brief



LAND

100+
TRAPLINES



CULTURE

221
ARCHAEOLOGICAL
SITES

10
HIGHLY IMPORTANT
CULTURAL SITES



STATUS

16
SPECIES WITH
PROTECTED STATUS

32
AT-RISK SPECIES

18,000 KM²
OF PROTECTED
AREAS



MAMMALS

54
TERRESTRIAL
MAMMAL SPECIES

The caribou is an
emblematic cervid
of northern Quebec



BIRDS

184
BIRD SPECIES

The Canada Goose is
a keystone species in
Cree culture



FLORA

BOREAL
VEGETATION ZONE

Dominated by black
spruce (*Picea mariana*)



FISH

30
FRESHWATER SPECIES

25
MARINE SPECIES



CLIMATE

8
CLIMATE HAZARDS

Harsh climate
conditions

Table of Contents

Introduction

Market Survey (Demand Profile)

Socio-Environmental Survey

Technical Survey

Next Steps and Conclusion



Community Information Officers



John Shem



Christopher Herodier



Dennis Georgekish



Norman Cheezo



Raymond Blackned



John Henry Wapachee



Vacant



Sydney Coonishish



Errol Mianscum



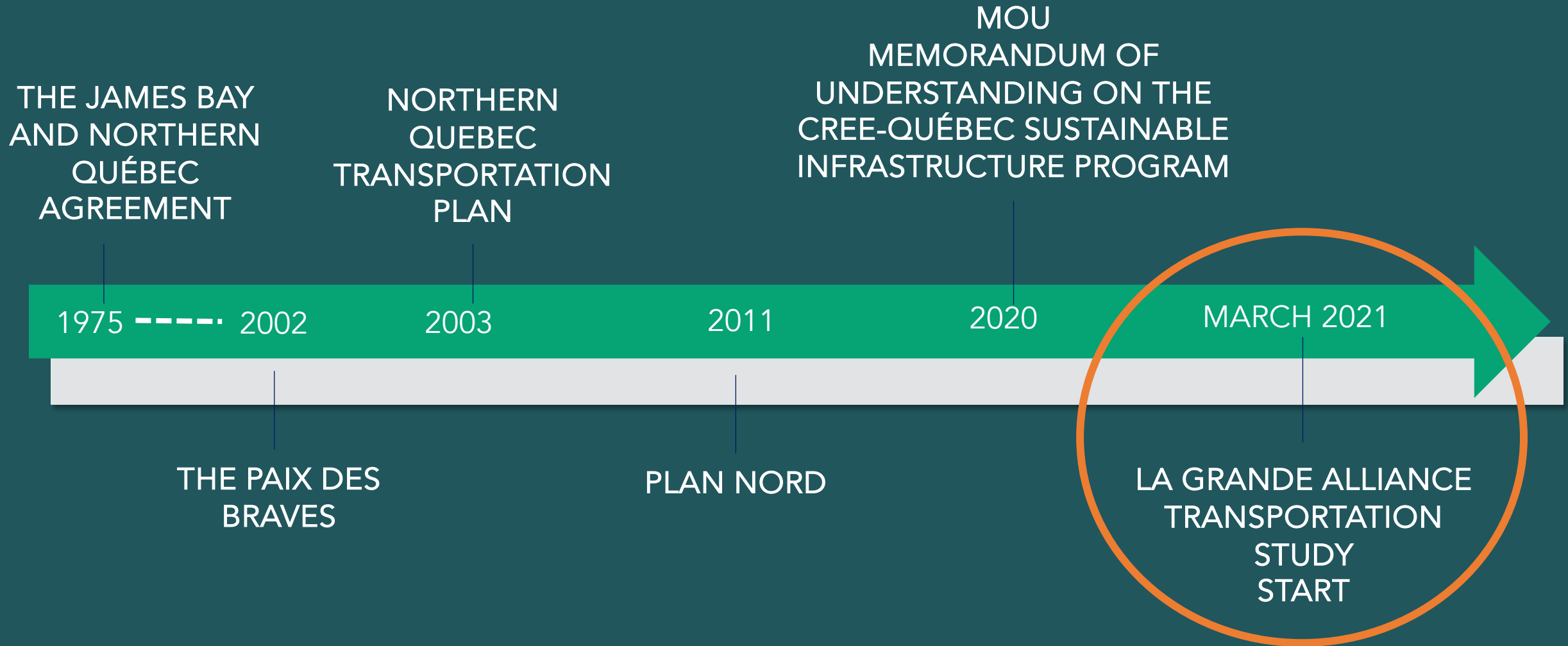
Andriana Trapper

Cree Nation Vision

- It was the Cree Nation that proposed this vision to the government of Quebec, not imposed on the Cree from outside.
- This initiative flows from a choice freely made by the Cree Nation itself to implement its own vision of how development should proceed in Eeyou Istchee in a way that respects Cree values and the environment



Introduction and Context



New Chapter in Cree-Quebec Relations



Susan/CBC

7

On February 17, 2020, Grand Chief Dr. Abel Bosum and Premier Francois Legault opened a new chapter in Cree-Quebec relations by signing a Memorandum of Understanding creating "La Grande Alliance"

Why this study?

CHALLENGES



POPULATION
is growing



TRANSPORTATION
needs are growing



**ROAD SAFETY &
MAINTENANCE**
are an issue



**NATURAL RESOURCE
(MINING) PROJECTS**
are growing

VALUES



**SUSTAINABLE
DEVELOPMENT**



**IMPROVE QUALITY
OF LIFE**

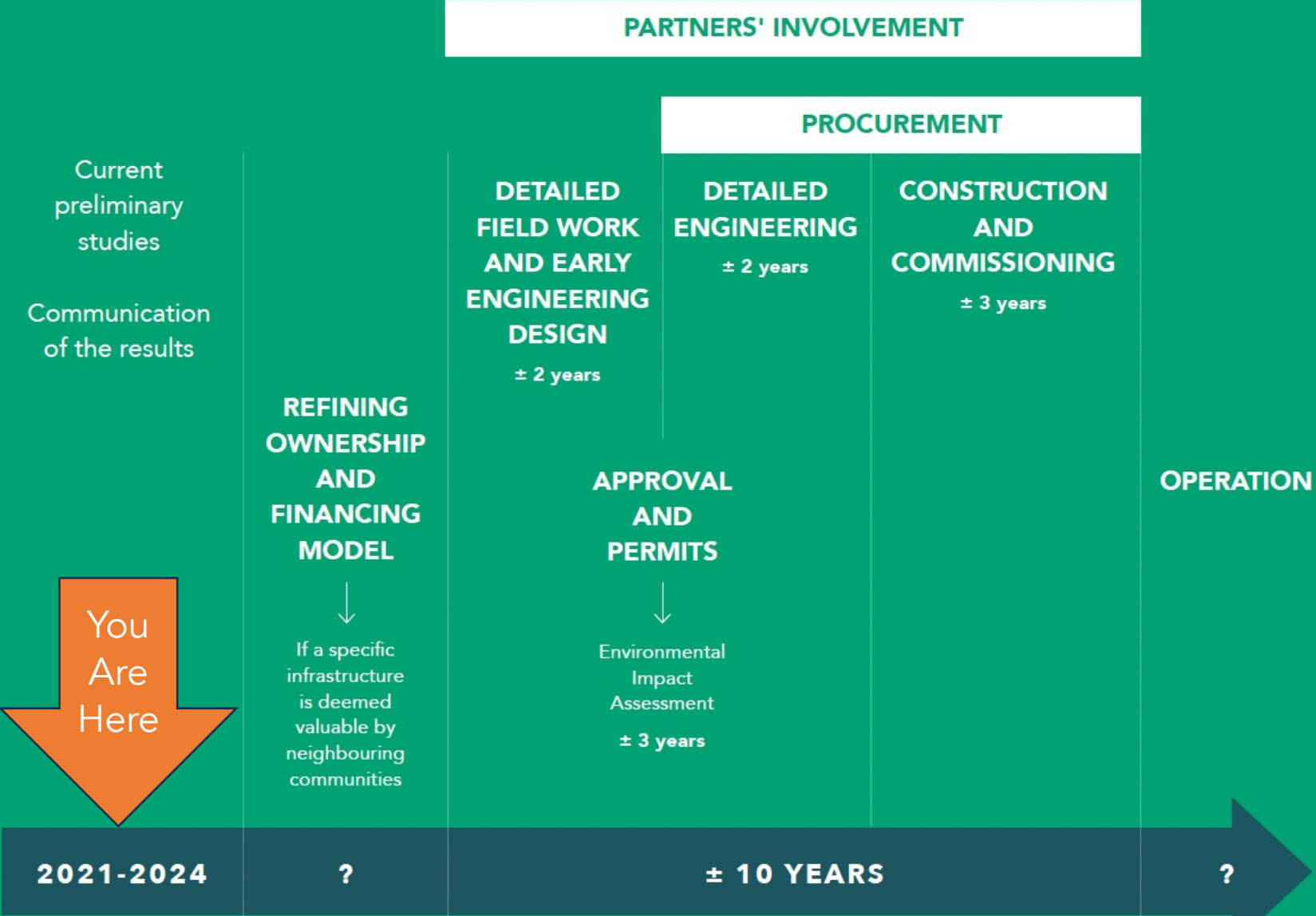


**CREE CULTURE
PRESERVATION**



**SOCIAL
DEVELOPMENT**

La Grande Alliance - Timeline



STUDIED INFRASTRUCTURES



1. Community access roads upgrade and paving
 - Waskaganish
 - Eastmain
 - Wemindji
 - Nemaska
 - Mistissini (addition)
2. Route du Nord upgrade and paving
3. Railway: Matagami to Rupert River
4. Recommissioned railway: Grevet-Chapais
5. Railway: Rupert River to La Grande
6. Road extension to Whapmagoostui
7. Route 167 upgrade & extension
8. Railway: La Grande to Whapmagoostui
9. Seasonal Harbour in Whapmagoostui

