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The Possible Effects of the Panama Canal Expansion on Ports in the Western Hemisphere

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Chairman
Portek International Ltd

PORTEK

KNOWLEDGE & SOLUTIONS IN PORT BUSINESS

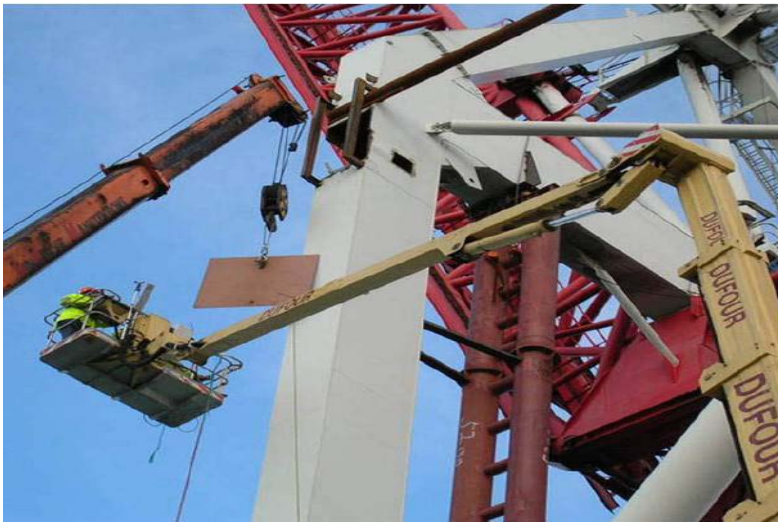
Portek is both

- ***a provider*** of equipment, services and solutions to ports worldwide, &
- ***an operator*** of ports in emerging countries.
- unique combination of skill sets, full spectrum of equipment engineering and port operating expertise

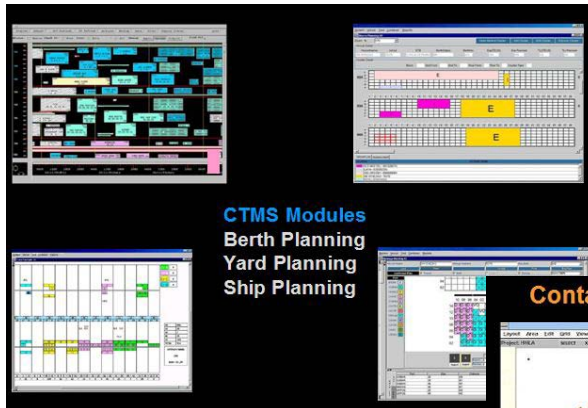
As a ***provider to ports***, we undertake”

- Modernization and Modification of Container Cranes – upgrading Cranes from PX to PPX dimensions, reliability, safety and performance improvement
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- Mobilisation and Relocation of Cranes
- Maintenance contracts
- Crane accidents & emergencies recovery & repairs
- Consultancy in Traffic studies, port marketing program to attract traffic, port planning and simulations
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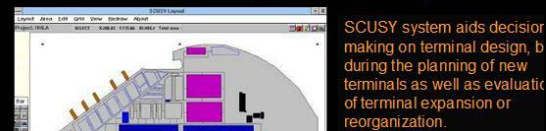
Port Equipment Engineering



Port IT & Automation



Container Handling Simulation System



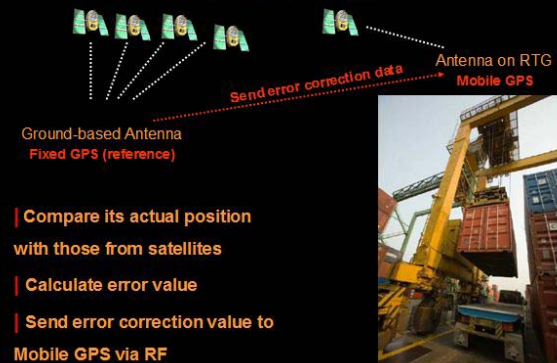
Optical Character Recognition (OCR)



Radio Terminal Data System (RTDS)



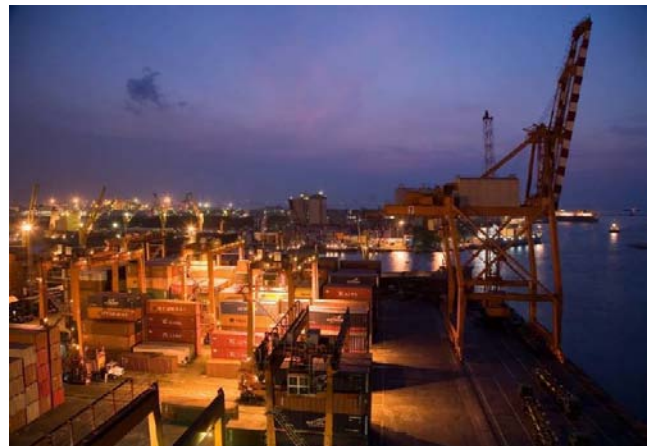
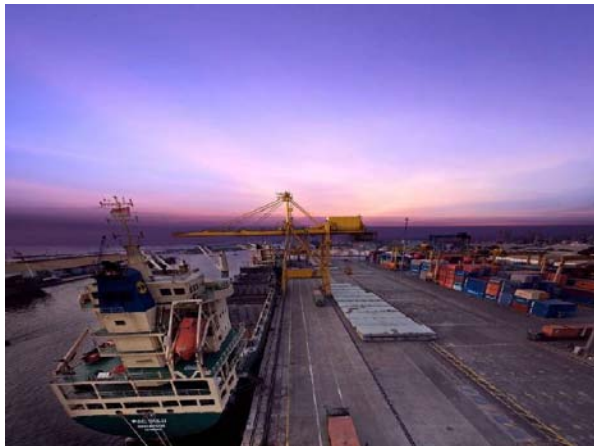
Position Determining Systems (PDS) & Auto Steering



As a ***port operator***, we operate 7 terminals:

- Bejaia Mediterranean Terminal (Algeria)
- Valetta Gateway Terminal (Malta)
- Port Owendou in Libreville & Port Gentil (Gabon)
- Terminals T9 and T300 in Jakarta, Indonesia
- Banten Port, West Java, Indonesia

Portek Port Operation



How will Panama Canal expansion affect ports in the Western Hemisphere ?

