

Mackenzie Valley Highway – Project Overview



*GNWT Presentation to MVEIRB EA Scoping Meetings,
September 2013*

Presentation Overview

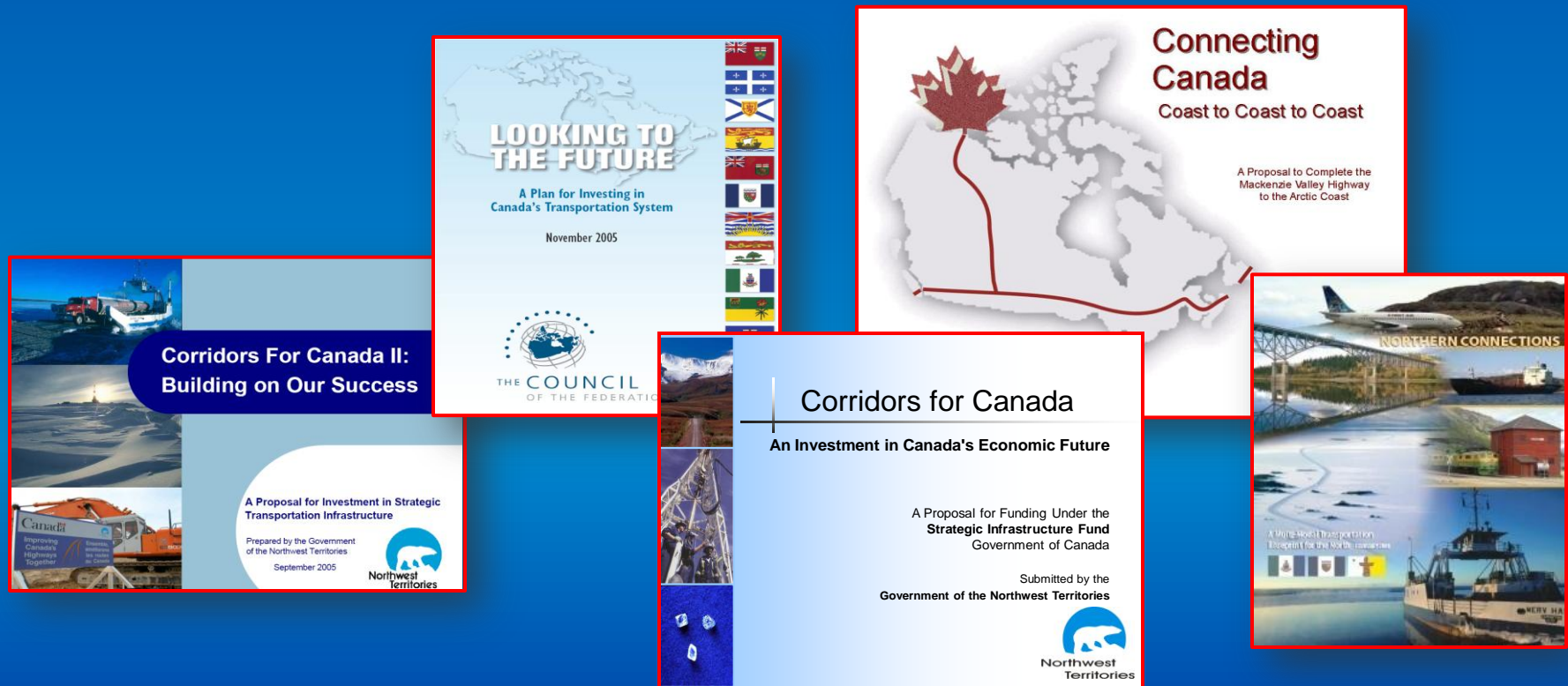
- Background
- Benefits
- Project Proposal
- Work to Date
- Next Steps
- Questions

Background

- Long-standing goal for Canada- 1950's Roads to Resources
- 1972 - Public Works Canada completed surveys, geotechnical, environmental studies, design work and initiated construction
- Construction halted in 1977
- Road completed to Wrigley in 1990's
- 1990 GNWT Transportation Strategy & 1999 GNWT Highway Strategy identified MVH as a strategic priority