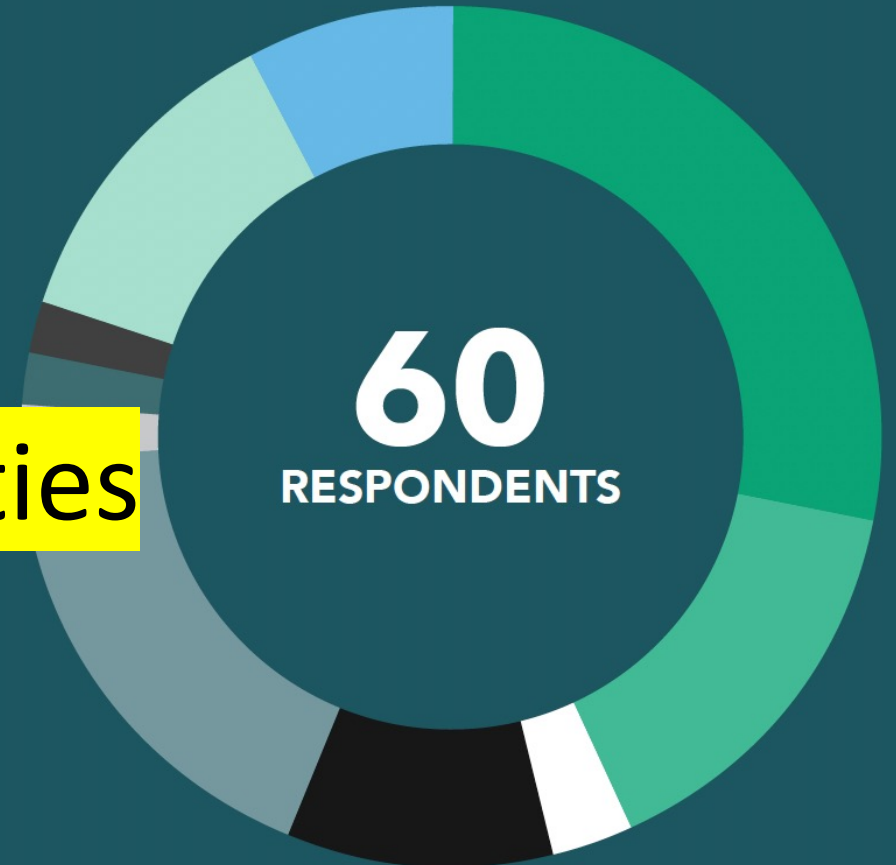


Market Study (Demand Profile)

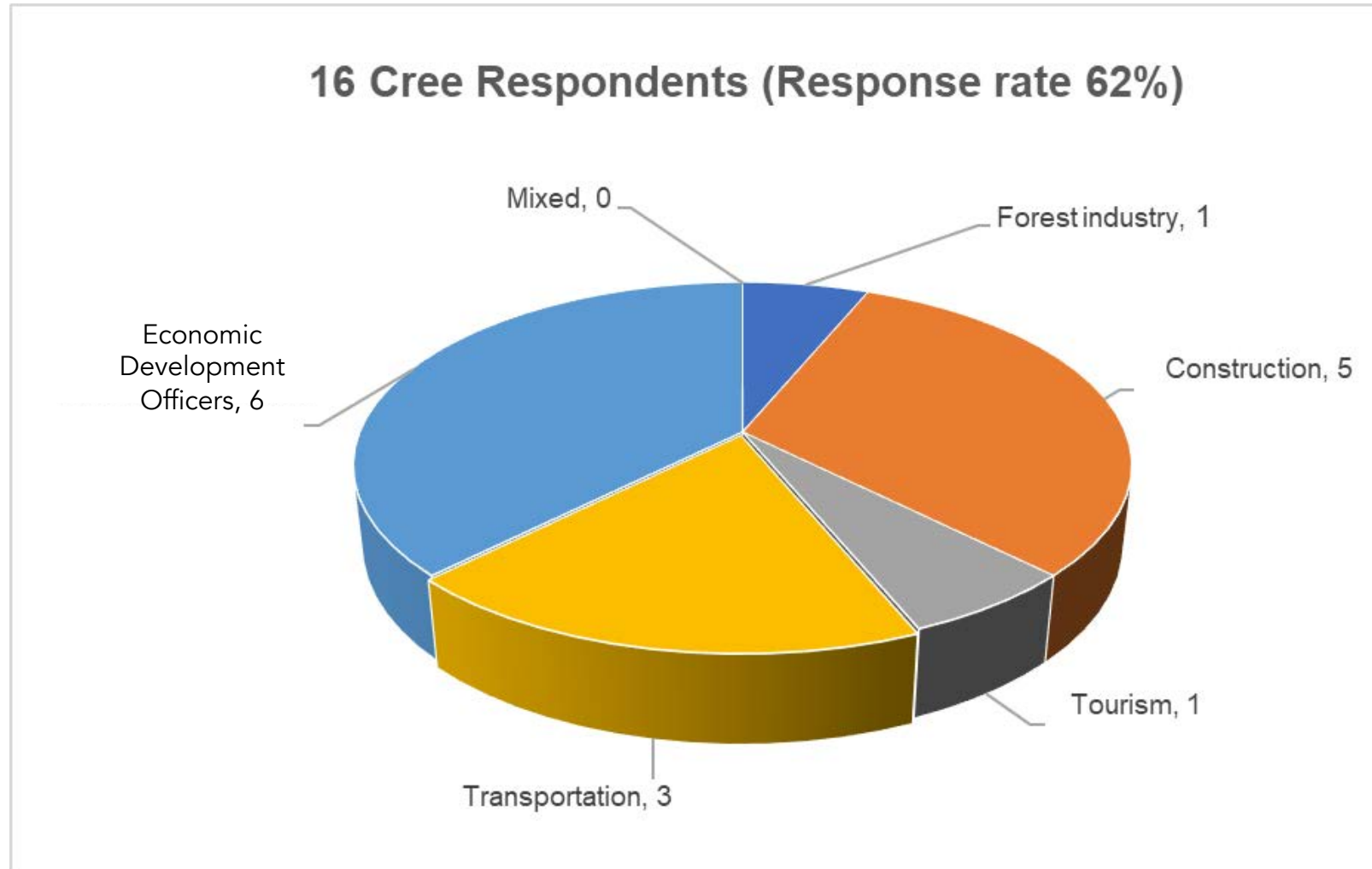
Market Survey Respondents

- MINING (17)
- TRANSPORTATION (11)
- CONSTRUCTION (9)
- FOREST INDUSTRY (7)
- CREE COMMUNITIES (6)
- JAMESIANS (5)
- TOURISM (2)
- INUIT (1)
- ELECTRICITY (1)
- OIL PRODUCTS (1)

EDOs and Regional Entities



Cree Organization Respondents



Demographic Profile (2021)



Eeyouch

Non-Eeyouch



Population Growing

Population Similar to Rural Quebec



28% Youth

16% Youth



20% - Sales and Service

26% - Sales and Service



17% - Trades

15% - Trades



15% - Law and Govt. Services

22% - Law and Govt. Services



12% - Business

16% - Business



32,000 Inhabitants



High School and Colleg 

Industry Profile

Major Growth Sectors



Mining

- Currently experiencing pre-boom conditions driven by the Lithium sector; 4 mines set to open within 5 years and an additional 3 shortly thereafter
- Will potentially increase traffic along major roadways by over 20x more trucks compared to today
- Increased traffic raises safety issues and maintenance issues along roadways



Local Economies

- Driven by exploding housing demand (including backlog)
- Moving products in and out of communities in a more cost-efficient manner will be key to lowering cost of living
- Increasing opportunities for Cree businesses throughout the territories is essential for economic growth

Trucks vs. Rail Freight Transportation

262 transport trucks per day along Billy Diamond Highway in 2030 (Loaded and Empty)

=

Approx. 1 truck every 5 minutes (heading north OR south) every 24 hours

25-Ton Truck Trailer



= 1 X

Railcar Hopper

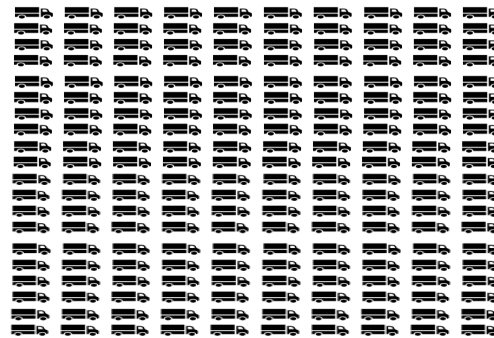


Railcar Hopper



= 1 X

Train



vs.