In this presentation, we will look at:

- Trade routes – Pre and Post Canal Expansion
- Cascade Effect & Canal Expansion on Size of Container Ships deployed
- Impacts on ports, winners and losers
- Bulk trades

Western Hemisphere refers basically to the Americas:

- North America,
- Central America & the Caribbean
- South America.



Canal Expansion affects all shipping

- Container shipping – presently 30% of Panama traffic
- Bulk shipping
- Liquid
- Cruise, general cargo, Project cargo and Others.

Trade routes generally fall into 2 categories:

East – West trade routes:

- Far East – US West Coast (USWC) – Transpacific
- Far East – US East Coast (USEC) via Panama
- Far East – US East Coast via Suez
- Far East – S America West Coast (WCSA)
- Far East – S America East Coast. (ECSA) via Cape
- Europe – USEC (Transatlantic)

North South trade routes:

- Europe – S America
- North America – Central and S America
- Intra-Latin America

Cascade Effect

Cascade Effect:

Large ships displacing small ships in all trade routes due to emergence and large scale deployment of large post panamax ships

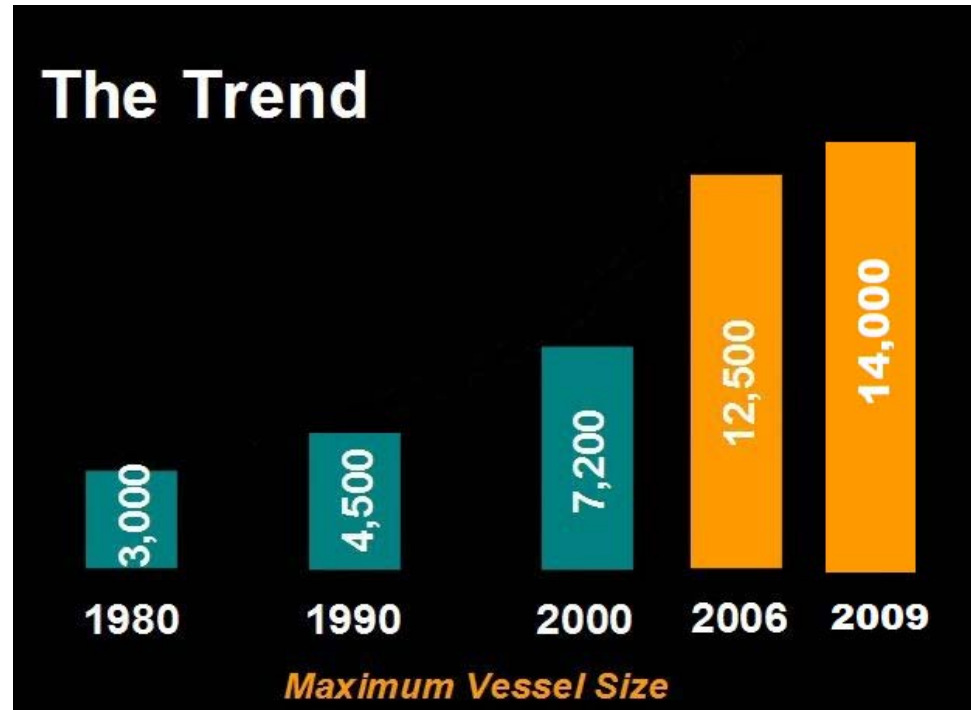
For Cascade effect to take place, we must have:

- increased volume, hence justifying larger ships or
- same volume, but reduced sailing frequencies,
- or both of above happening

To analyse the full impact on ports, we will therefore consider Combined action of:

Canal expansion + Cascade Effect.

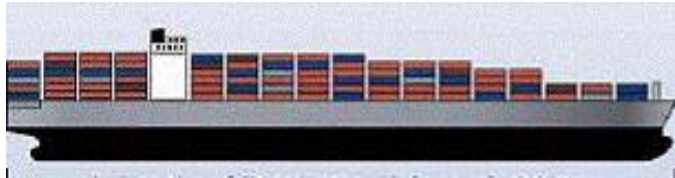
Cascade Effect



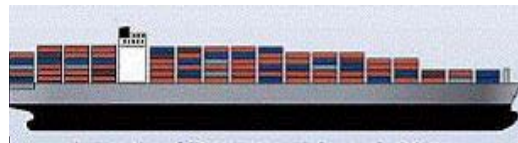
- By end of 2007, there were 188 Vessels of greater than 10,000 Teus on order, though some may have been postponed or cancelled.
- By 2011, Post Panamax Vessels will contribute about 45% of all container slots, after adjusting for some order cancellations



