THE BOSTON CONSULTING GROUP

ALASKA CANADA RAIL LINK
ASSESSING DEMAND FOR EXPANDING PORT IN ANCHORAGE
Results of a "Best Effort" Review of GHK Report
December 2006

INTRODUCTION

Our Mandate

We were asked to provide a second opinion of the potential of an ACRL port project based on:

- The GHK November report
- Publicly and readily available data
- ACRL and BCG data

We tested various demand and supply scenarios for the need for an additional container port of substantial size on the west coast of North America through 2025 by

- Revisiting the assumptions of the GHK analysis
- Adding yours and our assumptions
- Building an analytical model of container flows from Asia to North America (west coast primarily and then time permitting east and gulf coasts through the Panama and Suez canals)
- Testing the demand predictions of the analytical model to inputs and changes of assumptions provided by ACRL and ourselves

We sought to determine under what set of reasonable assumptions a 500,000 TEU or greater size port in Alaska could be required

We also reviewed our previous client work involving ports and shipping lines seeking relevant data and analysis on strategies for the positioning of ports and marketing ports to shipping lines and customers

Outline of This Document

- Potential needs for additional Pacific port capacity in North America
- What are the potential limitations of the Panama Canal serving as a "relief valve" for the west Coast of North America?
- What is the potential "freed capacity" available to liner companies through shorter distances to Anchorage?
- What may be required to "sell" Anchorage to the shippers?
- What are the risks to ACRL?

POTENTIAL PORT SUPPLY & DEMAND SCENARIOS FOR THE WEST COAST OF NORTH AMERICA

Pacific Port Capacity: Key Messages

Mid and high-point Pacific container traffic demand scenarios imply 2025 west coast port bottlenecks

- 2025 capacity ~63M TEUs based on current port expansion, productivity growth and 8M TEUs new capacity in Prince Rupert/Punta Colonet
- GHK 2025 demand scenario of 59.8M TEUs (6% until 2010, then 5% 2010-2015, thereafter 4.5%)
- However, recetn conatiner flows from Asia to North America have far exceeded these numbers and have actual increased at a faster rate in the last few years
- 6% future growth scenario implies 72M, with 9% growth implying 126M

If completed, expanded Panama Canal could accommodate 94% of world wide container ship TEU capacity in 2015 and provide relief valve for Pacific ports

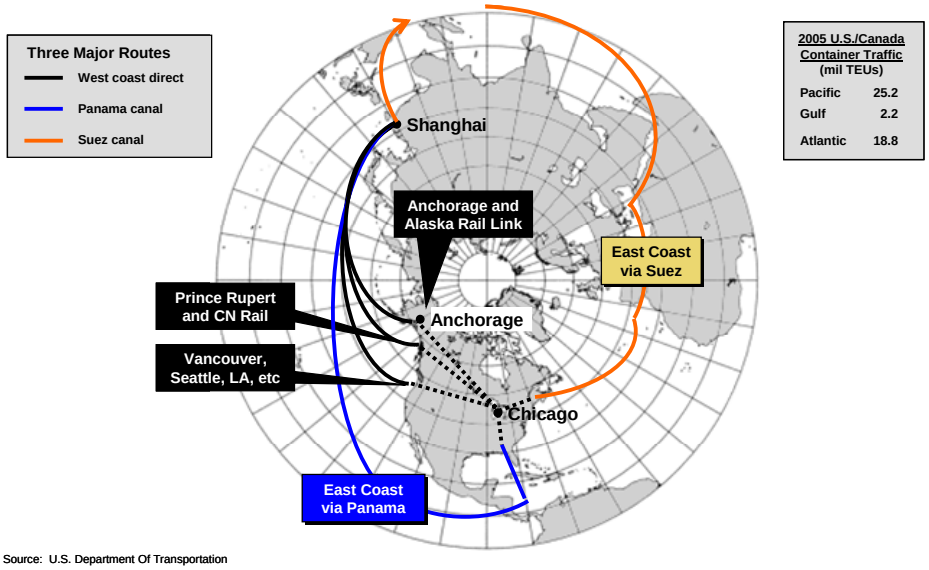
- ***If the expansion is delayed***, 74% of world wide container ship capacity will be unable to use the canal
- These are likely to be the primary ships in use for trans Pacific trade since they are lower operating cost per TEU than those that will be able to still navigate Panama

Scenarios and implications:

