alaska
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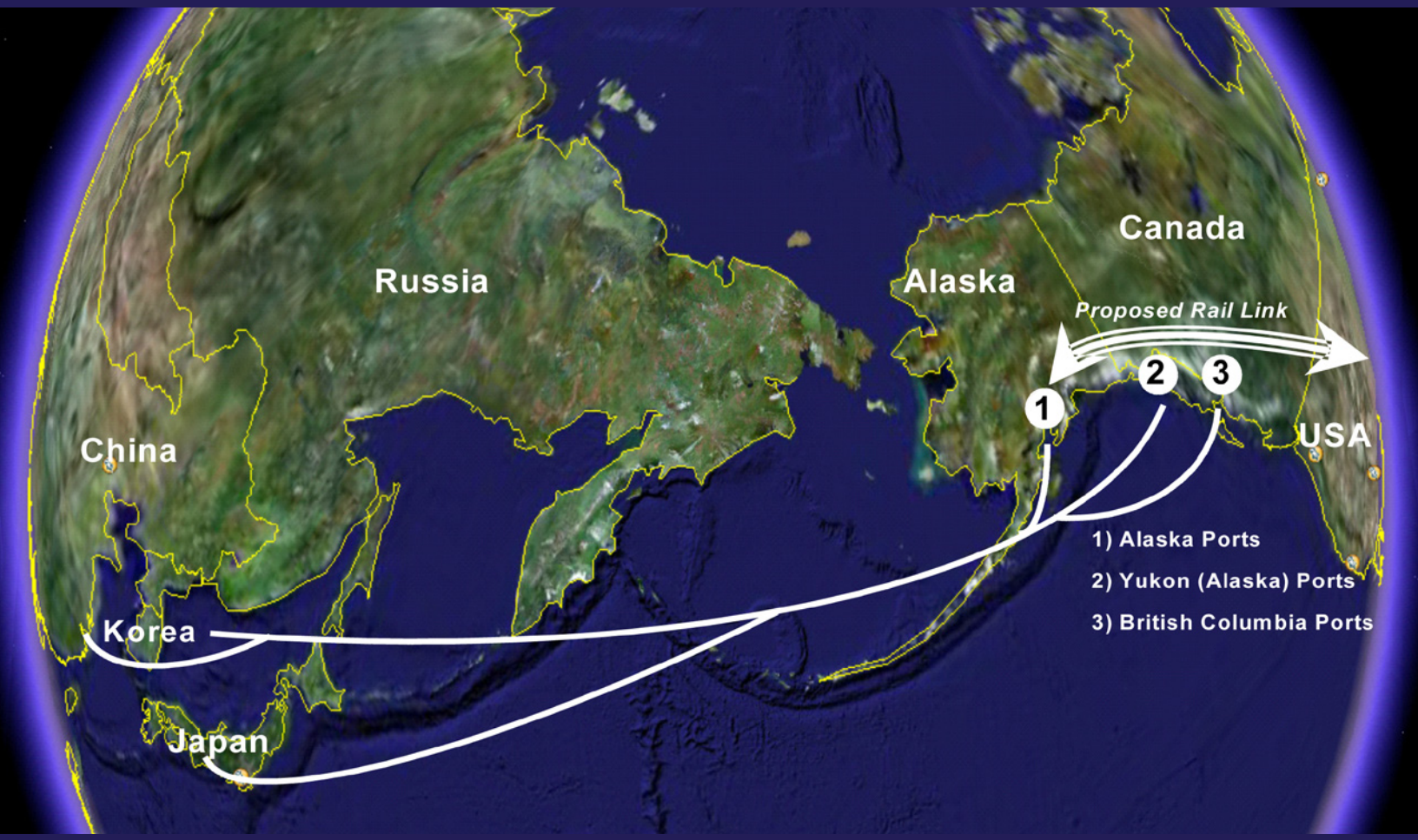
rail link