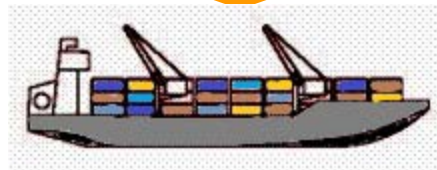
Displacing



Displacing



Displacing



LPPX/ SPPX

6,500+ –

12,500TEUs

LPX/ PPX

4,000 – 6,500TEUs

MPX

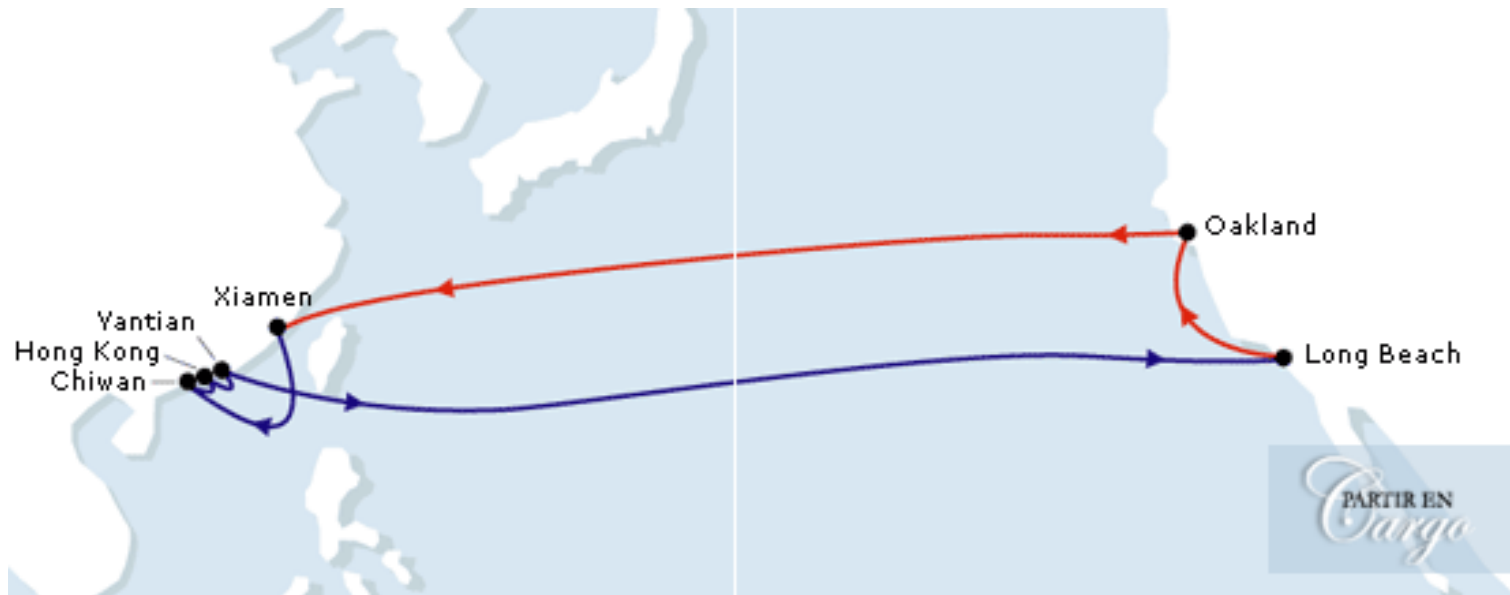
2,000 – 4,000TEUs

SPX/Feeders

800 – 2,000TEUs

Trade Route: Asia – US West Coast (Transpacific)

CMA-CGM: South China / USWC Vessels >8000 teus



Source CMA-CGM

- High volume shuttle services using Large PPX vessels 8,000 to 10,000 TEUs
- Pacific SW = LA + Long Beach + Oakland > 16m TEUs in 2008
- Pacific NW = Vancouver, Prince Rupert, Seattle, Tacoma > 6.3 m TEUs