- Low container growth and/or 'good news' on Panama expansion and current port expansion/productivity → demand for an Alaskan port may not exist
- Higher (i.e., > 6%) container growth and/or 'bad news' on Panama/port expansion/productivity → window for new port investment opens
  - port "winners" will be based competitiveness as indicate dby their relative position on supply curve of new and existing port TEU capacity
  - The potential of Anchorage on this supply curve needs to be determined and must consider the recovery of the railway capital costs

Three Major Routes to Ship from Asia to North America

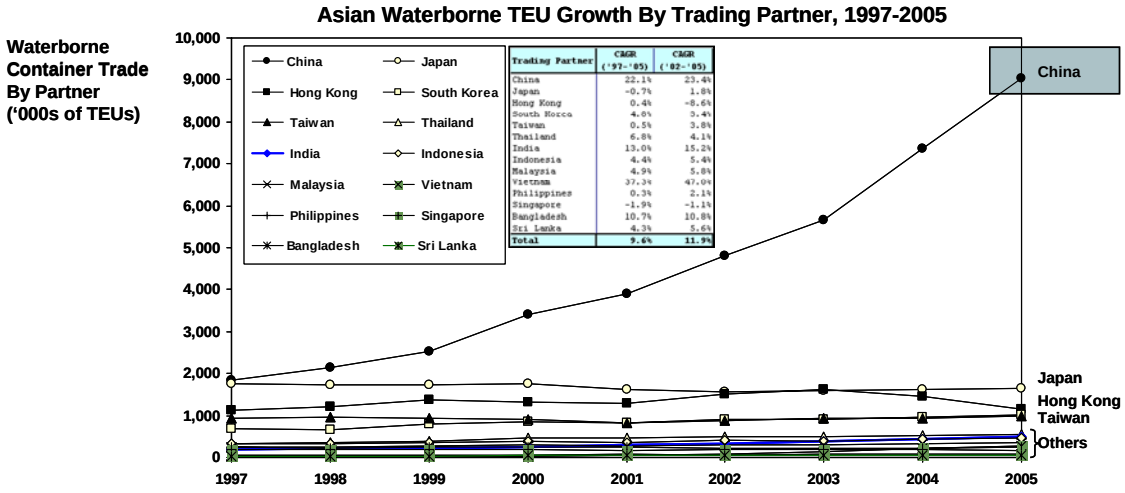
Shanghai – Chicago options with various sea / land length / bottleneck trade-offs



Source: U.S. Department Of Transportation

China Driving Growth and the Clear Leader in Asian Waterborne Container Trade to the U.S.

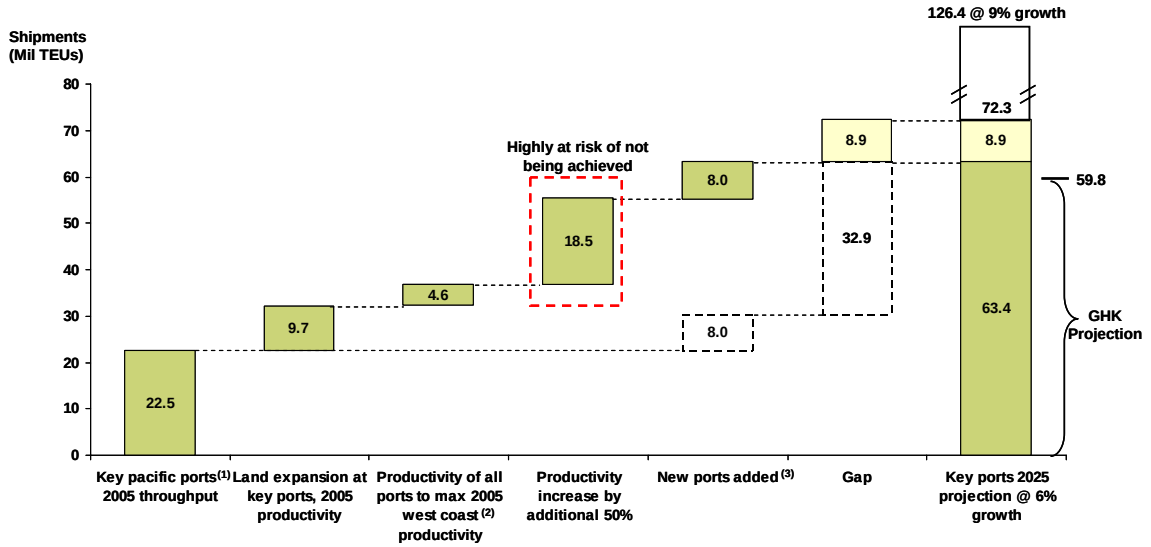
Overall annual Asian container growth ~10%