RAILS TO RESOURCES TO PORTS

The Alaska Canada Rail Link Project
Phase 1 Feasibility Study



Summary and Conclusions

White Pass & Yukon Route Yukon Container Train

Alaska Railroad Export Coal Train



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RAILS TO RESOURCES TO PORTS

The Alaska Canada Rail Link Project
Phase 1 Feasibility Study

Summary and Conclusions

Prepared for:
The Yukon Government
and
The State of Alaska

Prepared by:
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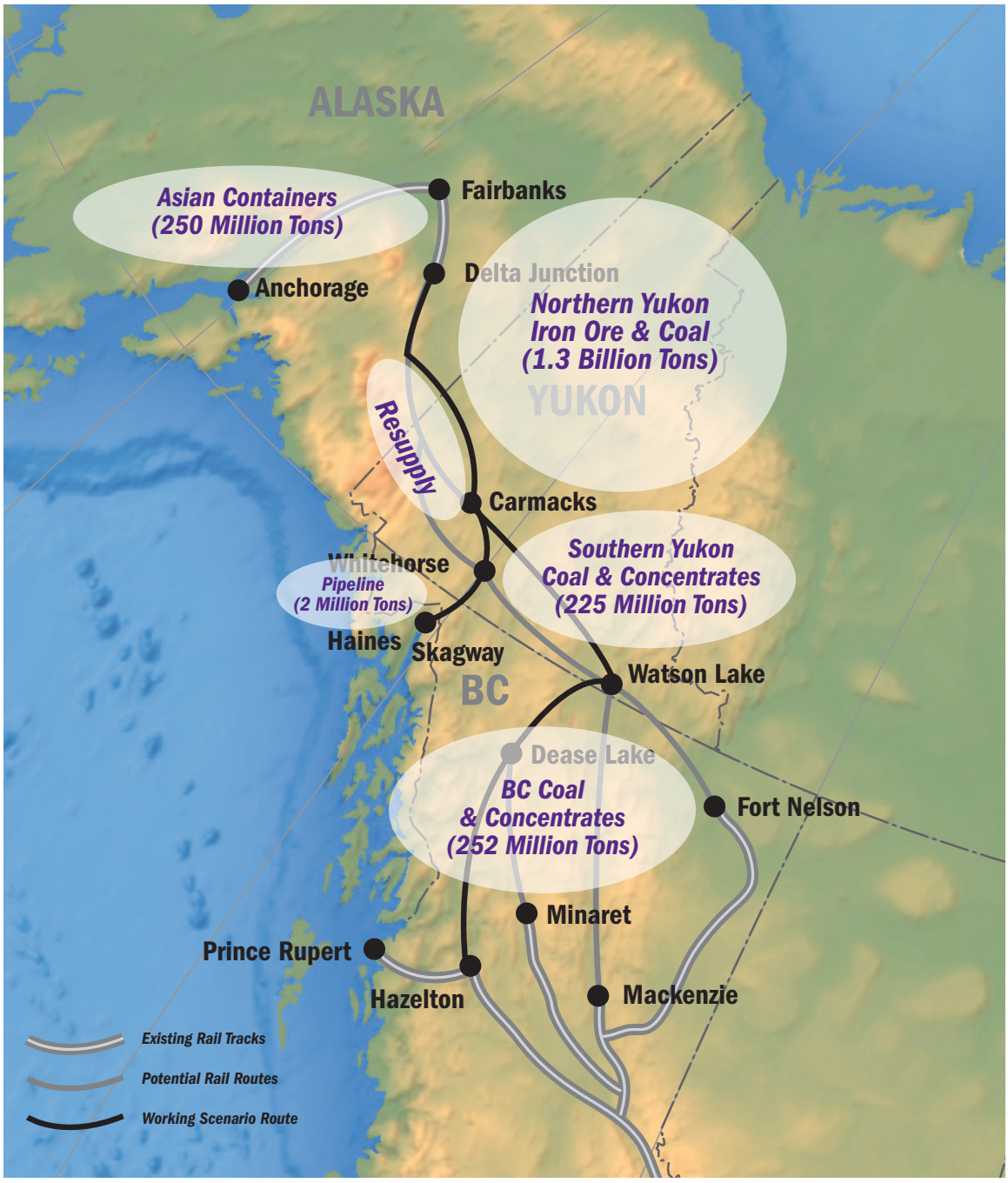
Long Range Markets and Route Options



Fifty year life-cycle sourcing for traffic geographically oriented to route options connecting the Alaska Railroad at Delta Junction to Skagway/Haines in Southeast Alaska and to the Canadian National Railway in Northern B.C.



Summary and Conclusions

The Alaska Canada Rail Link (ACRL) Phase 1 Feasibility Study considers a rail connection through Alaska, Yukon and Northern B.C. linking North Pacific Rim markets in the shortest trade corridor between North Asia and North America, via a U.S. port.

Mutually dependent economics of large-scale northern resource and railway development are compelling.

Drastic changes in global demand, driven by Asian markets, have sharply raised the value of mineral resources in northwestern Canada and Alaska. Rail infrastructure investment would dramatically increase economic productivity, development and sustainability in this region:

- Larger projects (e.g. iron ore and coal mines) can only be developed with heavy haul rail capacity;
- Smaller projects (e.g. mid-size base metal mines) may not survive severe price cycles with high cost trucking;
- Remote resource exploration and development will become more affordable with low cost rail access.

A new North Pacific Rim Trade Corridor may be well positioned to complement bulk mineral resource traffic for export to Asia with container import traffic from Asia. A rail connection through Canada would improve the economic security of Alaska and the lower 48 United States by providing both essential supply route redundancy as well as West Coast container congestion relief - with a new Alaska sea/rail port gateway on U.S. soil.