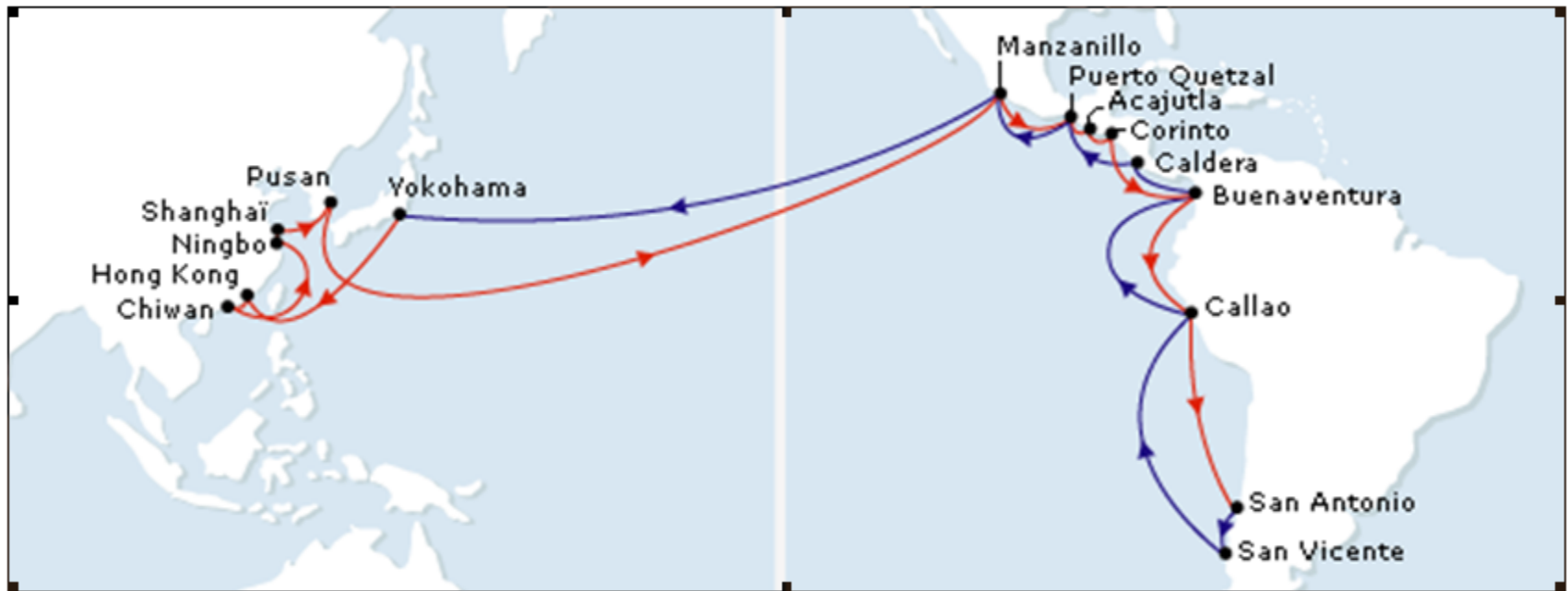
Effects on USWC Ports

Post Canal Expansion 2014 – effects on USWC ports:

Vancouver, P Rupert, Seattle, Tacoma, Portland, San Francisco, LA /Long Beach

- Continue as gateway ports, handling own traffic; based on shuttle service from Asia
- Transshipment traffic unlikely, due to location, capacity and productivity.
- Will lose significant intermodal traffic to all water Panama route. US\$2,000 to rail a container from USWC to USEC. Presently only 30% of Asian cargo go through USEC ports by all water route (via Panama or Suez)
- However, both railroads and ports are preparing to fight back to retain traffic.

Trade Route: Asia –West Coast South America (WCSA)



Source: CMA-CGM

Presently, Asia-WCSA :

- Mainly direct long haul from Asia, using Panamax vessels
- Multi port calls. Long transit time 84 days
- Mostly Panamax vessels, though MSC now using 6,000 teu ship.
- Beside direct calls, there are also transshipment services via Balboa

Trade Route: Asia – West Coast South America (WCSA)

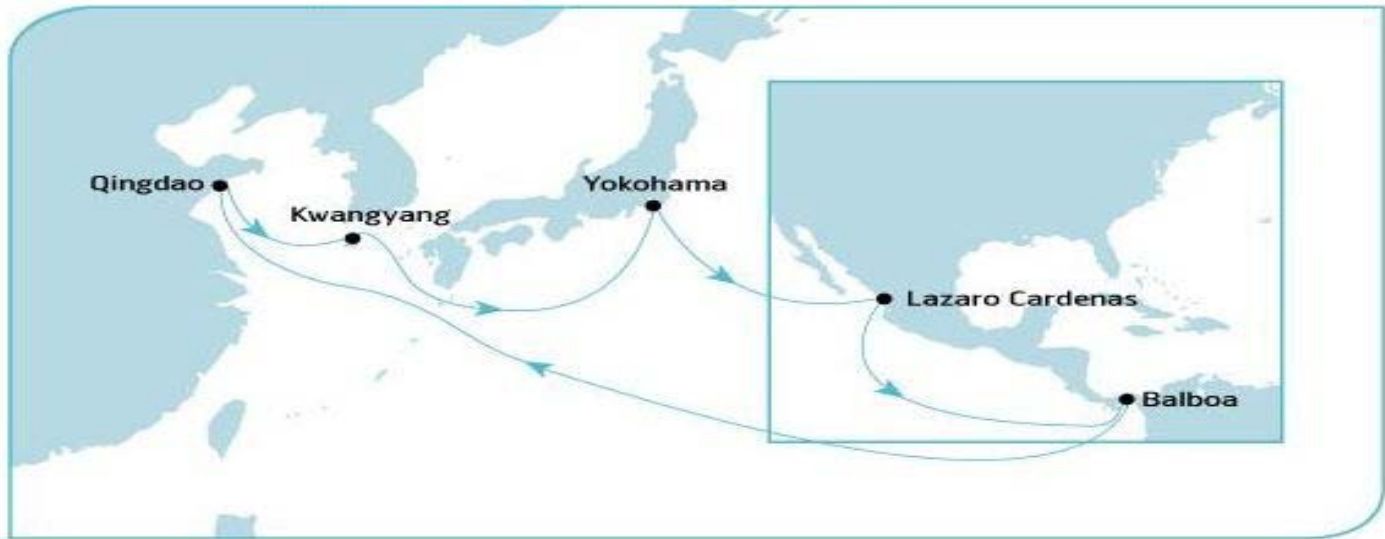
Post Canal Expansion

- Direct long haul multi port service may decrease in favour of transshipment via Balboa
- Transshipment to WCSA ports may come in two forms:
 - Piggy back on USEC traffic, on 8,000 to 10,000 TEU ships and transshipped via Balboa on feeders
 - Shuttle services from Far East to Lazaro Cadenas and Balboa, plus one other port, then transshipped via these to WCSA ports
- More capacity being created at Balboa - PPC & PSA Panama. A natural transshipment hub for Central America /WCSA traffic.
- Panama -The Singapore of Western Hemisphere.