Source: U.S. Department Of Transportation – Maritime Administration; BCG Analysis

2025 Capacity Gap `9m TEUs Even With Optimistic Expansion

Assuming 6% growth in TEUs from 2005 levels for key pacific coast ports



(1) Vancouver, Long Beach, Los Angeles, Oakland, Seattle, Portland, Tacoma
(2) Vancouver productivity was highest at 5,438 TEUs/Acre
(3) Prince Rupert at 2M TEUs and Punta Colonet at 6M TEUs
Source: AAPA; BCG Analysis

Demand Sensitivities for North American Ports

Assumptions displayed to reach 72.3M TEU demand in 2025

Total Demand (U.S. & Canada)

Current Volumes		
2005 Total TEUs to West Coast	25,151,036	
2005 Total TEUs Gulf & East Coast	20,976,130	
2005 Total TEUs	46,127,166	
Key Pacific Ports Total	22,549,201	Vancouver, Long Beach, LA, Oakland, Seattle, Portland, Tacoma

Growth Rates							GHK Projections
Total TEU Growth Rate	4%	5%	6%	7%	8%	9%	6% 2005-10; 5% 2010-15; 4.5% thereafter
Projections By Region							
Projected Total West-Coast TEUs							
2015	37,229,678	40,968,388	45,041,676	49,475,896	54,299,201	59,541,650	42,956,779
2025	55,109,018	66,733,187	80,662,781	97,326,575	117,227,903	140,956,740	66,710,564
2050	146,911,623	225,982,259	346,194,229	528,233,431	802,832,388	1,215,481,337	200,494,228
Projected Total Gulf & East Coast TEUs							
2015	31,049,796	34,167,905	37,565,053	41,263,222	45,285,891	49,658,127	35,026,236
2025	45,961,283	55,655,917	67,273,289	81,171,003	97,768,841	117,558,847	55,637,049
2050	122,525,258	188,470,688	288,728,261	440,550,151	669,567,485	1,013,719,419	167,213,503
Projected Total TEUs							
2015	68,279,474	75,136,293	82,606,729	90,739,117	99,585,092	109,199,778	78,783,015
2025	101,070,301	122,389,104	147,936,071	178,497,578	214,996,745	258,515,587	122,347,613
2050	269,436,881	414,452,947	634,922,491	968,783,582	1,472,399,872	2,229,200,756	367,707,732
Key Pacific Ports Total TEUs							
2015	33,378,326	36,730,272	40,382,185	44,357,691	48,682,034	53,382,159	38,512,967
2025	49,408,076	59,829,743	72,318,342	87,258,293	105,100,859	126,374,985	59,809,460
2050	131,713,845	202,604,747	310,380,976	473,588,506	719,780,629	1,089,741,688	179,753,413

2025 Demand Scenarios Have Wide Range of Potential Outcomes

Current and Potential Capacity of West Coast Ports

Port	Current area	Master plan area	2004 Throughput	2004 Productivity (TEU's/acre)	Capacity at 2004 productivity			BCG Assessment of Political/ environmental barriers
					Current land	Masterplan land	Difference	
Vancouver	325	710	1,539,058	4,736	1,539,058	3,362,250	1,823,192	Very High
Seattle	464	464	1,775,858	3,827	1,775,858	1,775,858	0	Medium
Tacoma	456	828	1,127,261	2,472	1,127,261	2,046,869	919,608	Medium
Portland	200	200	274,609	1,373	274,609	274,609	0	Medium
Oakland	674	764	2,043,122	3,031	2,043,122	2,315,942	272,820	Very High
Long Beach	1,262	1,885	5,779,852	4,580	5,779,852	8,633,139	2,853,287	Very High
Los Angeles	1,477	1,941	7,321,440	4,957	7,321,440	9,621,473	2,300,033	Very High
Total	4,858	6,792	19,861,200	4,088	19,861,200	27,768,067	7,906,867	