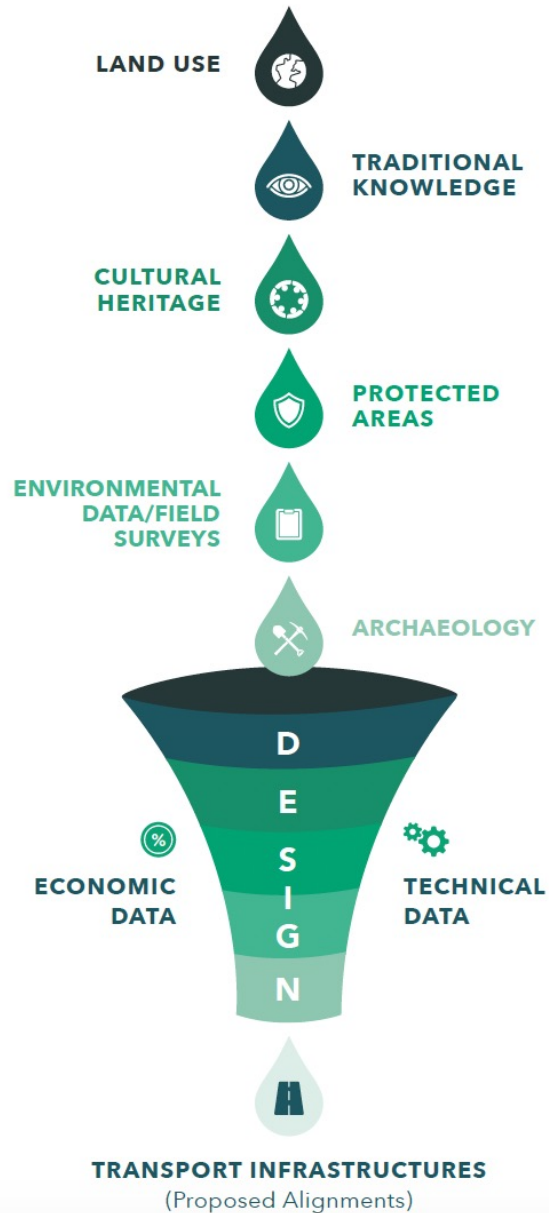


262 trucks vs 1 train



Socio-Environmental Study

IMPORTANCE OF SOCIAL & ENVIRONMENTAL DATA



PARTICIPANTS IN THE FEASIBILITY STUDIES



TERRITORY RESIDENTS AND LAND USERS



CREE ORGANIZATIONS MANDATED BY THE JBNQA



PRIVATE SECTOR



GOVERNMENTS AND AGENCIES

CONTRIBUTIONS OF THE STUDIES TO THE CREE NATION

DOCUMENT

and increase awareness about road safety issues

TRANSFER

of knowledge and data consolidation within Cree Nation and with government partners

BEING PREPARED

and informed in the event that a new development project is proposed



Community Engagement

	GENERAL ASSEMBLY PUBLIC MEETINGS	FOCUS GROUP	LAND USER MEETINGS & INTERVIEWS	TRAPLINES INCLUDED
Regional Entities	21	3	N/A	N/A
CTA	5	2	N/A	N/A
Whapmagoostui	7	6	17	13
Chisasibi	12	4	37	23
Wemindji	2	1	22	8
Eastmain	4	3	15	4
Waskaganish	5	2	26	8
Nemaska	1	1	28	12
Waswanipi	0	0	3	3
Oujé-Bougoumou	3	0	8	4
Mistissini	3	2	66	19
Washaw Sibi Eeyou Association	1	1	9	4
Total	64	25	231	86

Sustained Communication

Document Relevant Social and Environmental Aspects

Create and Maintain Social Acceptability

CREES ARE INTERVIEWED BY CREES, IN CREE, FOR THE BENEFIT OF THE CREES.

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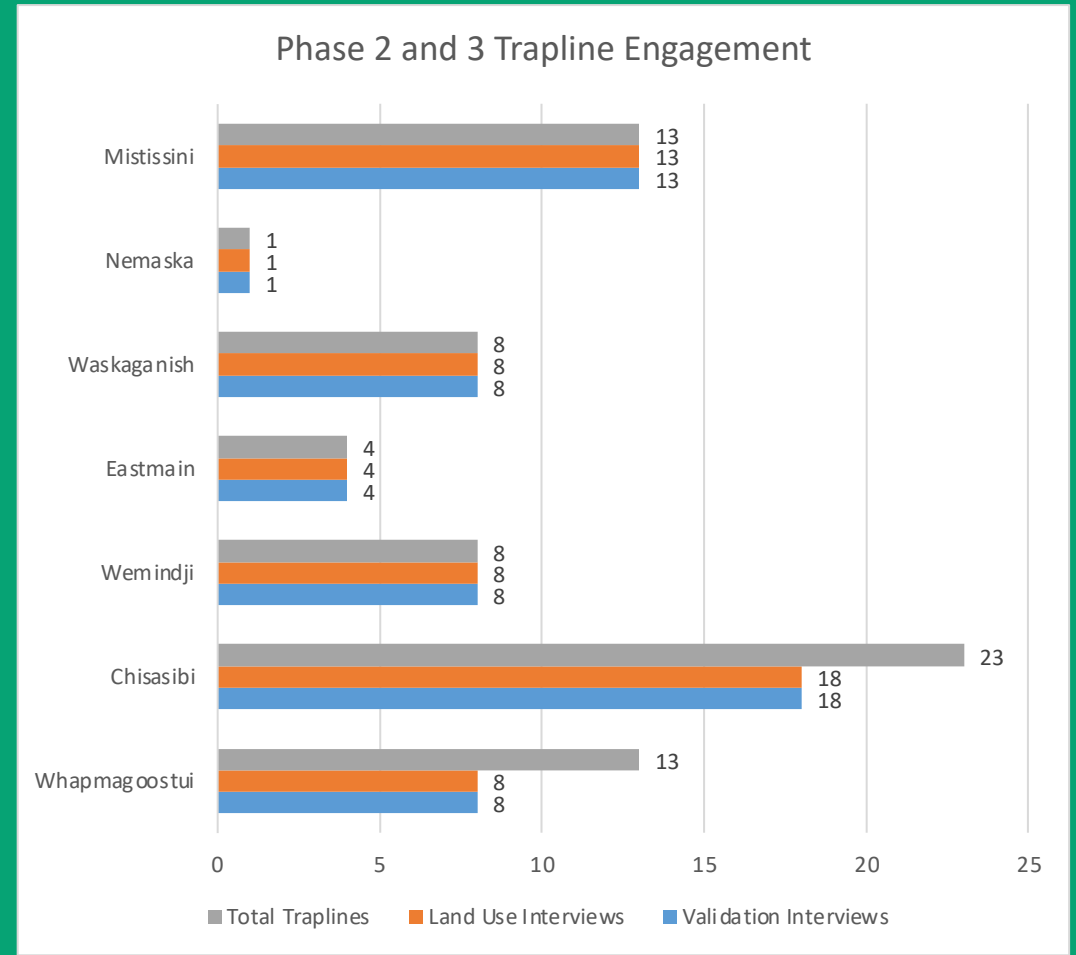
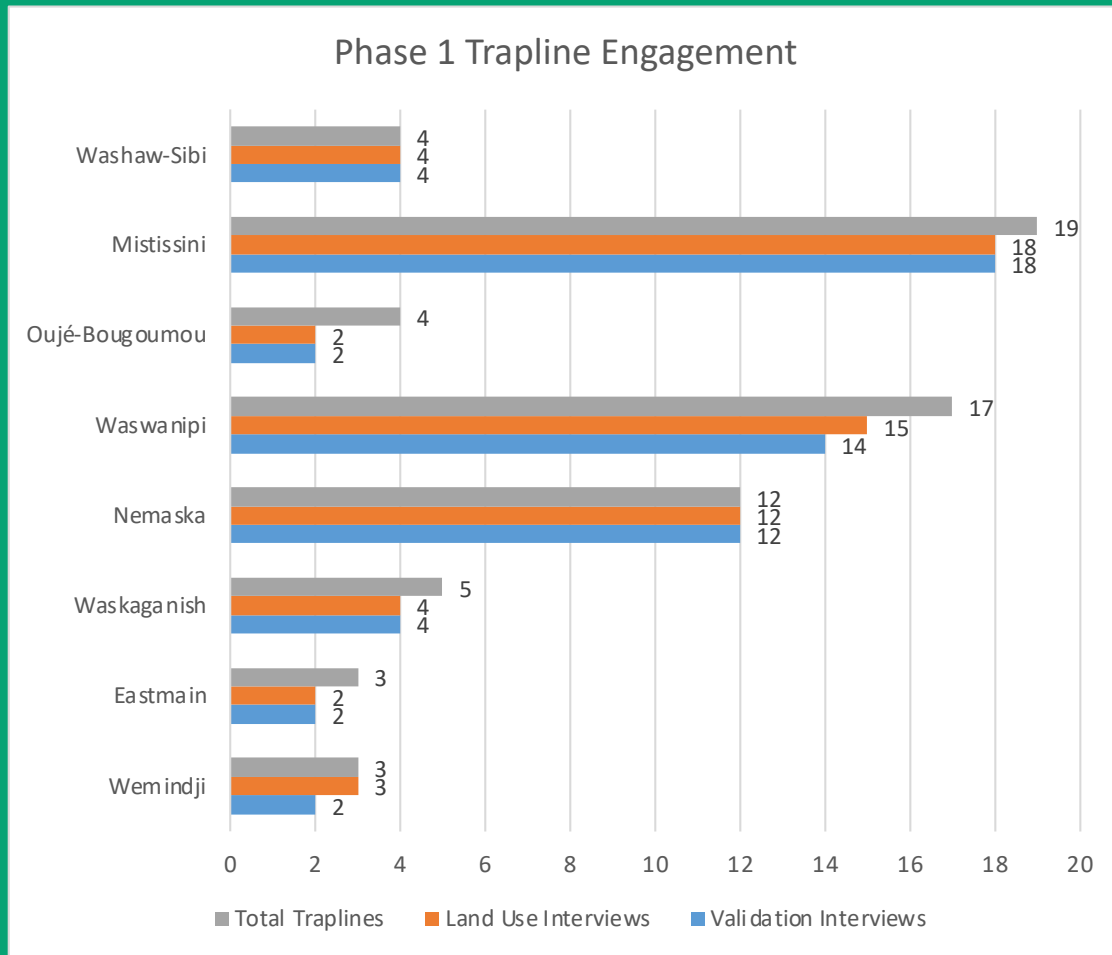
Trapline Engagement



- People who will feel the biggest impacts are the ones who use the land
- Impacts are unavoidable, design to minimize impacts and collaborate with land users to identify mitigation measures that are acceptable
- This also allows us to understand how people have been affected by past projects, learn from the experiences and to show land users we understand their perspective