Background

- Highway Strategy followed by a number of strategic funding proposals



Background



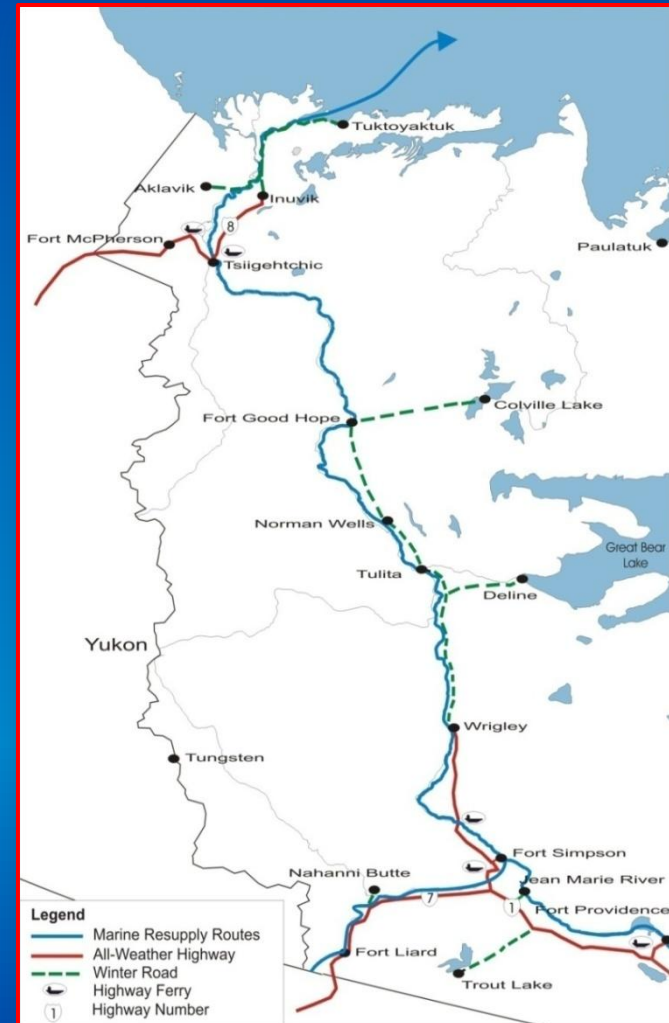
- Past and recent exploration activity points to significant opportunities in resource development in the Mackenzie Valley
- The MVH is a cornerstone of the GNWTs plan to enable future economic development
- The MVH will contribute to the future prosperity of Canadians
- The GNWT needs Canada's commitment to provide resources to build the new highway as the federal government retains the responsibility for new road construction in the NWT.

Background - The Valley Today



Background - The Valley Today

- 690 km of all-weather road from the Alberta border north to Wrigley
- 482 km winter road between Wrigley and Fort Good Hope
- No road between FGH and Dempster Highway



Background – The Valley Today

- \$100 million in incremental improvements since 2000
- 35 new bridges installed on the winter road alignment



MVH Benefits

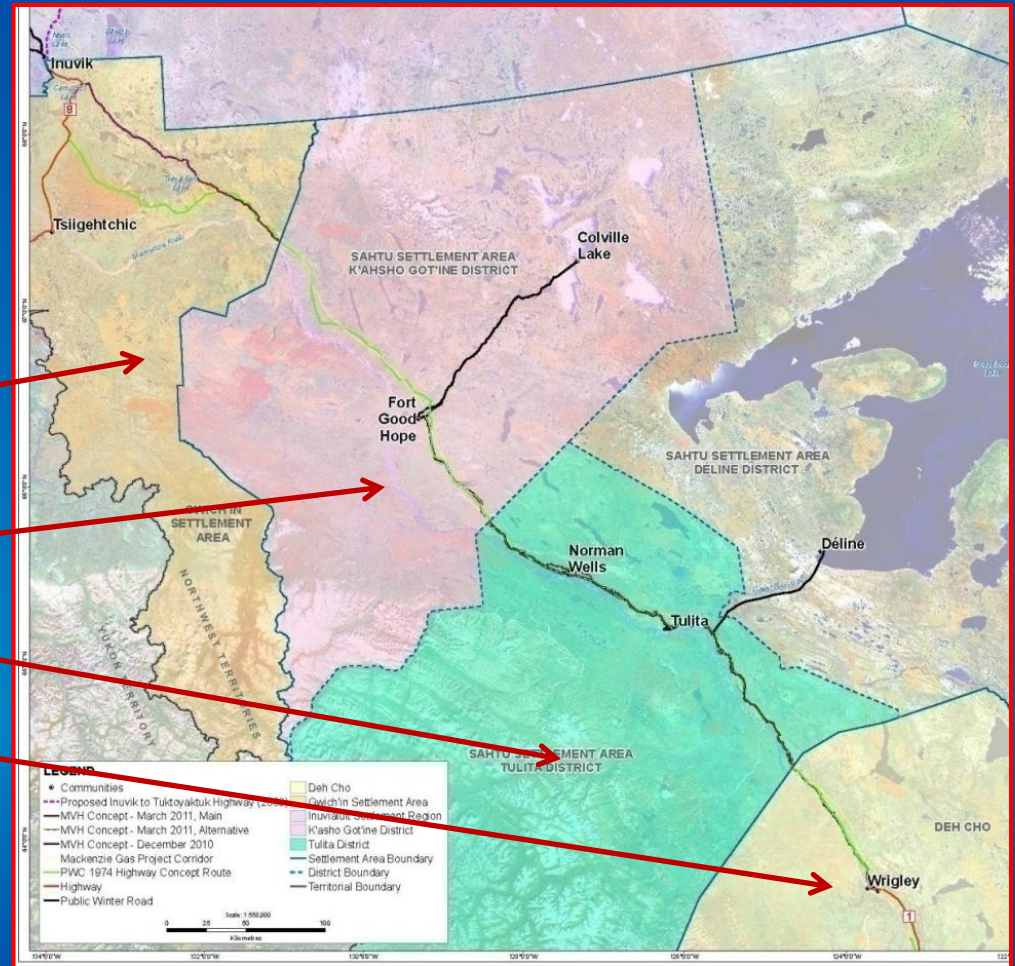
- Year round transportation link (will help improve reliability and mitigate climate change impacts)
- Reduce the cost of living for residents
- Reduce the cost of working in the MV
- Improve service delivery
- Improve economic diversification – oil and gas, tourism, etc.
- Increase inter- community travel options
- Jobs (Construction & Maintenance)