Asian port productivity: ~6000 TEU's/acre

Gap between available land and used land

Source: Moffat & Nichol, BCG Analyses

Only Limited West Coast Capacity Will Come Available

Los Angeles/ Long Beach	LA/LB: >11M TEUs in 2004; expected to grow by 1.5M TEUs in 2005 Portside capacity exists in berths and quay cranes; operation density increasing (~4800 TEU/gross acre/year) Roads, rail, labor and trucking all constrained
Mexico	Ensenada: small maritime capacity with poor road connections Manzanillo and Lazaro Cardenas: small with limited labour pool and poor inland connections Punta Colonet: development is many years off and will be high cost
Other Southern California	San Diego: residents oppose container trade Hueneme: focused on refrigerated trade, and has inferior inland connections
Northern California	San Francisco: poor inland logistics and negative attitude toward commercial freight Oakland (1.5-2M TEUs): current capacity can be expanded by additional 1M TEUs; ultimately plans to allow up to 6M TEUs after significantly increasing road and rail infrastructure and remodeling terminals
Pacific Northwest	Seattle (1.5-2M TEUs): no expansion room; current focus is on densification and increased utilization Tacoma (1.5-2M TEUs): could accommodate a second terminal but face challenges from First Nations Portland and Vancouver USA: situated on the Columbia and are more expensive for shippers
British Columbia	Vancouver (1.5-2M TEUs): building another Deltaport pod over the next several years; longer term rail service issues Fraser Surrey Docks: some new capacity coming on stream, but limited

Port of Prince Rupert Converting to a 2M TEU Container Port

500K TEU capacity facility expected to be operational by 2007. Plans beyond this are still indeterminate.

Current perspective of Fairview Terminal & construction (Sep 2006)

Artist's rendering of Fairview Terminal as container facility

A New Port in Mexico: Punta Colonet

Port status & characteristics

Operations are expected to begin by 2011, the year that Los Angeles & Long Beach are expected to reach their saturation point

Portions of property have been sold to Ruffo & Hutchinson

Capabilities
- **Could process 1M TEU in 7 years**
- **Expected capacity of 6M TEU by 2025**

Requirements
- **Needs investment of ~$5B for port & rail line with additional infrastructure & city development increasing it up to $20-25B**
- **Dredge harbor**
- **Build a breakwater, 10 to 20 berths, housing, roads**
- **Lay 180-mile rail line to the border**
  - **Under study by Union Pacific, meeting opposition from locals**
- **Considering construction of airport specializing in cargo service**

Biggest Obstacle
- **Determining how port will be governed**
- **Competition for developers & operators has been delayed indefinitely by a dispute involving a claim to mineral rights at the site & by the presidential election dispute**

Potential New Pacific Coast Ports

Puerto Colonet, up to 1 Mil TEUs by 2012 and 6 Mil TEUs by 2025

- 27,000 acres of undeveloped land in the region
- harbor would have to be dredged, a breakwater, 10 to 20 berths, roads, housing and public buildings are planned
- the government also wants a 180-mile rail line to the border.

Port of Lazaro Cardenas, by Hutchison Whampoa Ltd up to 2.2 Mil TEUs

- handled 160,000 TEU in 2005
- access to road and rail (Kansas City Southern Railway)

Port of Guaymas, up to 300,000 TEUs

Ensenada, capacity of up to 200,000 TEUs, with plans to grow to 400,000 TEUs

- 68,000 TEUs shipped through Ensenada in 2005, up 75% from 2004 and new contracts signed with Hanjin, CP Ships, Maersk
- closest port to the U.S., but no railroad

El Sauzal

East Coast a Growing Alternative for Imports, But These Ports are Quickly Reaching Capacity to Provide Relief for the West Coast Due to the Panama Canal Capacity Constraints

East Coast Share Of Imports Growing...

Table 8.4
US imports in the eastbound transpacific trade by entry port region
(% of loaded volumes)

	WCNA	USG	ECNA
1990	82.2%	0.2%	17.6%
1991	83.5%	0.2%	16.3%
1992	83.2%	0.2%	16.6%
1993	82.9%	0.3%	16.9%
1994	84.3%	0.1%	15.5%
1995	83.8%	0.1%	16.1%
1996	84.4%	0.1%	15.5%
1997	84.8%	0.1%	15.1%
1998	83.9%	0.1%	16.0%
1999	83.7%	0.1%	16.2%
2000	84.0%	0.1%	16.0%
2001	82.8%	0.0%	17.1%
2002	79.8%	0.2%	20.0%
2003	79.1%	0.4%	20.5%
2004	77.8%	0.7%	21.5%

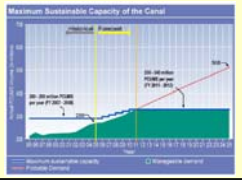
Source: Drewry Shipping Consultants Ltd, derived from PIERS

...But Panama Portion Reaching Capacity

Pacific container ships growing in size
- **Maximum size of Panama ship is ~5,000 TEU**
- **28% of today's fleet cannot cross Panama Canal**
- **56% of the fleet on order cannot cross Panama Canal**

In Feb 2005 the Panama Maritime VII conference was told that the canal was operating at 93% effective capacity

