The Arctic Bridge

CANADA'S NATION BUILDING OPPORTUNITY

Alex Chang, Julia Belza, Marshall Deng, Kathryn Morse 01 November, 2025



AGENDA

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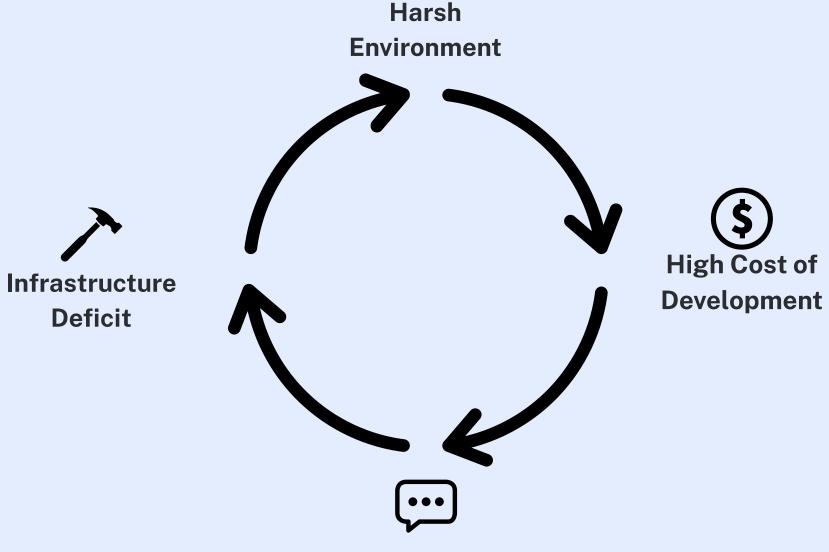
Global Connectivity

Financing

THE CHALLENGE

BREAKING THE ARCTIC INFRASTRUCTURE TRAP

Objective: Design a 20 year-plan for a Public-Private Partnership to advance vision in the North



- Silver lining:
 42% of surveyed Canadians support Arctic development,
 New Major Project's Office to fast track projects

Social, Cultural, and **Governance Challenges**

EXECUTIVE SUMMARY

STRATEGIC INFRASTRUCTURE UNLOCKING BILLIONS AND SECURING CANADA'S NORTHERN FUTURE

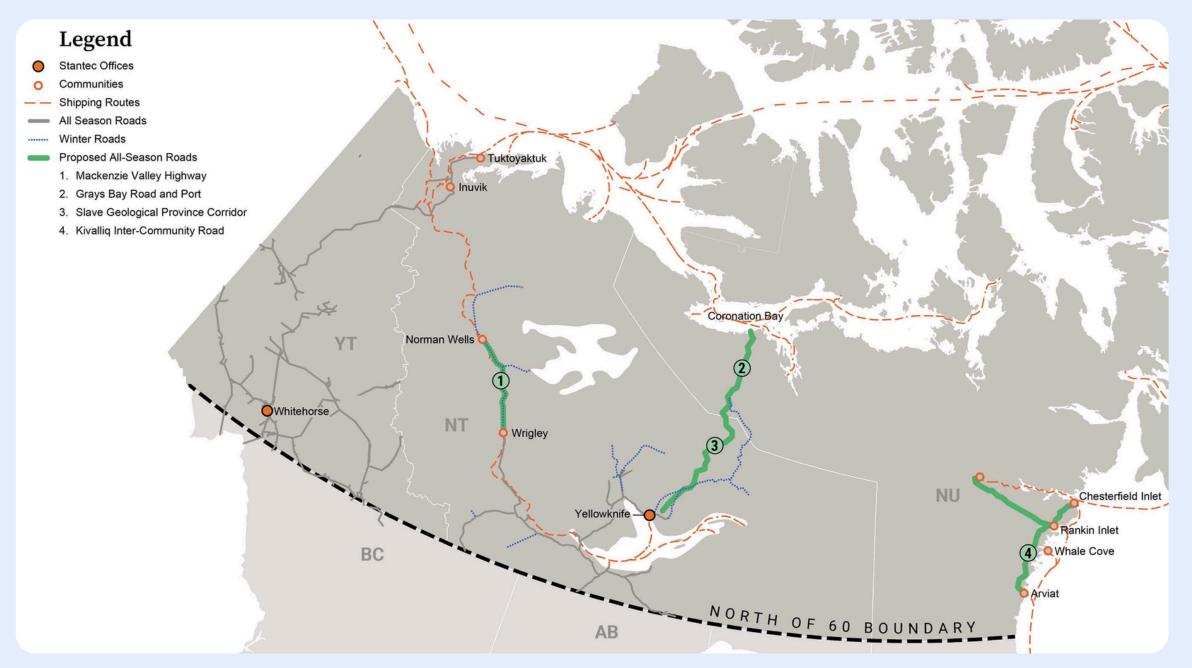
The Opportunity:
The North holds 25-35% of Canada's critical mineral potential but remains disconnected from the rest of the country
Conservative estimate of \$30B in targeted investment can enable long term nation building

