

A map of Northern Canada and Greenland. The map shows the Arctic region with various geographical features labeled, including Baffin Bay, Foxe Basin, Hudson Strait, Hudson Bay, and Davis Strait. Several Canadian cities and towns are marked with green dots and labeled, such as White Pass, Prince Rupert, Minaret, Fort Nelson, Hay River, Yellowknife, Fort McMurray, and Schefferville. The map also shows the border between Canada and Greenland, with the name 'Kalaallit Nunaat (Grønland) Denmark' visible in the upper right corner. The text 'The Van Horne Institute Northern Transportation Conference 2013' is overlaid in large, bold, black letters across the center of the map.

The Van Horne Institute *Northern Transportation* Conference 2013

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THEME: Developing a new Northern Transportation Strategy

My objective:

- **To provide a brief overview of transportation in the North – its challenges & opportunities**
- **To provide input for today's discussion**
- **My comments are largely based on PROLOG Canada research, e.g. Northern Transportation Systems Assessment (2010) – for Transport Canada**
- **Discussion Paper pre-circulated**

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To put things in perspective:

- **Yukon, NWT & Nunavut make up almost 40% of Canada's land mass**
- **Nunavut alone accounts for over half of this northern area**
- **The North offers huge resource potential: diamonds, precious metals, base metals, oil & gas**

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Population patterns vary across the North:

- Yukon: 36,000 $\frac{3}{4}$ in Whitehorse
- NWT: 44,000 $\frac{1}{2}$ in Yellowknife
- Nunavut: 34,000 7,500 in Iqaluit

Noteworthy: Historically, the location of many northern communities came about, in part, as a means of establishing sovereignty

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Transportation development also varies:

- **Yukon:** Alaska Highway – B.C. to Alaska
Also, Dempster, Klondike, Robert Campbell Highways, etc.
Seasonal Canol Road & Highway 9 (Top of the World)
- **NWT:** Mackenzie Highway – Alberta to Wrigley
Other all-weather roads, west side GSL
Northern rail terminus, Hay River (MKNR)
- **Nunavut:** Virtually no land-based transport

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Otherwise the North is reliant on:

- **Winter roads**
- **Winter ice roads**
- **Summer sealift**
- **Mackenzie R. tug and barge**
- **Air transport**

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Road projects - status:

Yukon: Upgrades to N. Canol Road - underway
Highway 9 (Top of the World) – future paving program?

NWT: Deh Cho Bridge – completed 2012
Inuvik-Tuktoyaktuk all-weather road - under construction
Mackenzie Hwy extension - under study