Drewry estimates that only 1.4M TEUs of additional capacity are available for eastbound cargo due to the limited cargo slots still unused



The Panama Canal as a relief valve for Pacific ports will soon be tapped out, leaving the Suez and larger west coast ports to handle growth

Source: Panama Canal Authority; Drewry Shipping Consultants

TO WHAT EXTENT IS THE PANAMA CANAL / EAST COAST A DEMAND OUTLET FOR WEST COAST

In the short term, the evolution of the containership fleet to larger average sizes will limit available shipping routes from the Far East

- Currently 28% of ships – representing 54% of TEU capacity – cannot cross the Panama Canal(1)
- By 2015, the proportion of ships that cannot cross the canal is projected to increase to 47%, representing 74% of capacity
- However, if expansion is completed on schedule, only 2% of ships in 2015, representing 6% of TEU capacity, will not be able to cross the expanded canal

Thus, ACRL's capacity viability as an alternative to the canal is dependent upon two things:

- Difficulties with the completion of the Panama Canal expansion in a timely manner and at specified dimensions and at capital costs low enough not to price the expaned canal out of the market
- Continued growth of containership sizes beyond the dimensions of the expanded Panama Canal

Impact of Suez Canal port supply scenarios and expanded Panama Canal (number of slots) capacity not considered at this time

(1) Includes worldwide fleet; however, preliminary analysis indicates that 29% of trans-Pacific ships, representing 55% of TEU capacity, cannot navigate the Panama Canal
Note: Includes all containerships greater than 500 TEU; does not include multipurpose ships capable of transporting containers
Source: www.containership-info.net.tc; Deutsche Bank; Drewry Shipping Consultants; MDS Transmodal; BCG analysis

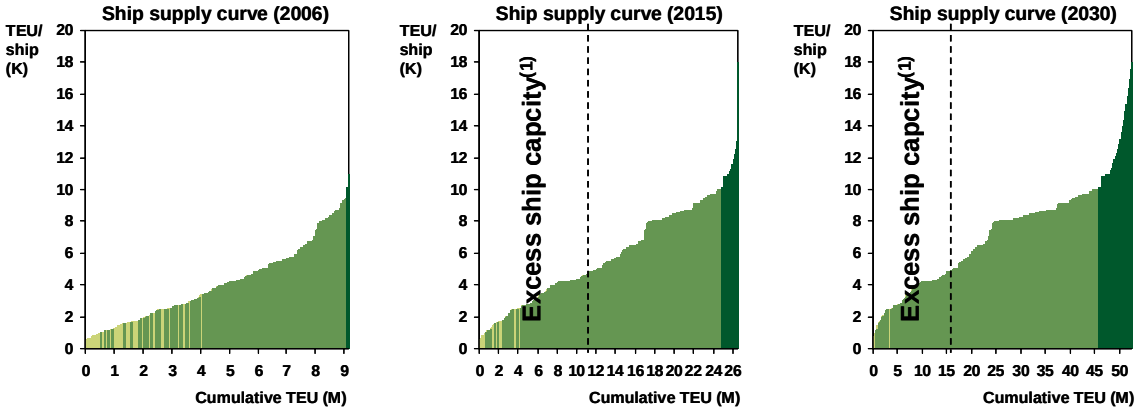
Canal Limitations

Panama Canal	Suez Canal	Nicaragua Canal
Current: Width – 32.3m Draft – 12.0m Height – 57.9m Length – 294.1m Approximate TEU – 5,000	**Current:** Width – 74.7m Draft – 17.7m Height – 68.0m Length – No restrictions Approximate TEU – 12,000	
Proposed (by Q1 2015): Width -- 49m Draft – 15m Height – N/A Length – 366m Approximate TEU – 12,000	**Proposed (by Q4 2006):** Approximate TEU – 18,000	**Proposed (indefinite):** Width – 64.0m Draft – 18.3m Height – N/A Length – N/A Approximate TEU – 23,000

Source: Dominion Shipping, *Hindu Business Line*, Panama Canal Authority, Solent Waters, *USA Today*

Only 26% of Containership Fleet Capacity Able to Navigate Panama Canal Before Expansion in 2015

However, expanded canal to accommodate most traffic through 2030



Category	% of total TEU
Navigates '06 Panama Canal	46%
Cannot navigate '06 Panama Canal	53%
Cannot navigate new Panama Canal	1%