Pillar	Focus	Why It Matters
1. Connect the North	Build Hydroads corridors linking the Northern communities to each other and arctic ports	Enables mining, electrifies communities, and replaces diesel
2. Secure the North	Dual-use ports, RCAF bases, and satellite coverage	Strengthens sovereignty, NORAD/NATO logistics, and trade
3. Empower the North	20-30% Indigenous equity, skills training, and shared governance	Creates intergenerational wealth and local resiliance
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NATIONAL CONNECTIVITY

CANADA'S HYDROADS VISION: THE CATALYST TO UNLOCKING NORTHERN PROSPERITY



Current proposed all-season road projects. Source: Stantec.

Hydroads Construction: Building Roads and Hydro Lines

- Expand and connect existing northern proposals, such as Kivalliq Hydro Fibre Link and the Grays Bay Road/Port Project, through shared corridors integrating *roads*, *hydro*, *and fibre*
- Build all-season gravel roads with overhead hydro and fibre lines for year-round access
- Deepen partnerships between engineering firms and Indigenous-owned corporations
- Shared right-of-way cuts costs up to 50% and halves environment disturbance

Three corridors. One system. Shared ROW powering Arctic prosperity

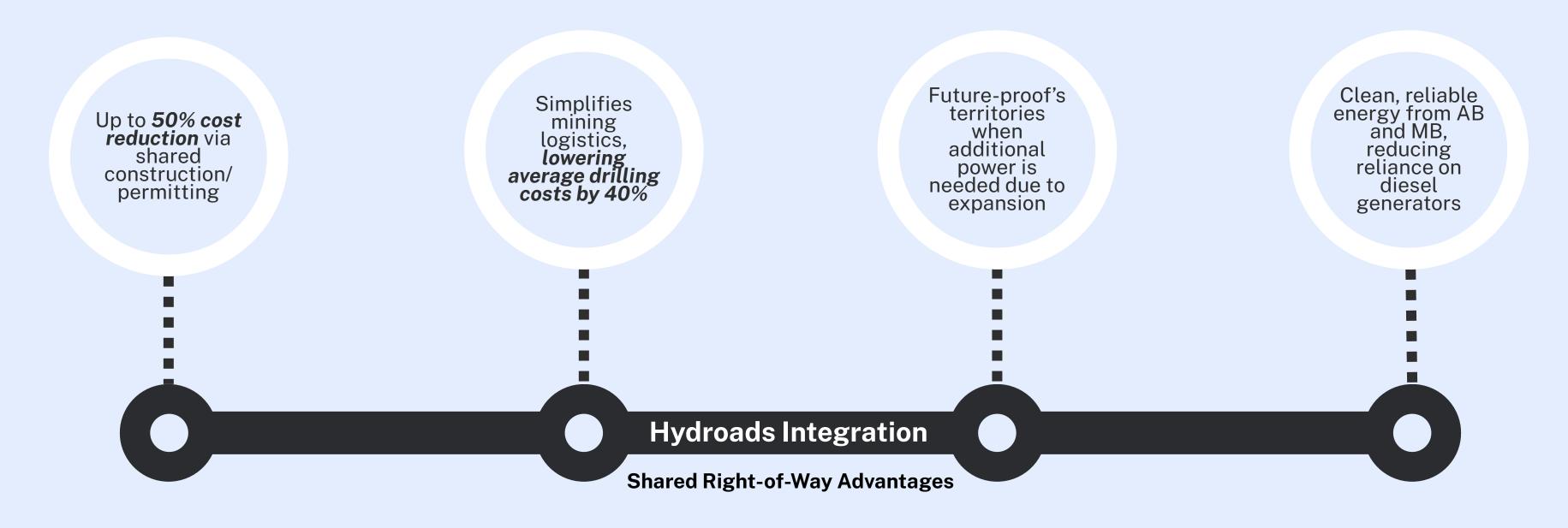
- Western: Inuvik through Wrigley down to Alberta
- *Central*: Grays Bay Port through Yellowknife down to Alberta
- *Eastern*: Baker Lake, NU through Hudson Bay coast and down to Churchill, Manitoba