Trapline Engagement

- More than 110 traplines engaged, 1/3rd of the total for Eeyou Istchee



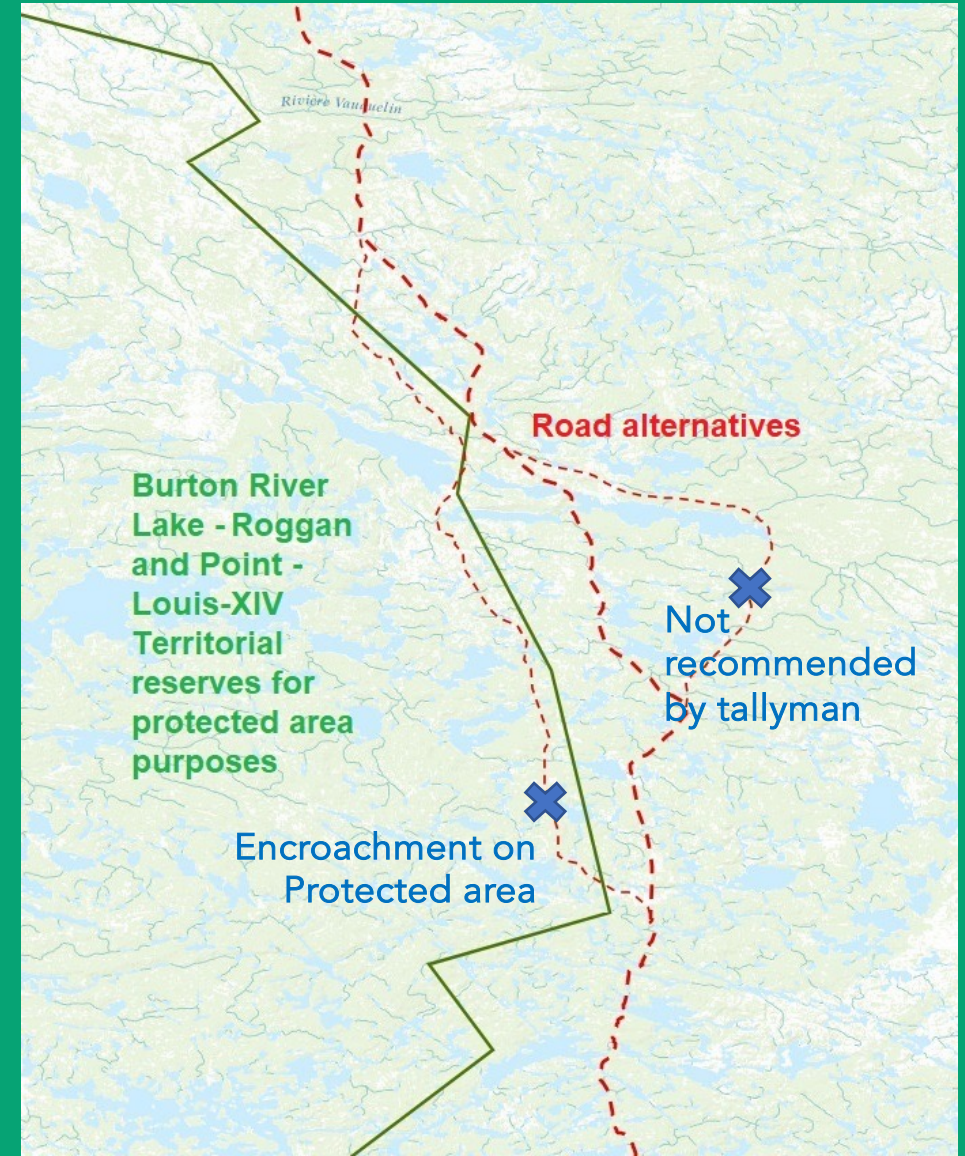
Understanding Impacts on Cree Culture

- Takes time!!
- Requires engaging in Cree with a variety of people to gather different perspectives
- Respecting elders and land users points of views and guidance is essential
- Finding ways to coexist with and possibly even enhancing Cree land use
- Being very sensitive to newly impacted areas

Examples of Environmental Priorities

Alignment Design for Potential Road and Rail to Whapmagoostui/Kuujuarapik Considers:

- 1) Protected Area
- 2) Highly Sensitive Area identified by land users
- 3) Additional feedback from tallyman





Technical Study


Existing Road Design Parameters Studied


- Integration of Cree perspective and knowledge
- Horizontal curves and existing permissible speeds
- Visibility around curves
- Vertical curves and existing permissible speeds
- Cross Sections
- Parking Areas for Land Use
- Conditions of Culverts
- Guardrails
- Signage and Markings
- Winds and Snow
- Soil Condition
- Paving and Surfacing Improvements
- Rest Areas
- Multipurpose Trails Near Communities
- Cost Estimates


Roads - Horizontal curves and existing permissible speeds




Roads	Total	Curves speed			
		More than 80 km/h	70-79 km/h	60-69 km/h	Less than 60 km/h
Wemindji	78	76	2	0	0
Eastmain	102	99	2	1	0
Waskaganish	59	59	0	0	0
Nemaska	27	15	8	4	0
Route du Nord	376	327	35	12	2
Total	642	576	47	17	2

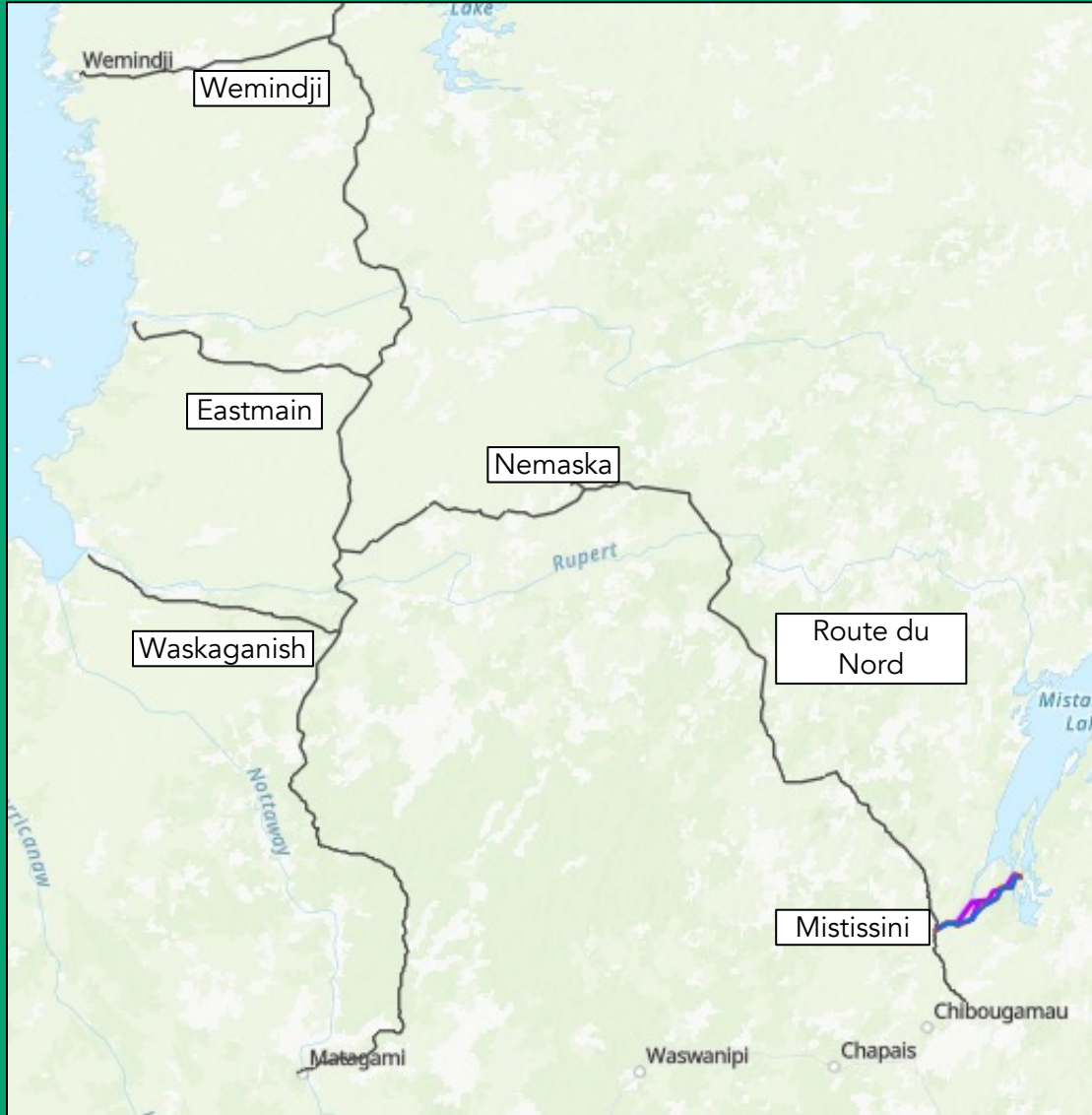








Upgrading and Paving Access Roads



- Community Access roads are for the most part in moderate to good condition with approximately 30% of culverts needing replacement
- Route-du-Nord requires significant repairs to its roadbed with 75 % of culverts needing replacement on a short to medium term and needs corrections to several curves
- Mistissini secondary access road mostly follows existing forestry roads with a potential length of 42 to 45km.