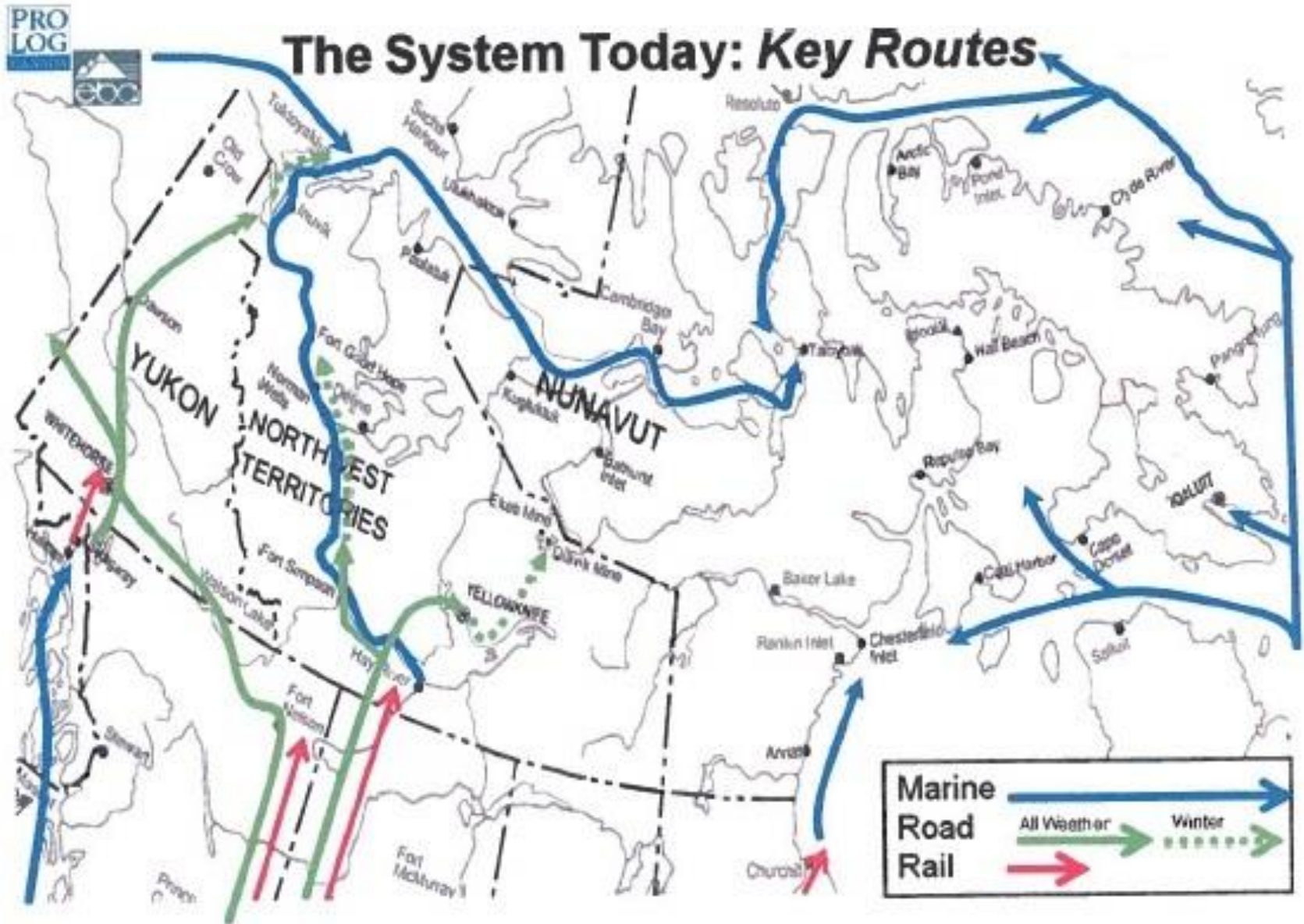
Nunavut: Proposed Churchill-Rankin Inlet all-weather road - under ongoing discussion
BIPR – Bathurst-Hackett-Contwoyto – in pre-feasibility

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Existing transportation systems:

- **Eastern Sealift:** To Kivalliq (W. Hudson Bay), Kitikmeot (Nunavut Arctic Coast) & Qikiqtaaluk (Baffin)
- **Western Sealift:** To NWT & Kitikmeot
- **Intermodal Systems:** Via Hudson Bay; Mackenzie Valley; Inside Passage
- **Truck Transport:** In Yukon & NWT – not Nunavut
- **Air Passenger & Cargo Systems:** From Southern Canadian Gateways to Regional Hubs to Community & Resource Airports

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Total Inbound Freight, 2009:

- For all three territories: 1.6 million tonnes
- Bulk fuel 43%; Community re-supply 40%
- 74% moved by truck – in Yukon & NWT, but not Nunavut

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Sealift volumes:

- **95% destined for Nunavut - Kitikmeot, Kivalliq & Quikiqtaaluk**
- **Mostly via beach landings**

Intermodal traffic:

- **80% via the Inside Passage and Hay River**
- **70% bulk fuel**

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Truck volumes:

- **Split between NWT & Yukon**
- **Community re-supply: 47%**
- **Bulk fuel: 37%**

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Air Transport:

- **Need varies across the North – depending on surface alternatives**
- **Financial viability of air service depends on:**
 - **Both passengers & main deck cargo – co-products**
 - **Cross-subsidization between mainline & community air services**
- **Government travel: Up to 2/3 of total pax**

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Government Airports & Aerodromes:

- Yukon 29 - 3 have scheduled service
 - NWT 27 - 2/3 have scheduled
 - Nunavut 26 - nearly all have scheduled
- 82**
- Only 10 have paved runways
 - New generation of aircraft – special requirements
 - New federal regulations