Flowdown Effects

NATIONAL CONNECTIVITY

CANADA'S HYDROADS VISION: THE CATALYST TO UNLOCKING NORTHERN PROSPERITY





Flowdown Effects

GLOBAL CONNECTIVITY

SEA & AIRPORTS: CONNECTING ARCTIC MARKETS WHILE SECURING NATIONAL INTERESTS



Building Airports and Auxiliary Facilities

- Candidate airports: Inuvik, YT, and Rankin Inlet, NU
- New airfield at Grays Bay, NU
- Extend runway and upgrade airfield's climate resilience
- Construct warehouses, maintenance depot, and hangar

Enables Permanent Northern RCAF Squadrons

- Project Canadian soverignty over contested arctic territory
- Enhance combined-arms capabilities by supporting year-round air-operations
- Improve arctic surveillence and domain awareness

Reliable Access for the Public

- Accommodate larger aircraft and more frequent traffic
- Facilitate emergency medical response and evacuations
- Better connect workers and residents to rest of Canada

Improving Seaports and Auxiliary Facilities

- Candidate ports: Tuktoyaktuk, YT and Churchill. MB
- Dredge harbour to accommodate ships with deeper draft
- Improve connection with existing railroad and proposed road networks

Executive Summary

Strengthens RCN's Presence in the North

- Increase patrol and monitoring of Northwest Passage
- Enable vessels to be refueled and repaired within its area of operation
- Expand icebreaking and search and rescue capabilities in the Arctic