Effects on WCSA ports

- Balboa will be clear winner, transshipment hub for Central America and WCSA
- Manzanillo (Mexico), Lazaro Cadenas – Transshipment for Central America
- Will a transshipment hub emerge in WCSA?
- Present Load distribution still not in favour. Chilean ports presently contributes 3.0 m out of 5.8 m TEUs of WCSA total traffic.
- But Peruvian traffic fastest growing. Can Callao be a sub-regional transshipment hub? Feeder to Guayaquil, Paíta, Arica, Iquique, Antofagasta.
- Manta has ambitions: good depth and location, but lack of hinterland cargo is a disadvantage. It could be complementary to Balboa, as a spill over port

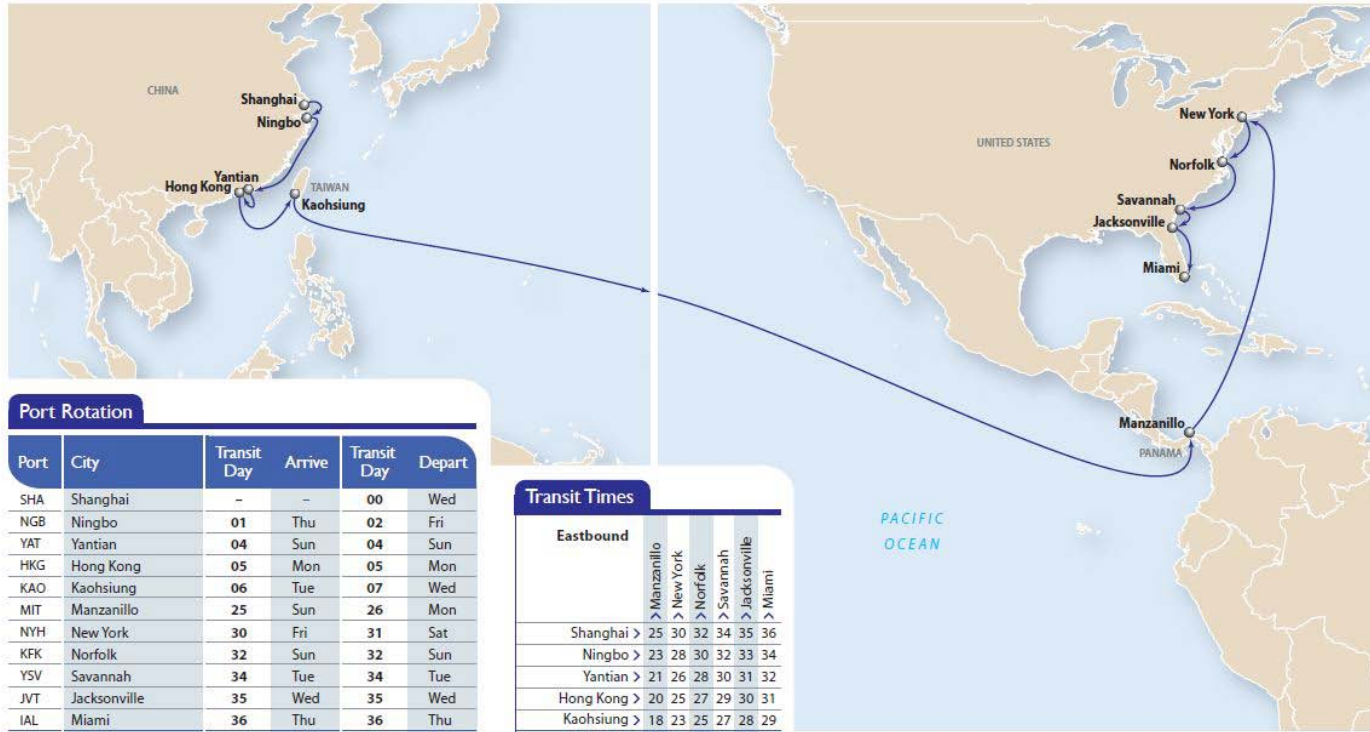
Case for Manta Port



Source: Maersk Shipping

- Presently, Maersk's Asia–Central America AC2 & AC3 services show dedicated shuttle service has sufficient volume
- Manta is one day sailing from Balboa, hence possible for shipping lines to extend one more port call to Manta within the shuttle service.
- Provided capacity is available, productivity is good.

Trade Route: Asia – US East Coast (USEC) - Panama



Source APL Trans-Pacific-443

Presently, this trade is characterized by

- Panamax ships less than 5100 teu, transiting through Panama Canal
- Only about 30% of Asian imports are shipped through USEC ports
- Transit time about 21 days.
- 16 weekly services of average capacity of 4,000 teu

Trade Route: Asia – US East Coast (USEC)