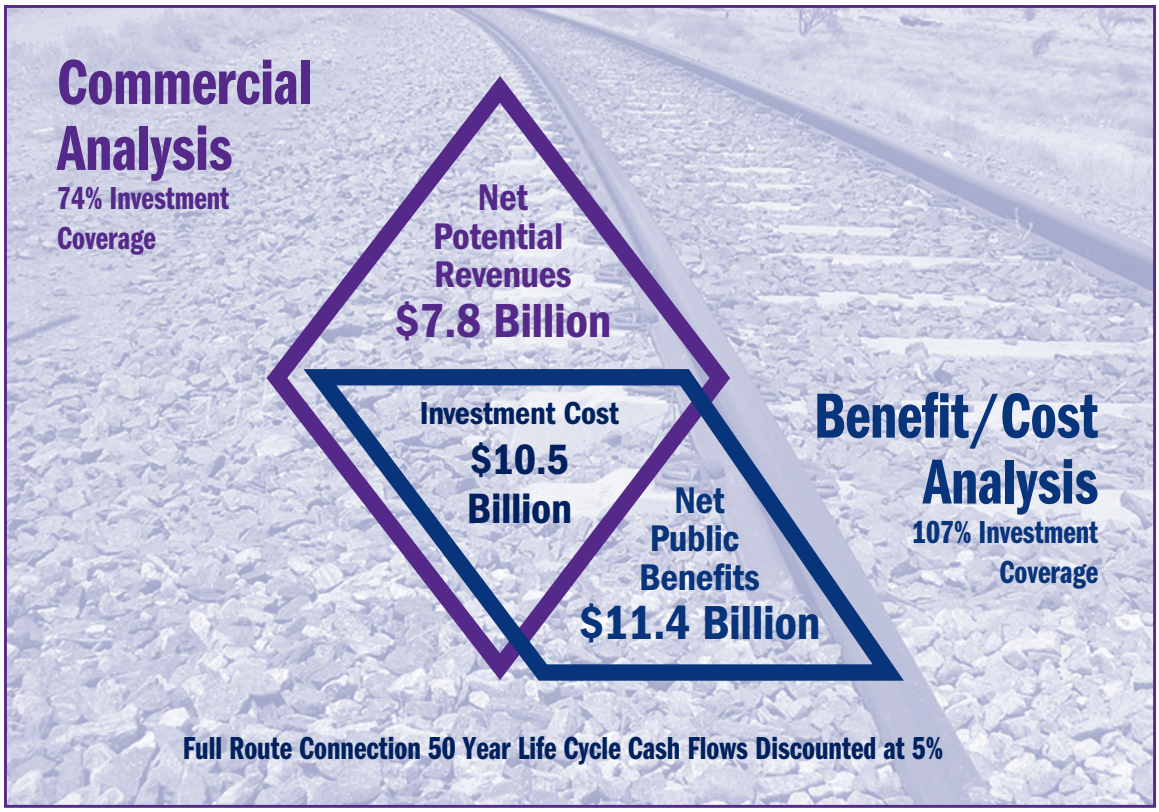
A preliminary working route scenario for a Canadian rail connection to an Alaska port gateway is based on the following key findings:

- Market-driven route selection, in conjunction with engineering constructability criteria, favours a Tintina Trench route between Delta Junction, Alaska and New Hazelton, B.C. connecting the most mineral shipping points to Alaska and Northern B.C. ports;
- A Tintina Trench route through Carmacks, Yukon supports the shortest Alaska Railroad connection to the Canadian National Railway (CNR) and Northern B.C. ports and can support Alaska Highway Gas Pipeline logistics from strategic distribution points in Yukon[1];
- While connection to an Alaska Inside Passage port would provide the shortest route to tidewater for much mineral export traffic, combined port and rail considerations suggest Anchorage-area ports might require less capital investment;
- Commercial analysis of all potential revenues supports the Business Case for public-private partnerships to invest in a full ACRL rail connection; and initial investment in a phased resource railway to Haines appears economically viable in the private sector.

As markets firm up traffic timing and demand for some or all track segments of the working route scenario, long-term commercial feasibility for a preliminary Business Case can be better tested for near-term bankability.