Unlocking Arctic Trade Potential

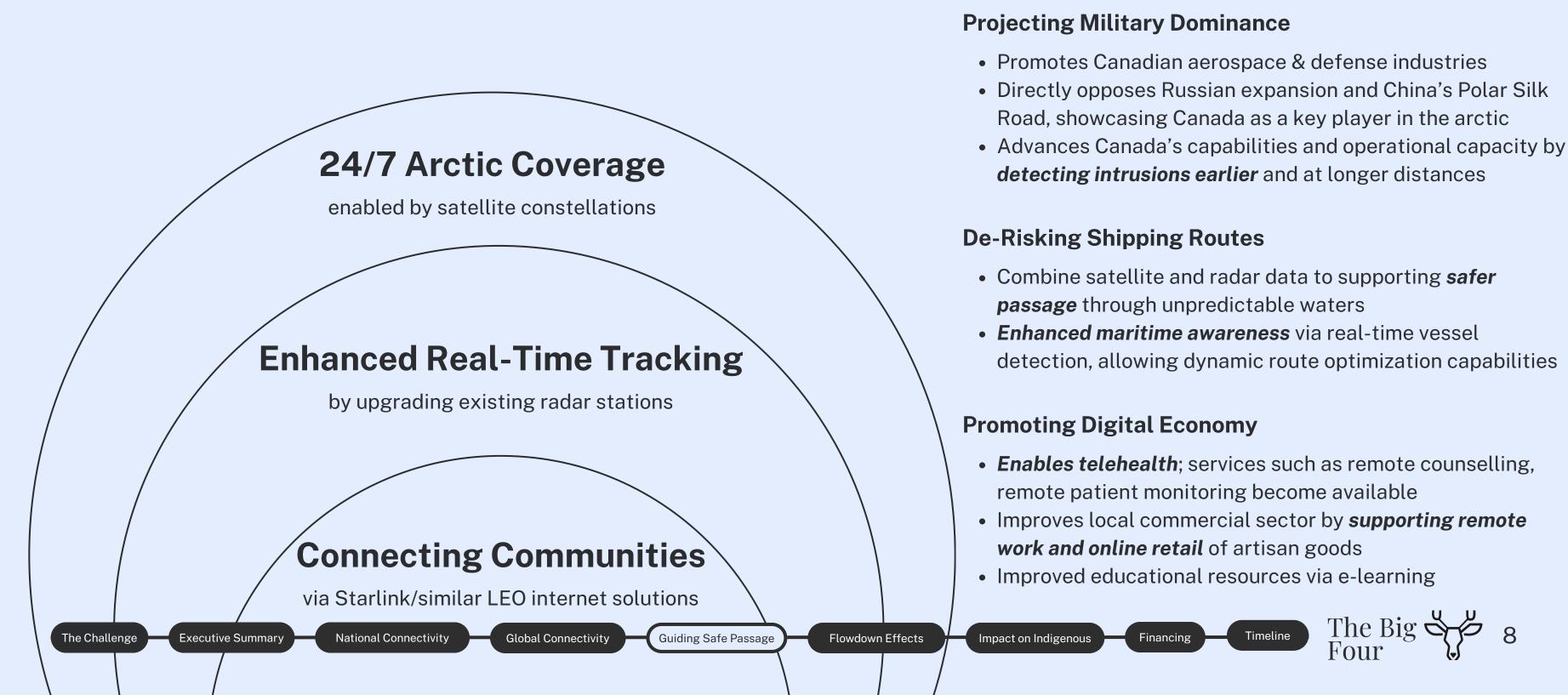
- Acts as key Arctic hubs to export bulk resources, improved efficiency
- Reduces wait times and congestion during short shipping season
- Open up possibilities for offshore oil and gas exploration



Global Connectivity

GUIDING SAFE PASSAGE

SATELLITE & RADAR: ENABLING COMMERCE, ENSURING SECURITY



FLOWDOWN EFFECTS

CAPITAL FOLLOWS INFRASTRUCTURE: PRIVATE INVESTMENT SCALES ARCTIC DEVELOPMENT



Promotes Arctic R&D

- Research into wildlife
- Space-related applications (harsh environment testing)
- Arctic-related defense projects
- Alternative energy sources (SMR's, MMR's, geothermal)



Datacenter Development

- Cold climate reduces cooling costs for datacenters
- Independence from southern energy grids improves redundancy
- Abundant land to develop on



Resource Processing

 Year-round access and sustainable power grids paves way for processing resources before export



Prospecting for Bulk Resources

• Expanded all-season roads makes previously uneconomic/unreachable resources viable



Upskilling in Local Communities

 Arctic research and AI development provide employment opportunities beyond mining and construction

Flowdown Effects

Keys to sucess: Improved accesibility, communications, and reliable energy attracts private investments

"As data centers grow, the need for efficient and scalable cooling systems becomes more pressing" - McKinsey Report