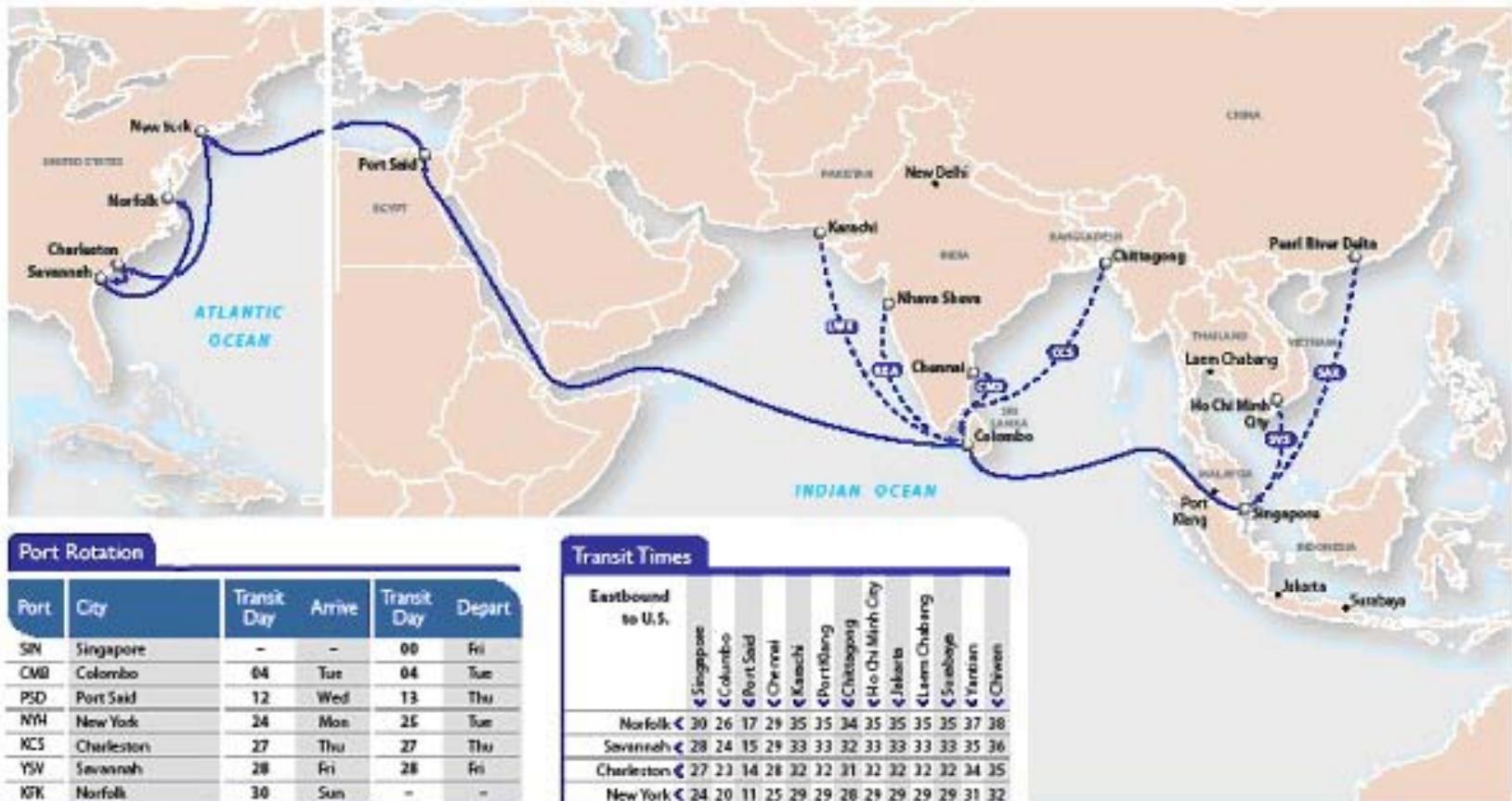
Post Canal expansion,

- Quantum jump in ship size - Post Panamax ships of probably up to 10,000 teu
- Intermodal traffic through USWC will substantially migrate to all water USEC.
- Cost savings per slot of 30% to 40% between 10,000 and 4,000 TEU ships
- Bayonne Bridge in New York –New Jersey limit ship size to about 7,000 TEUs
- New York-New Jersey represent 1/3 of USEC port throughput (15.5 m TEUs).
- Deployment of >10,000 TEU ships to USEC not justified due to insufficient load, if they cannot call New York/New Jersey.
- Bridge of the Americas in Panama can also be a limitation for vessels > 14,000 teus.

Impact on USEC Ports

- New York/New Jersey may miss the boat, limited to 7,000 TEUs.
- However, studies have been done to raise from 151 ft to 215 ft. Senate recently approved bridge heightening. Also PONYJ is building new terminal at Bayonne
- In Panama, Bridge of the Americas has an air draft of 201 ft
- Savannah, Virginia, Charleston will gain market share, expand their hinterlands, become gateways for intermodal traffic. More likely 8,000 to 10,000 teu ships.
- However, most other ports will also need upgrade for greater ship sizes due combined Canal Expansion & Cascade Effect

Trade Route: Asia – USEC via Suez



APL Trans-Pacific-412

For sailing schedules, shipment booking, and tracing, visit www.apl.com.

12206.pdf ©APL 17-Mar-10

Trade Route: Asia – USEC via Suez

Presently,

- 5 weekly services with vessels ranging from 5,000 teu to 8,500 teu
- These arise exactly because of constraints at Panama Canal.
- Transit time 31 days from Yantian to New York – long
- More suited for SE Asia / Indian Continent cargo

Post Canal expansion

- Will see reduced services, only catering to Indian sub-continent
- Panama Canal route transit 21 days – 10 days shorter than Suez routes.

Trade Route: Asia – East Coast South America (ECSA) via Cape of Good Hope



Source CSAV

Trade Route: Asia – East Coast South America (ECSA)

Presently

- Direct long haul from Far East –ECSA via Cape of Good Hope.
- Mainly Panamax ships
- Multiport calls covering Bueno Aires, Montevideo, and all major Brazilian ports