Road 167 Upgrade and Extension

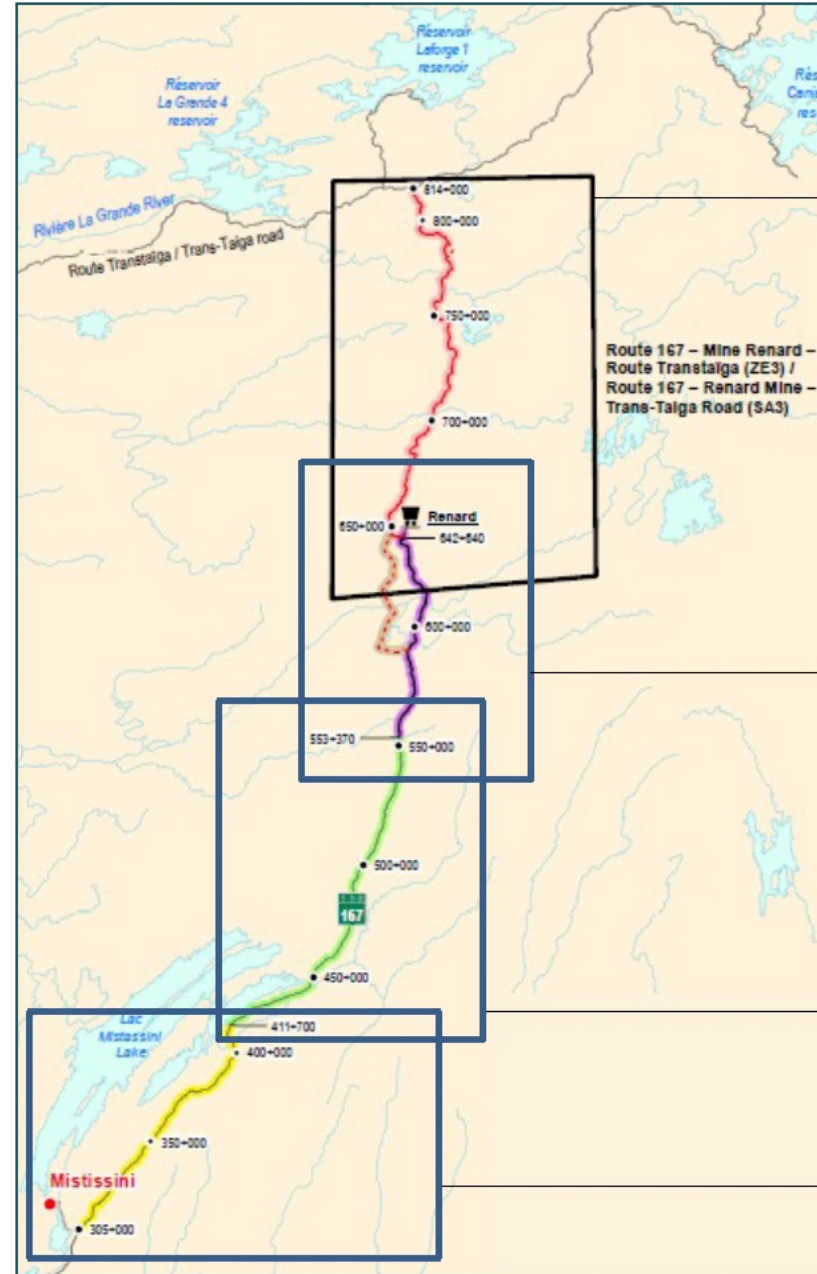
FEATURES

510 KM

CROSSES
15 TRAPLINES

STARTS
MISTISSINI COMMUNITY ACCESS ROAD

ENDS AT KM408 OF
TRANS-TAIGA HIGHWAY



SECTION 4 - EXTENSION

- New gravel road (MTQ standards)
- Special attention to caribou
- Route follows ridges, avoids water bodies and crosses rivers at their narrowest point
- Avoid highly sensitive areas and protected areas

SECTION 3 - UPGRADE

Mining Road

- ±1.5m road widening
- Horizontal and vertical curves correction
- Installation of guardrails

SECTION 2 - NO WORK

Deemed in fairly good condition

SECTION 1 - UPGRADE

- Clearing, reinforcement, maintenance and paving

Roadway - La Grande to Whapmagoostui/Kuujuarapik

207 KM

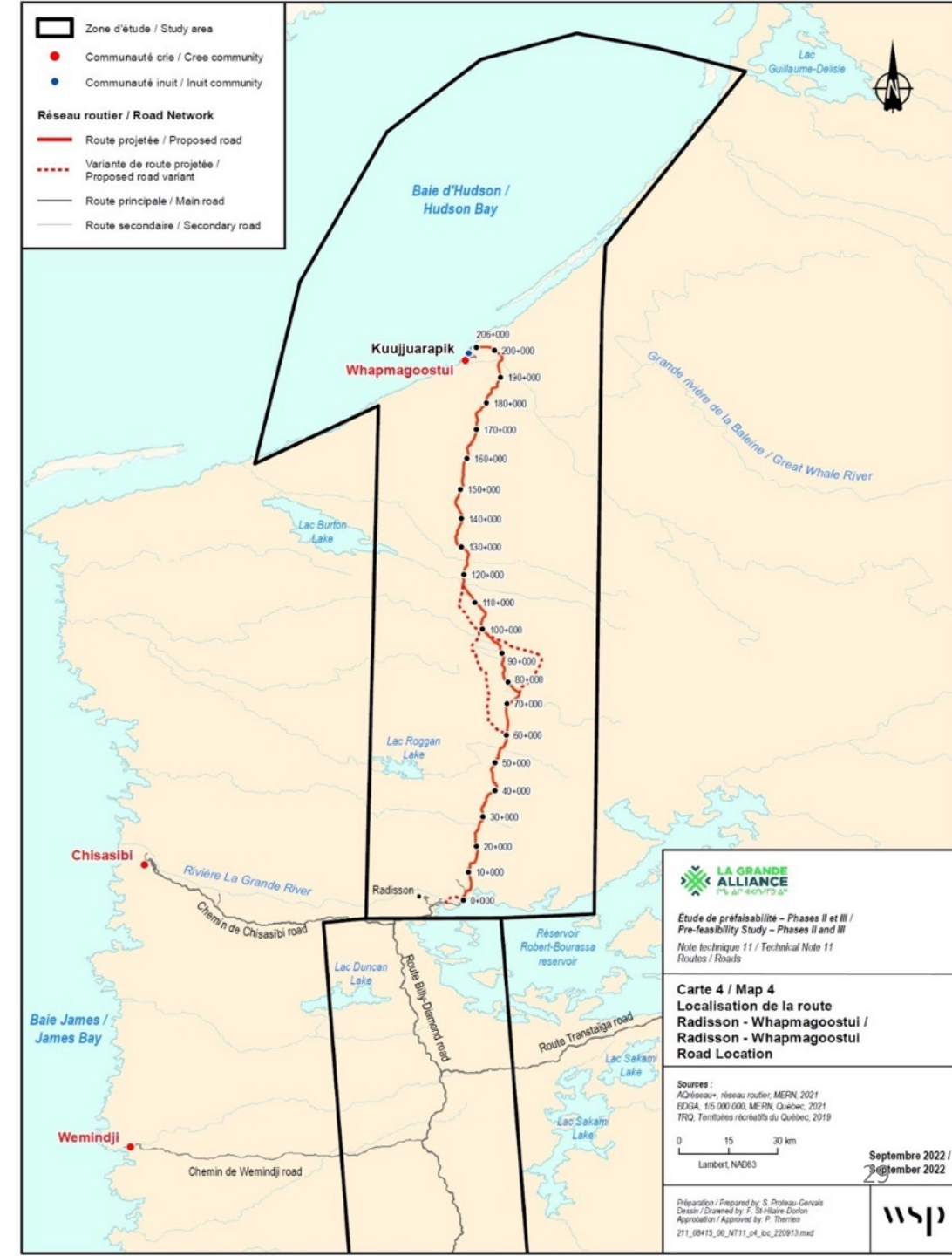
**CROSSES
9 TRAPLINES**

**STARTS NORTH
OF THE LG-2'S SPILLWAY**

**APPROACHES
COMMUNITY BY THE
NORTH-EAST**

**60 BRIDGES
OUT OF WHICH 11
ARE MAJOR**

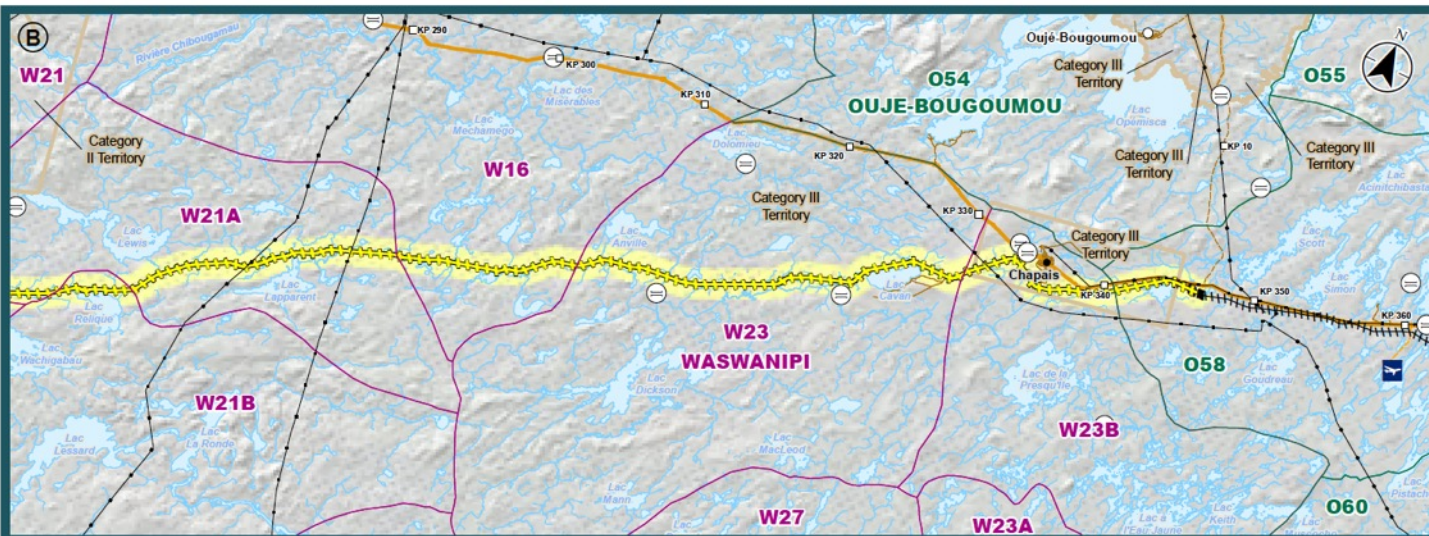
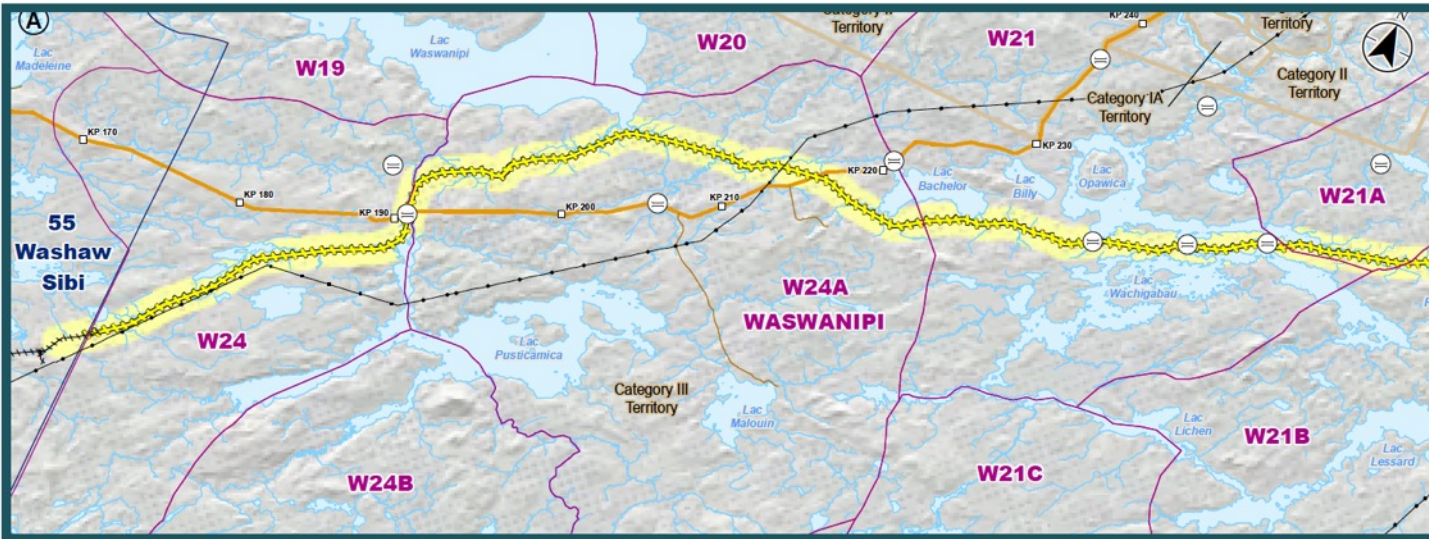
450 CULVERTS