% of total TEU	% of utilized TEU
26%	0%
68%	89%
6%	11%

% of total TEU	% of utilized TEU
15%	0%
72%	81%
13%	19%

(1) Supply growth to outpace demand (assuming 6% demand growth); utilization assumed to be driven by cost
Source: www.containership-info.net.tc; Deutsche Bank; Drewry Shipping Consultants; MDS Transmodal; BCG analysis

Key Ship Supply Curve Assumptions

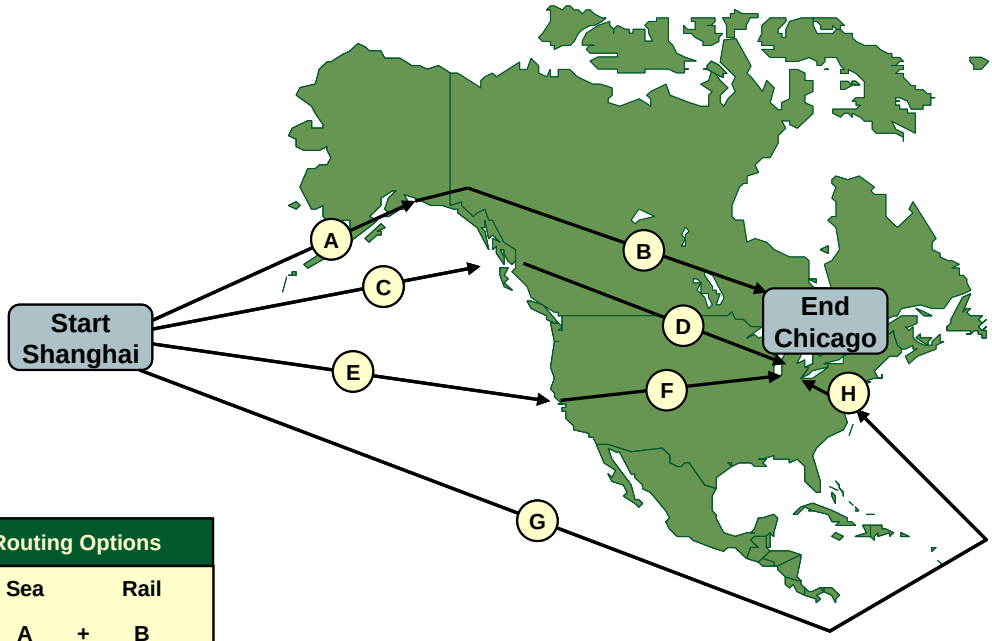
- Population includes all containerships with capacity >500 TEU, excluding multipurpose ships
- Ability to navigate Panama Canal based on width, draft, and length, not TEU
- Current order book is comprehensive for 2006 – 2008 deliveries
- Growth of fleet modeled from 2009 – 2030 based on current growth rates, decaying exponentially over time (time constant = 5 years) to the following asymptotes by ship size:

Up to 2000 TEU	2001 – 5000 TEU	5001 – 7000 TEU	7000+ TEU
0%	3%	2%	5%

- Ship lifetime assumed to be 30 years
- Continued increase in maximum ship size, matching historical rates of a ~1000 TEU increase per 3 years, with ~10 new "maximum" ships built per year

ASSET UTILIZATION: IMPLICATIONS OF SHORTER TRANSIT TIMES

Ultimately Shipping Should Optimize Sea and Rail for Cheaper and Faster Goods Transport



Routing Options			
	Sea		Rail
1.	A	+	B
2.	C	+	D
3.	E	+	F
4.	G	+	H

Note: Not to scale; Suez not considered

Shippers need to optimize the end-to-end costs of shipping from Asia. The full cost is the sum of several parts: loading ships, sailing, unloading, re-loading onto rail, riding the rail, unloading from rail, as well as the waiting-time between each step.

One of the key advantages that NW North American ports have to offer, especially Anchorage, is shorter sailing times across the pacific. This physical advantage impacts end-to-end costs in two major ways: less time on the sea and more time on land. However, total distances vary by port as a result of the globe's curvature (for example Shanghai-Anchorage-Chicago is a shorter surface-distance than Shanghai-L.A.-Chicago).

The more obvious sea-transport cost savings from shipping to Anchorage vs. Los Angeles are lower sailing costs (due to less time and petrol required) and potentially faster shipping times to end-destinations. One savings that is frequently overlooked for shippers is the freed capacity from shipping shorter routes. The chart below illustrates the substantial impact that shorter sailing times has on the number of ships required to service a specific route.
Three North American ports are considered for destinations: Los Angeles, Savannah and Anchorage; shipping from Shanghai. It was assumed that all ports would have the same turnaround time in port, 24 hours, and that the variance between each of their transit

times was related only to saling distances. The results are dramatic. Anchorage is over three days closer sailing than L.A. and a full two weeks closer than Savannah via the Panama canal. This translates to the same ship being able to transport much more cargo across the pacific if it ships into Anchorage. Theoretically ships would be able to make 19 round trips per year to Anchorage, where that figure is 14 for L.A. and just under 8 to Savannah.