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Comparative passenger volumes:

| <u>Regional Hubs</u> | <u>E/D Pax</u> |
|----------------------|----------------|
| Whitehorse, YT | 229,731 |
| Yellowknife, NT | 463,936 |
| Rankin Inlet, NU | 56,000 |
| Iqaluit, NU | 128,645 |
| Cambridge Bay, NU | 17,000 |

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Air cargo volumes (tonnes):

Nutrition

| | <u>North</u> | <u>Cargo</u> | <u>Total</u> |
|---------|--------------|--------------|--------------|
| Nunavut | 10,385 | 6,923 | 17,308 |
| NWT | 1,020 | 680 | 1,700 |
| Yukon | 106 | 950 | <u>1,056</u> |
| | | | 20,064 |

- In addition, resource-related traffic, cargo & passenger
- Nutrition North - former Food Mail subsidy program

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Future transport demand – important drivers:

Population growth, 2006-2011:

- Yukon: High in-migration; above average birthrate
- Nunavut: Young population; high birth rate
- NWT: Flat growth

Resource development – for example:

- Nunavut: Baffin, Hackett River, Izok Lake, High Lake
- Yukon: Casino, Selwyn, Andrew
- NWT: Gahcho Kue, NICO, Prairie Creek

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PROLOG freight demand forecast (tonnes):

| | <u>2010</u> | <u>2020</u> | <u>2030</u> |
|-------------------|----------------|------------------|----------------|
| Community General | 443,557 | 474,226 | 503,737 |
| Resource General | 94,100 | 1,193,000 | 322,000 |
| Bulk Fuel | <u>718,986</u> | <u>1,233,712</u> | <u>908,614</u> |
| Total Inbound | 1,256,643 | 2,900,938 | 1,734,351 |
| Outbound | 112,000 | 19,556,600 | 18,820,600 |

Note: Initial 'Outbound' growth explained by new base metal mine development and consequent ore concentrate exports

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Important considerations:

Climate change and its effect:

- Arctic shipping – Longer season
- Winter roads – Shorter season?, e.g. TCWR
- Permafrost - Instability vis à vis road & airport construction - Gravel availability?

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Important considerations:

Northern native culture:

- **Preserve and protect**
- **Community connectivity; social interaction**
- **Northern living costs – transport component**
- **Birthright corporations**

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Important considerations:

Infrastructure funding:

- Federal funding
- Resource revenue - Devolution Agreements
- Public Private Partnerships (P3s)
- Government/industry cost sharing – joint use facilities
- Other, e.g. tax exempt bonds

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Historic policy initiatives:

- **Arctic Council, 1996, Canada, U.S., Russia, Iceland, Scandinavian countries**
- **Looking to the Future: A Plan for Investing in Canada's Transportation System, 2005, Council of the Federation**
- **Canada's Northern Strategy, 2007, Gov't of Canada**
- **Northern Connections, 2008, Yukon, NWT & Nunavut**
- **Let's Get Moving, 2008, Gov't of Nunavut**
- **Canadian Northern Economic Development Agency (CanNor), 2009**
- **White Paper, 2012, Van Horne Institute**

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- **Drafting a new Northern Transportation Strategy**
- **What do we have?**
 - **Population – Sparse, dispersed & growing fast**
 - **Road system – Developed in Yukon & NWT but not in Nunavut**
 - **Resource sector – Huge potential but requires better access**
 - **Native Culture – Needs to be protected - requires better community connectivity**
 - **Northern economy – Need more jobs - better access to those jobs**

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- **So what do we have (cont):**
 - **Quality of life – High cost-of-living – transportation costs a major factor**
 - **Climate change:**
 - **Positive: Opens up Arctic shipping**
 - **Negative: Causes permafrost degradation (roads, airports)**
 - **Arctic Sovereignty – Increased federal presence & enforcement require better access**
 - **Airports – Needed improvements Re: government regulation and a new generation of aircraft**
 - **Infrastructure funding – New and creative approaches**

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Thank you

Have a good discussion