Rail Network Parameters Studied

- Track Structure
- Level Crossings
- Track and Civil Works
- Track Construction
- Bridges
- Culverts
- Passenger Stations
- Transshipment Yards
- Typical Train Makeup
- Battery Locomotive Scenario
- Railway Operations
- 3D Visual Model

Railway Line Between Lebel-Sur-Quevillion and Chapais



FEATURES

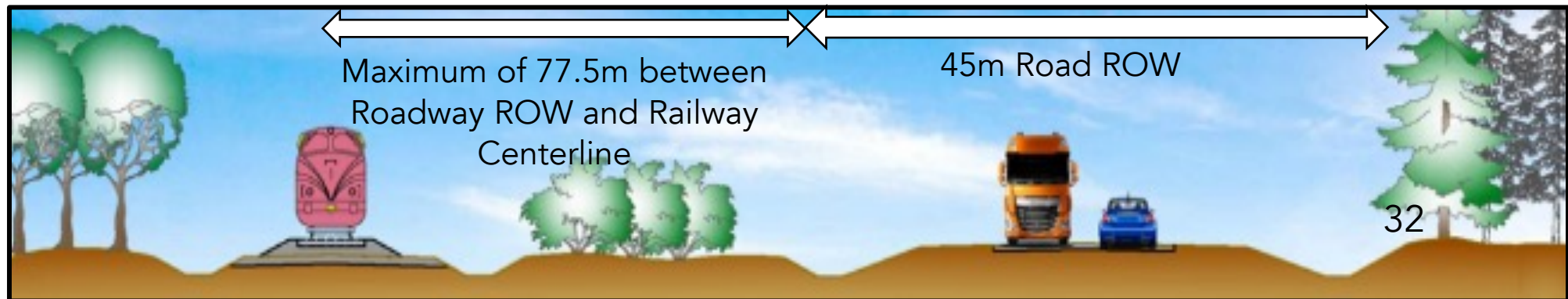
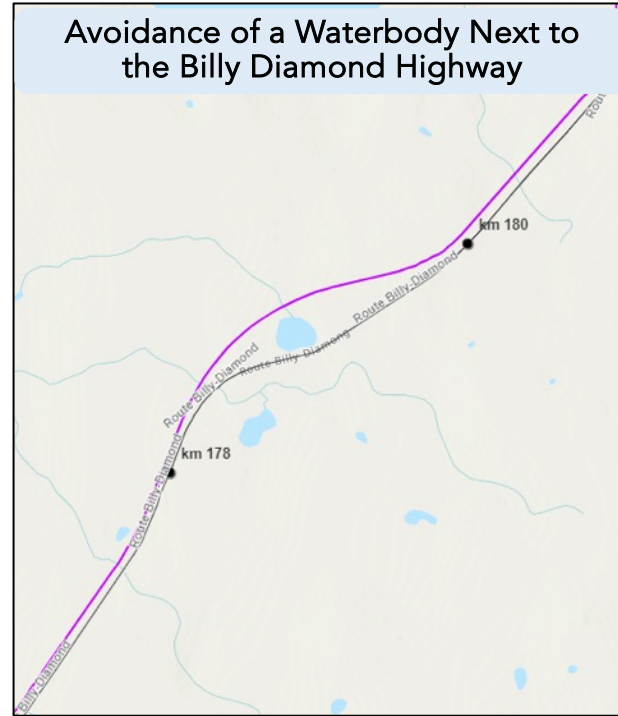
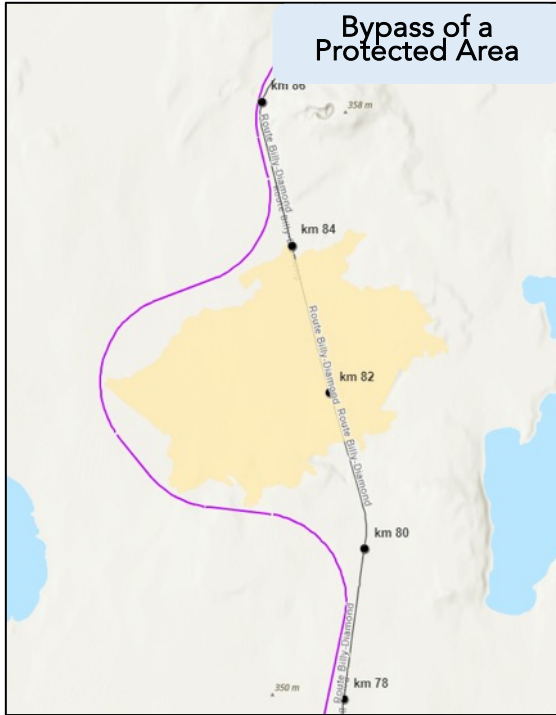
165 KM

CROSSES
11 TRAPLINES

RAIL LINE DISMANTLED IN 1990S
REHABILITATION

CIVIL ENGINEERING STRUCTURES
9 BRIDGES AND 38 LEVEL CROSSINGS

Billy Diamond Highway Railway Alignment



Potential Passenger Demand - Rail

Potential Annual Passenger Traffic

Matagami-Rupert	Matagami - La Grande	Whapmagoostui – La Grande	Grevet-Chapais
1,700	7,000	1,500	5,000