Shipping to Anchorage Could Theoretically Increase a Ship's Round-Trips From 14 to 19 per Year

Complete trips from Shanghai - North America – Shanghai

Port-Port By Ship

Asian Port	Western Port	Sailing Duration (hrs)	Turnaround Time (hrs)	Theoretical Trips Per Year Per Ship	Total Num. Of 5,000TEU Ships Would Req'd To Ship 1M TEUs From Asia to Port?	% Efficiency Increase From Los Angeles	Source
Shanghai	Los Angeles	291	24	13.9	14.4	0%	CN
Shanghai	Prince Rupert	232	24	17.1	11.7	23%	CN
Shanghai	Vancouver	255	24	15.7	12.7	13%	CN
Shanghai	Seattle	255	24	15.7	12.7	13%	CN
Shanghai	Tacoma	255	24	15.7	12.7	13%	CN
Shanghai	Oakland	275	24	14.6	13.7	5%	CN
Shanghai	Anchorage	209	24	18.8	10.6	35%	4173 Nautical Miles from Distances.com, Speed implied from CN
Shanghai	Savannah	545	24	7.7	26.0	-45%	10914 Nautical Miles from Distances.com, Speed implied from CN

Vessel transit times, in hours, from Prince Rupert to major Asian ports

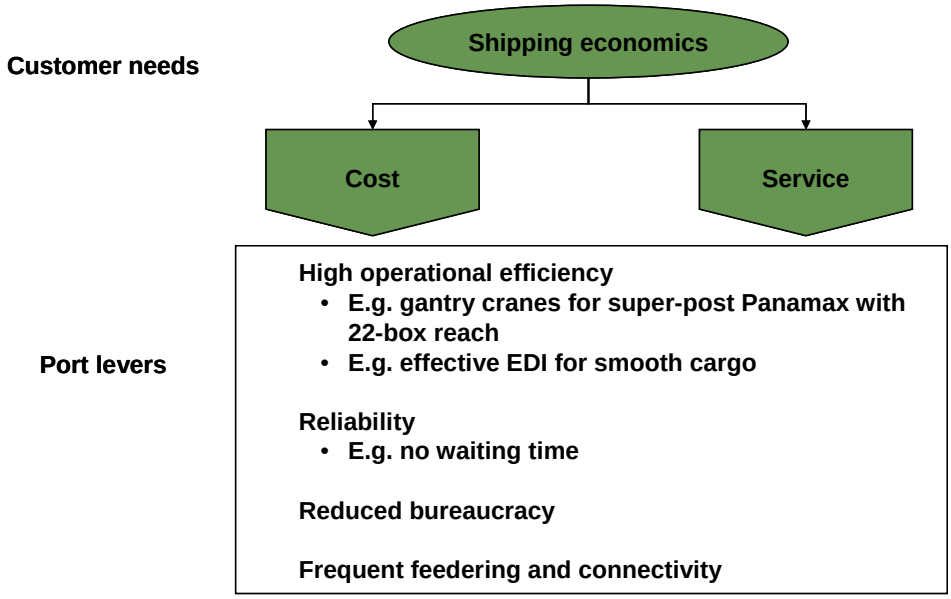
	Hong Kong	Kaohsiung (Taiwan)	Shanghai (China)	Kobe (Japan)	Tokyo (Japan)	Yokohama (Japan)	Busan (South Korea)
Prince Rupert	264	253	232	205	192	191	209
Vancouver	289	276	255	227	214	213	231
Seattle	288	275	255	226	214	213	230
Tacoma	290	276	255	227	215	214	231
Oakland	303	290	275	241	228	227	246
Los Angeles	319	306	291	259	243	242	262

Source: CN Rail; Distances.com; BCG Analysis

This above analysis is focused on exploring the impact of shorter sea shipping times; however, shorter sea shipping often implies longer surface transport. In order to develop a comprehensive picture, the full shipping chain for different ports must be analyzed. This analysis must figure out the operating cost trade-off between sea and land, as well as any differences in capital costs or freed capacity.

POSITIONING AND MARKETING OF PORTS AND TO SHIPPING LINES AND CUSTOMERS

World-Class Standards are (Binary) Prerequisite for Success – A Port Is Either In the Running or Not.