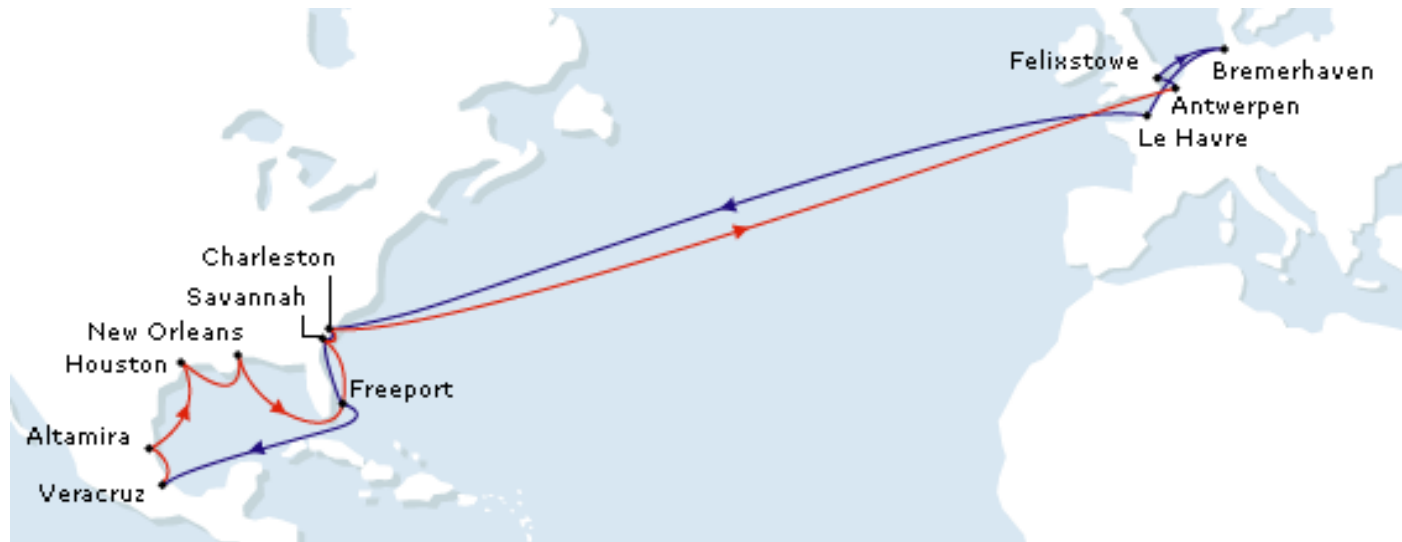
Post Canal expansion,

- Ship size will continue to increase due to increased load and Cascade factor.
- Multiport calls, with Santos as the dominant port
- Some cargo may shift to piggyback on Asia-USEC trade, and transship via Coco Solo, Panama to Brazilian ports.

Impact on ECSA ports of Brazil, Uruguay and Argentina

- Direct, Multiport services from Asia and Europe still dominant
- Some minor impact from Canal expansion
- Brazilian ports are high cost (USD 300 vs USD 100), lack of capacity
- Santos an obvious load centre, substantial investments being made, however, need to look at port tariffs.
- Argentina (La Plata), Uruguay (Montivideo) expanding port capacity.
- All major ports will see higher volume, larger ships, due to GDP expansion

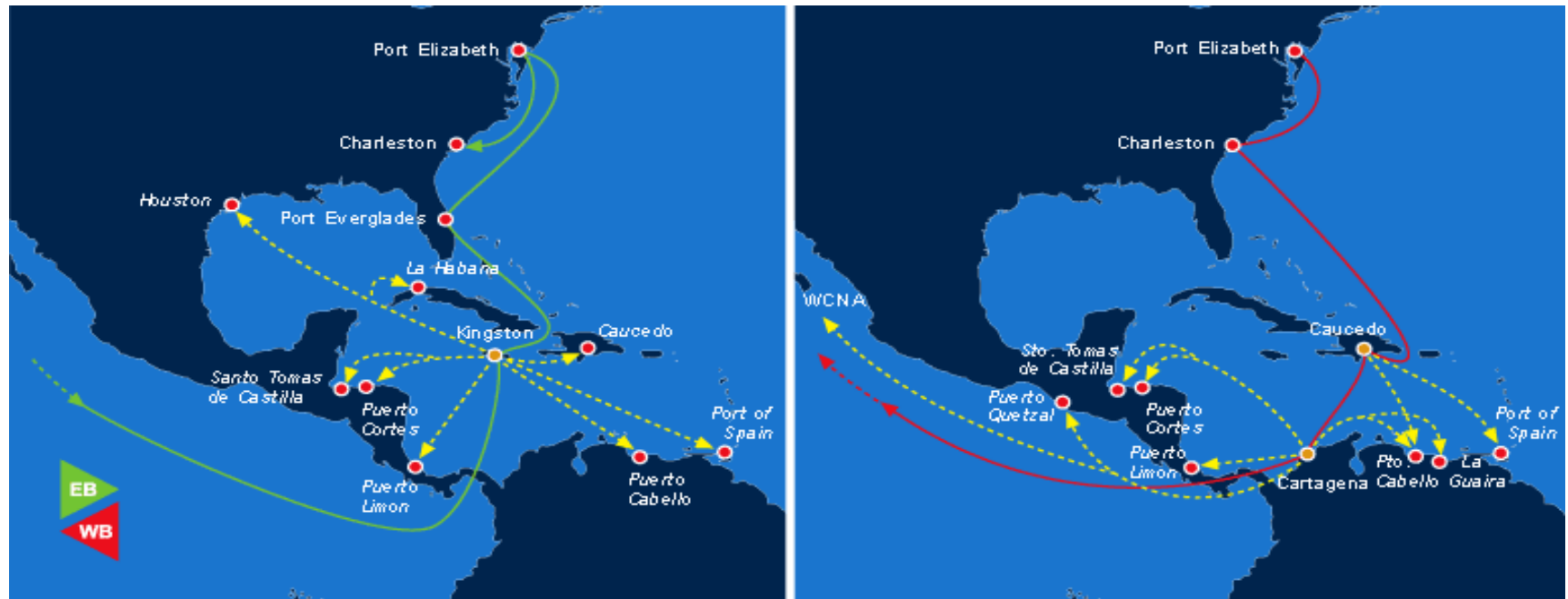
Trade routes: Caribbean / Central American /Gulf



Source CMA-CGM

Region is served by direct multiport calls from Europe, as well as Asia

Trade routes: Caribbean / Central American /Gulf



Source CSAV

Also by feedering from Caribbean hubs such as Kingston, Caucedo

Trade routes: Caribbean / Central American /Gulf

Presently,

- This region is served by direct service from Asia, and Europe & also piggybacking on the Asia- USEC services via transshipment.
- Transshipment hubs: Kingston, Caucedo, Bahamas, Colon & Manzanillo in Panama, Cartagena
- Most of Caribbean / Central American / Gulf ports are feeder ports.