MVH Proposal

➤ Proposed extension 818 km from Wrigley to the Dempster Highway

➤ MVH alignment passes through three Aboriginal land claim areas:

- Gwich'in
- Sahtu - K'ahsho Got'ine
- Sahtu - Tulit'at
- Dehcho



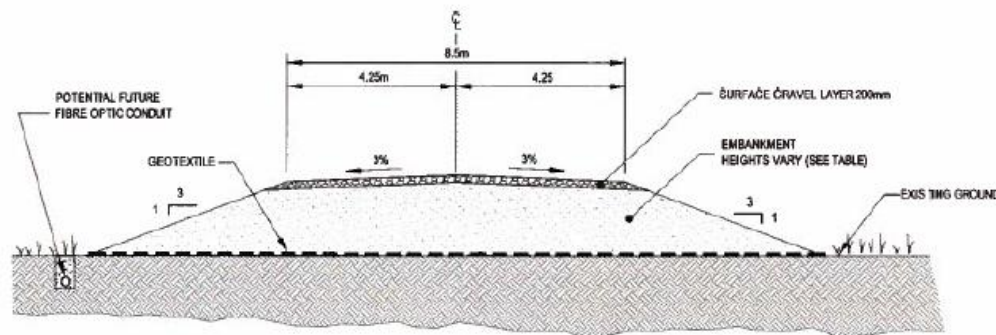
MVH Proposal

- Approximately 70% of route will follow the winter road alignment between Wrigley and Fort Good Hope
- Route will follow MGP Corridor between Fort Good Hope and Dempster Highway (~ 330 km)
- Designed for average of 100 vehicles per day with speed of 90 km /hr, some exceptions
- Cleared right of way - 60 m wide, Embankment between 1.5 and 2 m high, footprint may be as wide as 21 m

MVH Proposal

- 35 bridges on winter road system will be utilized
- Another 25 bridges/large culvert crossings required
- Approximately 30million m³ of granular material required from sources along route
- Support infrastructure includes
 - Camps, staging and maintenance areas
 - Access and haul roads, barge landings
- May also construct winter road between Dempster and Fort Good Hope in advance of all- weather road

MVH Proposal



TYPICAL HIGHWAY CROSS SECTION

TERRAIN TYPE	DESCRIPTION	EMBANKMENT HEIGHTS
1	DRY (ICE POOR) TILL AND OUTWASH DEPOSITS	1.4 m
2	WET (ICE-MEDIUM TO ICE-RICH) TILL AND OUTWASH DEPOSITS	1.4 to 1.6 m
3	WET SILTS AND CLAYS (ICE-RICH)	1.6 to 1.8 m
4	THICK ORGANIC PEATLANDS AND ICE-RICH PERMANENTLY FROZEN	1.8 m

MVH Proposal

- Primarily winter construction
- Summer construction may occur at water crossings, borrow sources and on completed embankment
- Overall project schedule depends on funding (at this time could range between 4 and 20 years to completion ?)
- Expect several construction spreads active at a time
- Operate as part of NWT Public Highway system when complete

MVH Project Phases



- Pre-construction 2010-2015
- Construction 2016- 2020
- Operation 2020

MVH Pre- Construction Phase



- LIDAR Surveys
- Geotechnical Investigations
- Detailed Design
- Land Tenure
- Community Engagement
- Environment Field programs
- Environmental Assessment
- Permitting