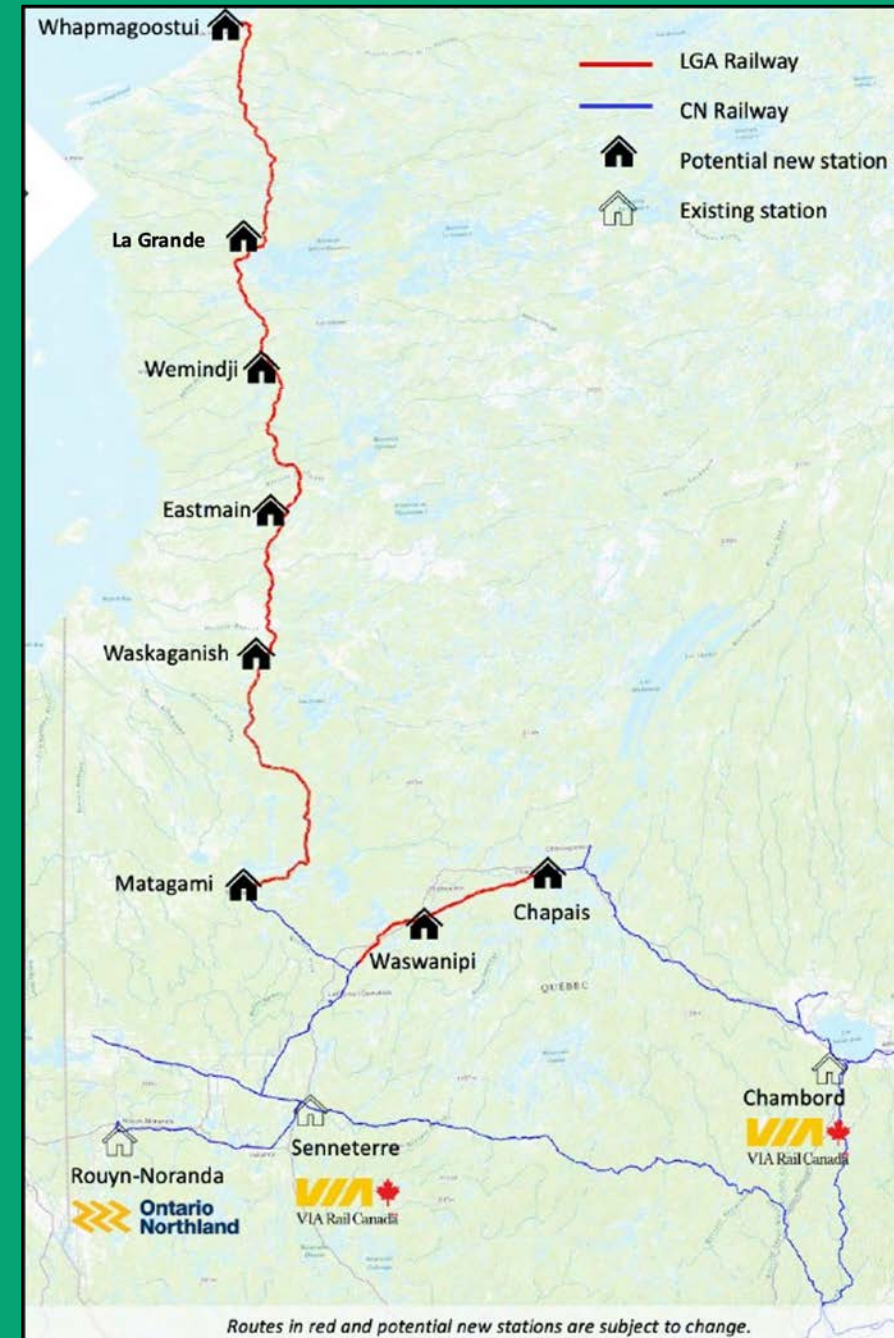
Waskaganish - Jonquiere

Travel time – 18.5 hrs

Waskaganish - Senneterre

Travel time – 10.5 hrs

Current Design – 4 trains a week; 2 going north and 2 going south



PHASE I – RAILWAY MATAGAMI TO RUPERT

257 KM

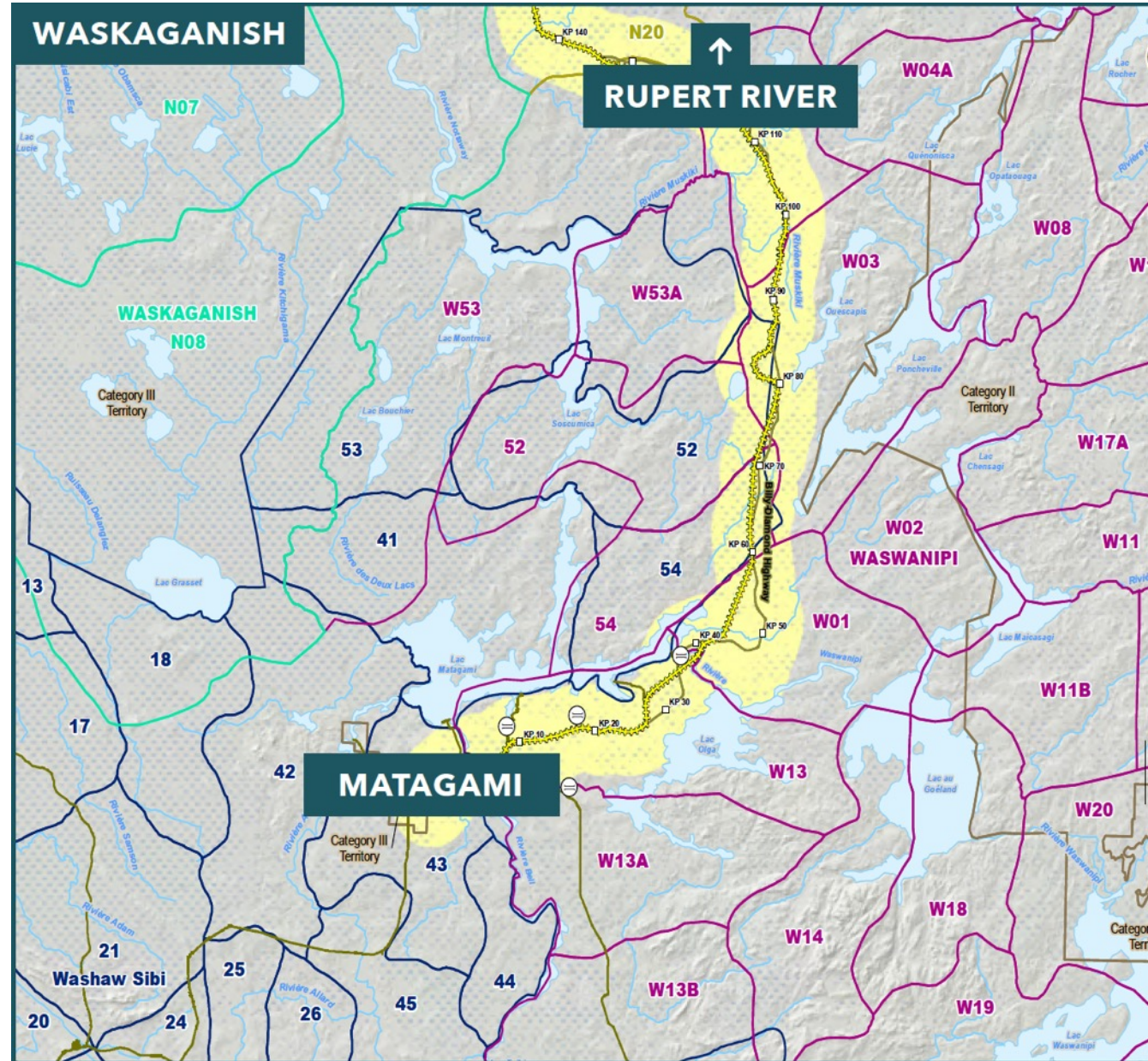
CROSSES
12 TRAPLINES

STARTS AT CURRENT
END-OF-TRACK IN
MATAGAMI

ENDS ACROSS
RUPERT RIVER

43% WITHIN 100M
OF BD HIGHWAY

2 TRANSSHIPMENT
AREAS
(MATAGAMI &
WASKAGANISH)



PHASE II – RAILWAY RUPERT TO LA GRANDE

340 KM

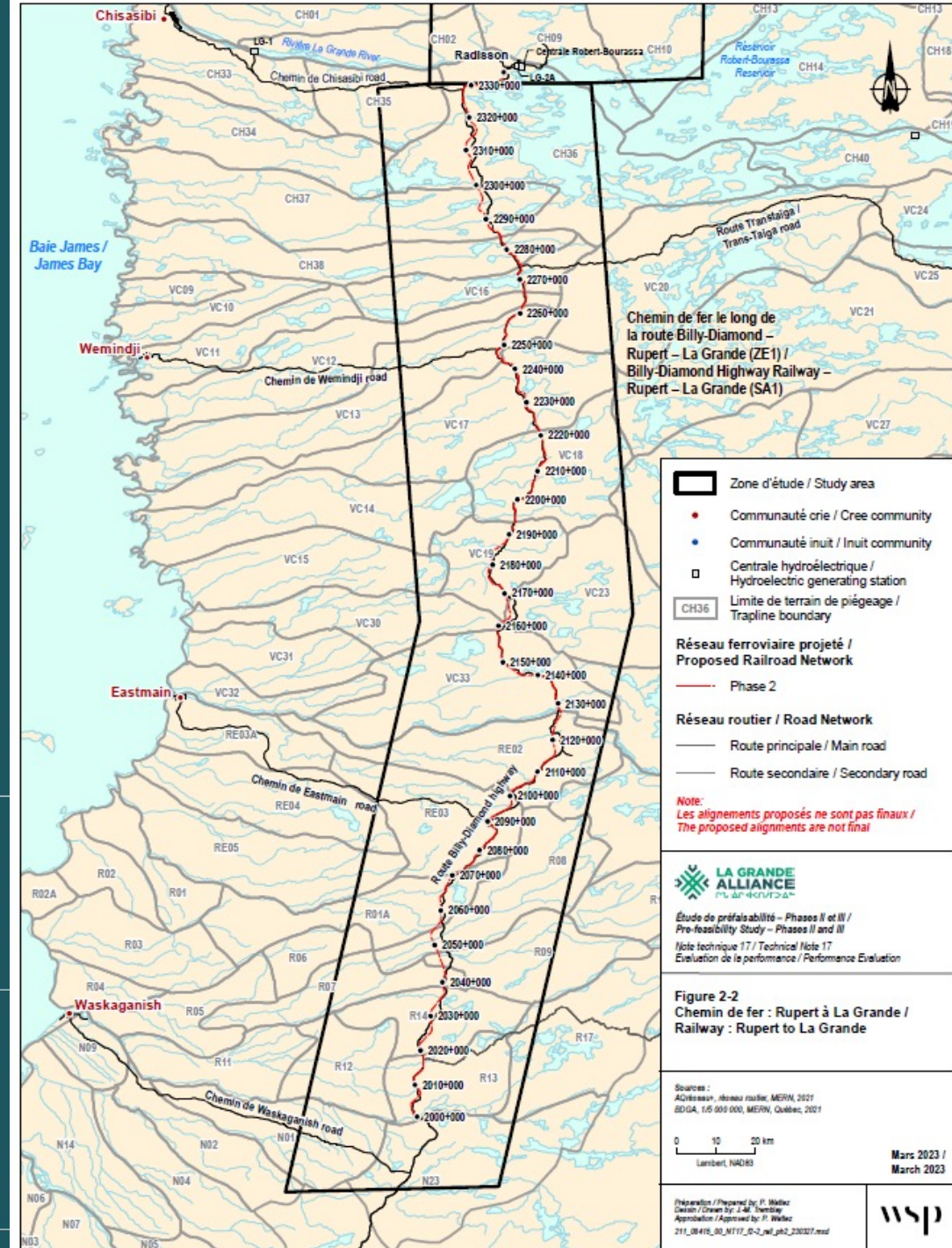
**CROSSES
20 TRAPLINES**

**STARTS WEST OF
RUPERT RIVER AT PHASE 1 BRIDGE**

**ENDS 3KM SOUTH OF
LA GRANDE RIVER**

**70% WITHIN 100M
OF BD HIGHWAY**

**3 MAJOR BRIDGES
(EASTMAIN, OPINACA, VIEUX
COMPTOIR)**



PHASE III – RAILWAY

LA GRANDE TO WHAPMAGOOSTUI

219 KM

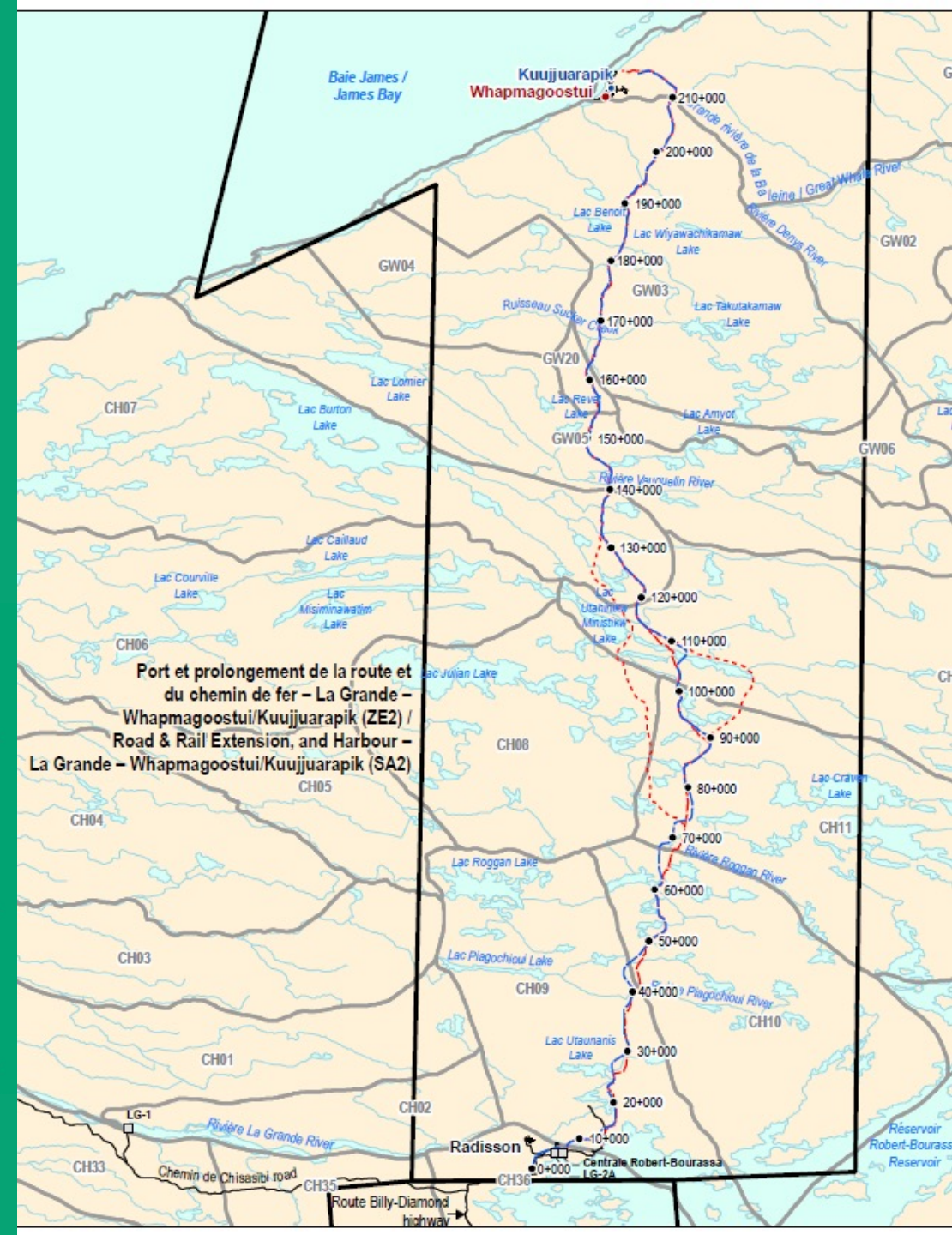
**CROSSES
9 TRAPLINES**

**STARTS 3KM SOUTH OF
LA GRANDE RIVER (BDH KM 614)**

**END CLOSE TO THE
PROPOSED HARBOUR**

**75% WITHIN 100M
OF PROPOSED ROAD**

**66 BRIDGES
OUT OF WHICH 27 ARE MAJOR**



SAFETY FEATURES



AVOIDING DERAILMENTS

- Infrastructure and Rolling Stock Maintenance
- Infrastructure Solutions
- Training Programs

AVOIDING WILDLIFE COLLISIONS

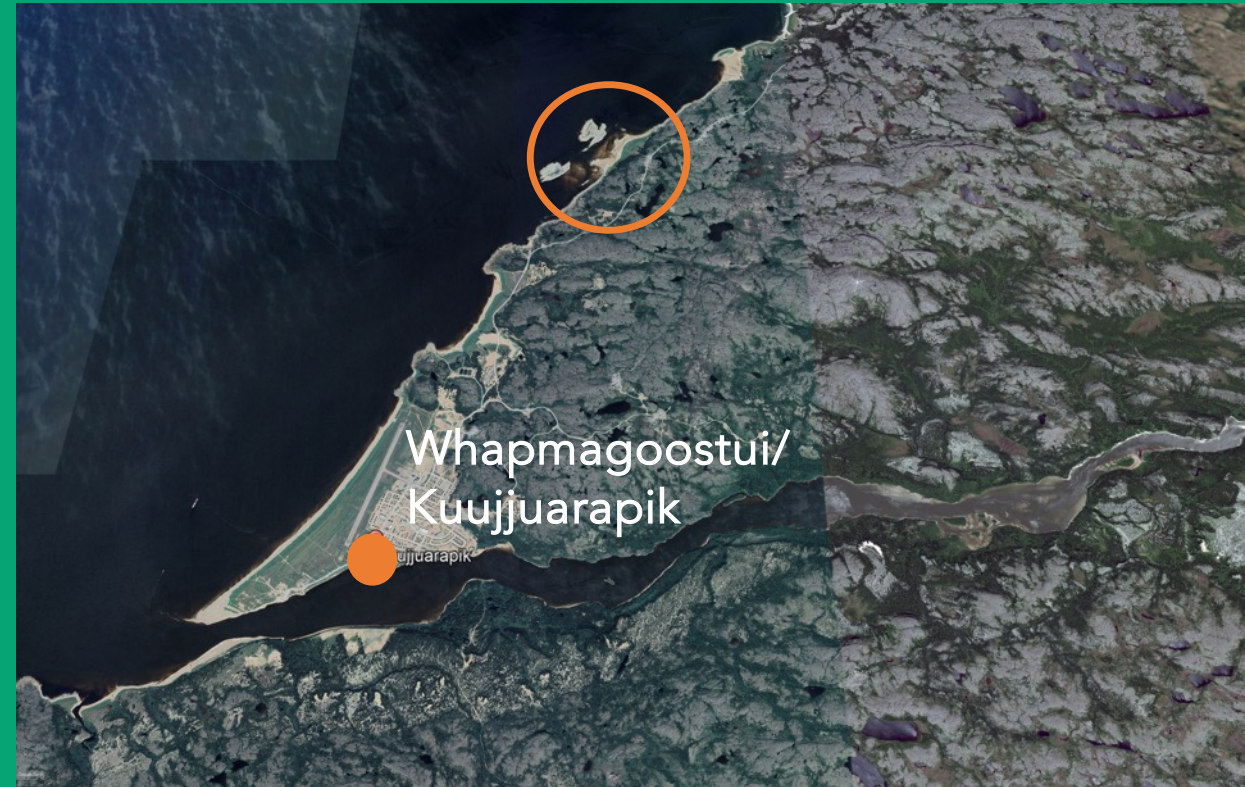
- Reduce possibility of wildlife entrapment by adjusting alignment
- Animal Warning System
- Vegetation Management

AVOIDING LEVEL CROSSING ACCIDENTS

- All public roadway crossings will have automated gates and bells
- Limit access to Right-of-Way (ROW) where possible with fencing
- Ensure proper visibility through vegetation control

Harbour Whapmagoostui/Kuujuarapik

- Original RFP was to study a deep-water port