IMPACT ON INDIGENOUS COMMUNITIES

INDIGENOUS PARTNERSHIP & SHARED PROSPERITY: A FOUNDATION FOR NATION-BUILDING

Environmental Stewardship

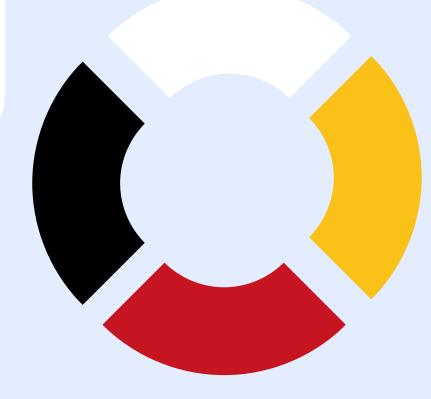
Designed to protect ecosystems while reducing carbon emissions for northern energy

- Road alignments avoid caribou migration corridors
- Hydroads reduce reliance on diesel
- Incorporates long-term permafrost and wildlife monitoring
- Potential for turning old mines into geothermal energy sources

Community Resilience

Local hiring, skills training, and revenue reinvestment strengthen self reliance across the northern communities

- Employment targets drawn from the Nunavut Land Claims Agreement and Yukon Umbrella Final Agreement
- On site training programs to be established in infrastructure, mining, and digital literacy
- Long term employment opportunities in maintenance, trades, and operations



Governance

Indigenous equity ownership and long-term buy-back options ensure shared control and generational weath

- Each project can include 20-30% equity financed through federal loan guarantees
- Federal loan repayment through tolls and energy revenues
- Appoint governance boards with Indigenous directors and environmental veto right

Dual Use Functionality

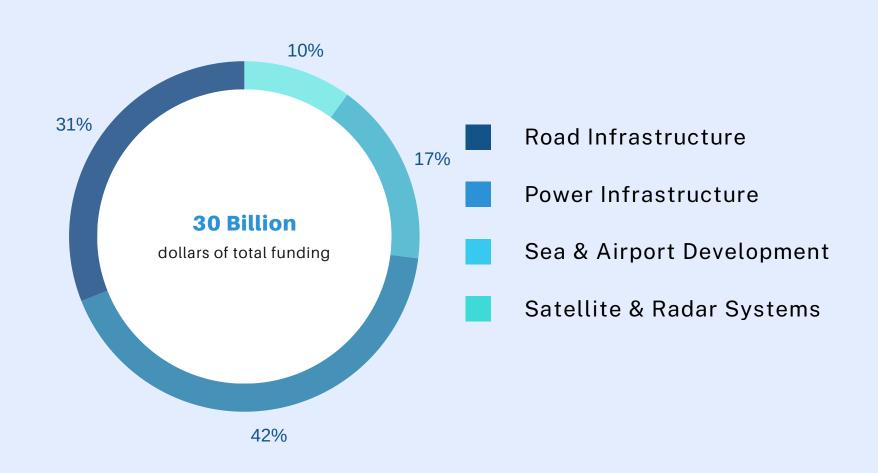
Infrastructure supports both civilian and security objectives while reducing logistics costs.

- Provides more dependable access for sovereignty, search and rescue, and emergency response
- Creates a permanent logistics and energy backbone for civil and defense operations
- Reduces dependence on seasonal fuel shipments and diesel generation
- Strengthens Canada's presence, connectivity, and resilience across the North



FINANCING THE PROJECT

STRATEGIC FINANCING: LEVERAGING PPP'S FOR NATION-BUILDING INFRASTRUCTURE



Tier	Source
Federal	Defense, tax incentives, CIB
Indigenous	Ownership stakes
Territorial	Government contribution
Private	Pension funds

Accessing mines could contribute \$500 billion to GDP - TD Economics

TIMELINE

TWO DECADES, ONE VISION: FORGING CANADA'S ARCTIC ADVANTAGE

Phase I: Establish Foundations

Phase II: Build out Hydroads and Broadband

Phase III: Expansion of Sea, Air, and Defence

Phase IV: Economic Sustainability, Spillover, and Innovation

2025-2028

2028-2035

2033-2040

2040-2045+

Regulatory alignment and pilot corridor project

Roads, hydro, and broadband construction

Transportation hubs and defence infrastructure upgrades

Flowdown Effects

Local ownership and sustainable operation paired with innovation unlocked by a completed network

Thank you!

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