Several Sources of Competitive Advantage Can Attract Traffic to a Port

Long Term Sustainable Advantage	Medium Term Advantage	Short Term Advantage
Proximity To Shipping Routes And Origin/Destination • reduced travel time between ports • ease of intermediate stop **Ability To Expand** • port expansion not hampered by geography or surrounding city infrastructure **Harbor Characteristics** • ports with insufficient depth must incur expense of continuous dredging efforts • tidal windows, local weather patterns, etc. can lead to delays	**Connection To Inland Transport** • sufficient supply of containers for backhaul • connection to rail network • proximity to major highway system for truck transport **Joint Venture/Dedicated Terminal Contracts** • create arrangements with shipping lines to ensure container volume **Value Of Local Market?** • does most container volume remain in local port or is it transported inland?	**Infrastructure/Time To Serve** • gantry cranes with 22 box reach provide advantage but can be purchased by competing ports • Customs likely to cooperate and increase service time as port grows **IT Systems** • easily copied by competing ports **Competitive Pricing Strategy/Incentives** • effective in short term but creates risk of eroding margins throughout industry

How Can ACRL Attract Customers Though Marketing The Sustainable Advantages Of Anchorage?

Anchorage Shows Strengths in Several Potential Sources of Competitive Advantages

	Long Term Sustainable Advantage	Medium Term Advantage	Short Term Advantage
Anchorage's Position	Far from US destination points, but allows earlier transfer to rail → Shanghai-Chicago faster by up to 2 days Cheap land. Easy to expand. Harbor has large tidal range and requirement for periodic dredging	Need for Alaska-Canada rail link requires capital investment; likely significantly greater than other ports JV potentially attractive to lines wishing to diversify port options to guarantee access in case of blockages/strikes in main ports	Some infrastructure in place, but opportunity to greenfield-build latest crane, customs infrastructure IT strategy & pricing TBD

Anchorage Potentially Strong As Alternative Port Offering, But Capital Issues May Be Major Roadblock

Will Anchorage Provide a Strong Value Proposition to Shipping Lines?

	Metric	Anchorage	Los Angeles / Long Beach	East Coast Via Panama Canal
Long Term Sustainable Advantage	Proximity to shipping lines and origin/destination	• __ days from Shanghai • __ miles from shipping route	• __ days from Shanghai • __ miles from shipping route	• __ days from Shanghai • __ miles from shipping route
	Ability To Expand	• new development has no constraints on size	• constrained by city	• variety of east coast ports to call
	Depth of terminal	• plan to create link to Alaska Canada Rail Link	• connected to __ major rail links	• connected to __ major rail links
Medium Term Advantage	Connection to inland transport	• n/a	• xxx	• xxx
	Joint Venture/Dedicated Terminal contracts	• n/a	• xxx	• xxx
	Value of local market ?	• xxx	• xxx	• xxx
Short Term Advantage	Infrastructure	• n/a	• xxx	• xxx
	IT Systems	• n/a	• xxx	• xxx
	Competitive pricing strategy	• n/a	• xxx	• xxx

Illustrative

Shipping Lines Investing in Dedicated Terminal Facilities

"Shipping lines are increasingly investing in seaports and in their own dedicated terminal facilities and, going forward, may not require the use of the Group's terminal facilities"

- Hutchison Whampoa Limited 2005 Annual Report

How Soon Should ACRL Consider Partnerships?
• Is there a "China Card" to be played?

WHAT ARE THE RISKS TO ACRL?

What are the biggest risks to ACRL?

- Container demand shortfall? Not likely due to strong Asian growth and difficulty expanding capacity
- More likely to be end-to-end competitiveness of ACRL vs. other alternatives (operating and the recovery of capital cost), and possibly the emergence of the Suez express as a primary route to North America

Is there a "China card" to be played early?

- Can we get one or more Chinese entities to fund/build our port and railroad, and direct traffic our way?

POTENTIAL NEXT STEPS

Key Questions Needing Resolution

Nature of end-to-end port competition and relative placement of ACRL on the supply curve

- What are the competitive specifications for an advantages ACRL port?
- How deep or navigatable (can new larger ships fit?)
- Capacity (dock-side, port-side and rail)
- Lift requirements
- Distances and capital investment

Next level of detail on demand and supply port projections, including assessment of mix of traffic that might prefer

Refined Anchorage route of end-to-end economics of Anchorage/ACRL, PPR/CN, Panama/ECNA-GCNA

- e.g., does Anchorage/ACRL have a time/cost trade-off advantage for shippers