- Changed to a seasonal harbour (2m/6ft draft) due to
 - Market survey and cargo forecast study results show that expected demand in short-mid term future is insufficient to sustain a deep-water port investment
 - Recent landslide upstream Great Whale River and the perceived risk of excessive sedimentation could lead to the existing natural beach harbour to become unusable.



Building Costs (CAPEX)

Component	Cost Range/km	Total (Based on Average Cost)
Community Access Roads	\$1.5M – \$2.5M	\$0.5B
Route-du-Nord	\$2M – \$3M	\$0.5B
2 nd access Mistissini	\$1.6M – \$2.1M	\$0.1B
Route 167	\$3M – \$4M	\$1.0B
Whapmagoostui Road	\$6M – \$8M	\$1.4B
Grevet-Chapais Railway	\$5M – \$7M	\$1.1B
Billy-Diamond Highway Railway (Phase I – KM0 – KM257)	\$8M – \$9M	\$2.0B
Billy-Diamond Highway Railway (Phase II – KM257– KM544)	\$11M – \$12M	\$4.0B
Billy-Diamond Highway Railway (Phase III – KM544 - Whapmagoostui)	\$20M – 24M	\$4.9B
Port at Whapmagoostui/Kuujuarapik	N/A	\$0.1B
Grand Total		\$15.6 Billion



Next Steps and Conclusions

Communications Program

The Cree Development Corporation has initiated a communication plan to inform the general public and leadership about the transportation Infrastructure network results of the studies for the upcoming fiscal year 2023-24.



IN-PERSON MEETINGS

- Presentation and Q&A at AGAs
- Meetings with local leadership
- Local and regional groups (Youth council, CTA, etc.)



DIRECT COMMUNICATIONS

- Radio shows
- Podcast



GENERAL VISIBILITY

- Animated videos
- Media articles
- Promotional material



DIGITAL TOOLS

- Website
- Weekly newsletter
- Facebook/Instagram ads
- Search engine marketing

MEEGWETCH!

QUESTIONS?