MVH – Construction Phase



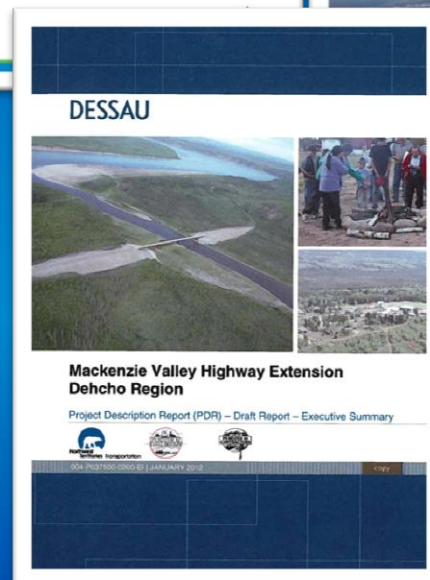
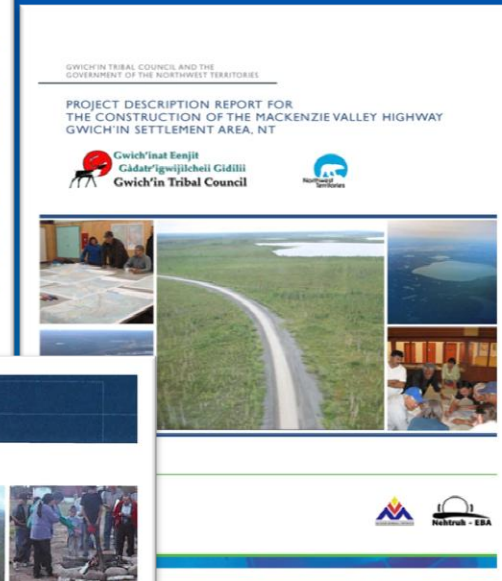
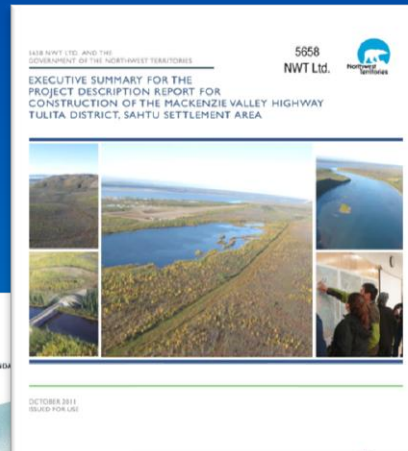
- Training
- Contracting
- Clearing of Right of Way
- FGH- Dempster Highway Winter Road
- Install Support Infrastructure/Pit Development
- Embankment Construction
- Construction of Water course crossings
- Permanent Maintenance Areas
- Progressive Reclamation

Work to Date - PDRs



- All work completed through partnerships with respective Aboriginal land claims organizations
- Information acquired from research, field work, and consultations
- Completed PDR includes:
 - Preliminary engineering and design information
 - Construction techniques
 - Impact Management/Mitigation Strategies
 - Consultation Results and Traditional Knowledge
 - Mapping Products

Work to Date - PDRs



Work to Date - Public Engagement

- Meetings and Open houses held in all regions between 2010 and 2012
- Led by Aboriginal organizations as part of preparation of PDRs
- Each community visited 2 or 3 times during that period
- Engagement will continue throughout EA stage



Work to Date - Public Engagement



➤ Concerns identified during engagement

- Local business, employment and training opportunities
- Potential social effects
- Potential reduction in cost of living
- Effects of increased access
- Effects on harvesting
- Effects to water, fish, wildlife and habitat
- Climate change and permafrost
- Avoidance of special areas
- Potential for contamination
- Learn from past experience, benefit from MGP review

Environmental Assessment

- Based on work done during PDRs, it is expected that the EA will focus on potential effects to:
 - Water quality, fish and fish habitat
 - Terrain and permafrost
 - Vegetation
 - Wildlife and wildlife habitat
 - Employment, training and business
 - Human health and well- being
 - Traditional land use and culture
 - Archaeological and historical resources
 - Tourism and other land uses

Next Steps

- GNWT working with MVEIRB and Parties to develop draft Terms of Reference for DAR
- GNWT will continue to engage Aboriginal organizations in completion of the EA and planning work
- GNWT seeking additional federal and industry funding to assist with EA, design and project implementation
- Future activities during EA stage:
 - Completion of LiDAR Survey
 - Geotechnical investigations
 - Environmental baseline data collection
 - Community Engagement
 - Confirmation of Design and Mitigations

Questions ?