[1] *Watson Lake, Whitehorse, Beaver Creek (or Tetlin Junction); also the Fort Nelson railhead and along the Alaska Highway in Alaska.*

ACRL Business Case



Business Case Assessment		
(US$ billions discounted at 5% over 50 year project life cycle)		
	Commercial Revenue Analysis	Public Benefit/Cost Analysis
Nominal US$11 Billion Initial Investment	$10.5	$10.6
Total Commercial Revenues & Public Benefits	$11.7	$14.0
Ongoing Capital, Operating & Maintenance Costs*	$3.9	$2.6
Net Commercial Revenues	$7.8	
Net Public Benefits		$11.4
Investment Coverage	74%	107%
*different methodologies with marginally different results		



Results of the study research and analysis provide a preliminary outlook on the (a) *market,* (b) *technical,* (c) *economic,* and (d) *environmental* feasibility of connecting the Alaska Railroad to the Canadian National Railway. These results are summarized below:

(a) Market Research forecasts rail traffic that can build incrementally:

- With a low level forecast for 9 million tons per year of Alaska & Yukon Inbound Resupply and Yukon coal & concentrate exports (exceeds current Alaska Railroad traffic);
- With a mid level forecast for 14 million tons per year that adds Container Bridge Traffic between North Asia and Mid-America (exceeds former B.C. Rail traffic levels);
- With a high level forecast for some 50 million tons/$1 billion revenues annually, with iron ore exports (equivalent to Canadian Pacific Railway U.S. subsidiary Soo Line).

(b) Technical Route Research and Engineering Estimates set out working scenarios:

- For a full route connection between the Canadian National Railway and the Alaska Railroad paralleling the Cassiar, Robert Campbell and Alaska Highways;
- For optional phasing of initial resource railway segments radiating from Carmacks, Yukon to Prince Rupert Port, Cook Inlet Ports or Skagway/Haines;
- For full route construction costing $7 billion USD (baseline conceptual estimate raised to $11 billion USD with contingencies and allowances) or an initial phase less than half the full investment cost.

(c) Business Case Assessment predicts financial capacity to recover full system cost:

- With a five percent discount rate, net commercial revenues from shippers recover 74 percent, and net economic benefits to the public exceed 100 percent, of total investment;
- With discounted commercial net revenues plus public net benefits there is a combined business case value of almost $20 billion for a public-private partnership;
- With a phased investment option, resource revenues can cover both capital and operating costs of an initial ports access segment to closest tidewater that maximizes mineral export potential.

(d) Strategic Environmental Assessment previews policy level sustainability impacts:

- Bio-Physical impact mitigation will be critical, however trade-offs may favor rail over road in more wilderness routings, and away from existing transportation corridors;
- Socio-Cultural impacts pose largely positive, but some negative, aspects of increased prosperity; and where most Yukon First Nation land claims are settled, more expeditious project approval may be achieved;
- Economic Impacts combined for Alaska and Canada comprise 50-year life-cycle additional economic output (GDP) of $170 billion USD and over 25,000 new jobs.

Rails or Trucks to Resources

Continuous rotary rail car dumper and coal transfer at Prince Rupert

Concentrate truck hauls to Skagway and Stewart/Hyder



The ACRL Project Office has developed a data base application that together, with a financial model developed by Macquarie North America, allows scenario evaluation to update the Business Case Assessment. Ongoing evolutionary evaluation must continue to provide strategic direction that cannot be finalized at the current stage of study, including:

- Narrow, versus standard gauge rail upgrade for Skagway port access followed, or precluded, by new construction for higher capacity rail/port access at Haines;
- Skagway and/or Haines ports access followed, or precluded, by Cook Inlet ports access with an Alaska Railroad extension to Carmacks, Ross River or New Hazelton;
- Northern B.C. ports access via the Dease Lake extension from Prince George followed, or precluded, by an ACRL shortcut (600 miles shorter) to a New Hazelton CNR connection.

In summary, a *Rails to Resources to Ports* northern infrastructure investment program will:

- Be critical to the long-term sustainability of larger mines;
- Allow smaller mines to survive future market downturns;
- Better integrate Asian manufacturing with resource *and* finished goods supply chains;
- Ensure economic security with a continental rail connection to the Alaska Railroad;
- Provide shipper and government policy incentives for private-public partnerships;
- Offer a socially and environmentally attractive northern logistics solution.

If the full traffic potential identified to date is realized, the Alaska Canada Rail Link Project will show a strong revenue position in the North American rail industry context and can be an attractive investment from either a strategic economic security or supply chain perspective.

The preliminary Business Case has demonstrated revenue adequacy to cover the capital and operating costs for initial investment in a regional resource rail link to tidewater – or for a private-public partnership to complete a continental connection to the Alaska Railroad through Canada.

Completion of the ACRL Phase 1 Feasibility Study marks the start of a new stage for the Alaska Canada Rail Link Project. The project is now well positioned to attract a multi-lateral combination of railway, supply chain and strategic interests that can collaboratively move this joint Yukon/Alaska initiative forward.

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Alaska Legislature – Senate	John Cowdery, Chair of Rules Committee
Alaska Legislature – House	John Coghill, Representative, North Pole
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Yukon Economic Development	Jim Kenyon, Minister
Council of Yukon First Nations	Andy Carvil, Grand Chief
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