Post Canal Expansion

- Same trade pattern but with larger vessels and trending towards higher proportion of transshipment, and reduced direct service

Impact on Caribbean / Central American /US Gulf ports

Post Canal expansion:

- Major ports will see dramatic increase in ship sizes 5,000 to 10,000 teus
- Balboa will be clear winner on Pacific side
- Coco Solo (MIT & CCT), Cristobal (PPC) winners on Atlantic side
- Kingston, Caucedo, Cartagena will also benefit
- US Gulf Ports may lose some direct calls due to location, low load level, and become more of feeder ports.
- Cascade effects will put pressure on all ports to receive larger ships.
- Some ports need to reform labour practices, customs procedures. Central American state run ports.

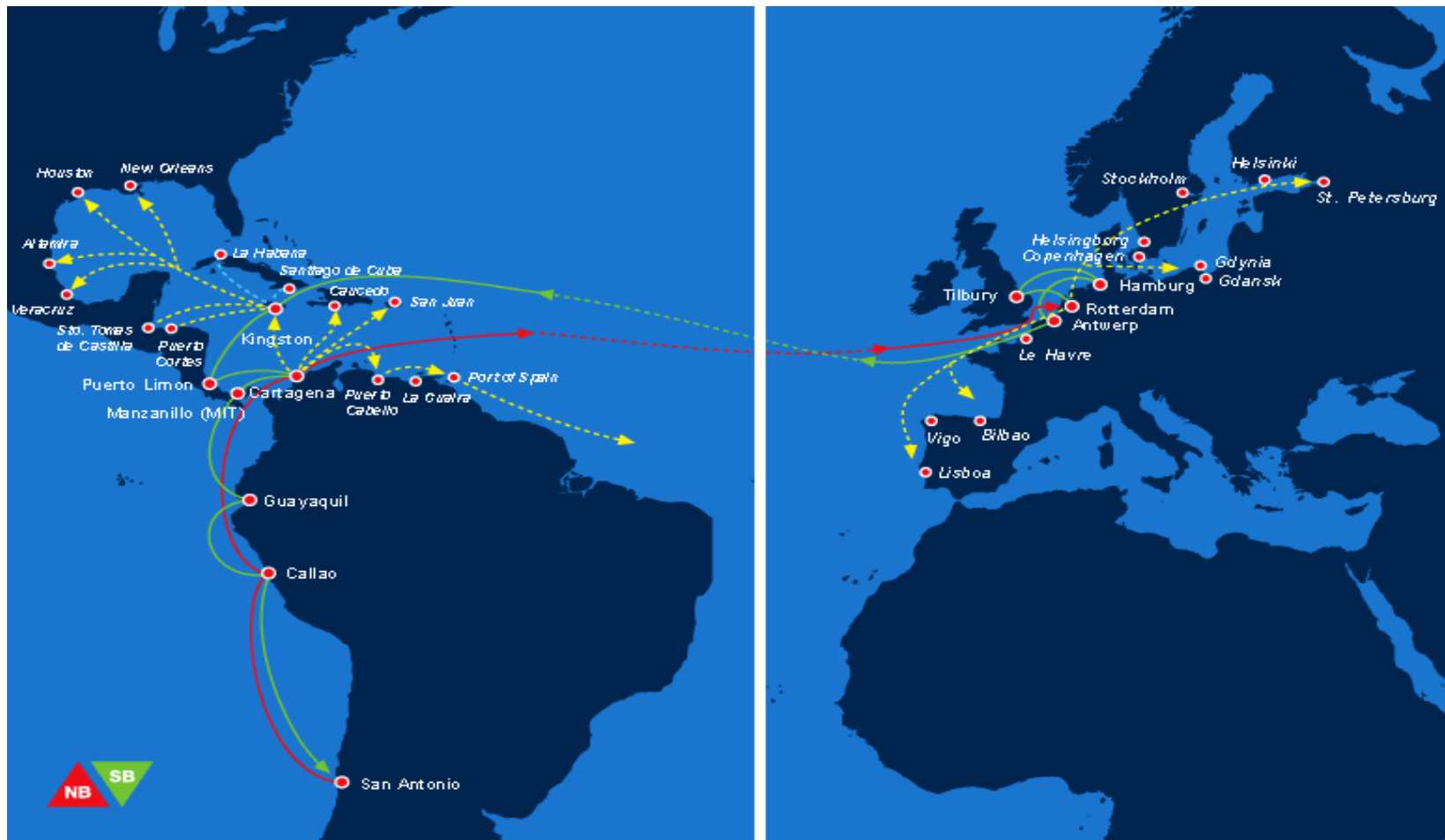
Trade Route: Europe – USEC (Transatlantic)

North Europe - US East Coast



- Transatlantic trade will not be much affected by Canal Expansion.
- Cascade effect will push ship sizes.

North- South Trade: Europe – South America



Source CSAV

North- South Trade:

Europe – Latin America trade will be predominantly influenced by

- Far lower volume, hence Panamax vessel sufficient.
- Cascade effect – migrating to bigger vessels in step with growing volume.

Similarly for N America – S America trade.

Intra –Latin American trade in terms of bulk commodities and re-distribution of cargo from Logistic and distribution centres established in Panama and elsewhere.

North - South trade does not have same Impact on Ports as East-West Trade.

Factors influencing types and size of ships calling at ports

- Navigational factors – water draft, air draft, Canal restrictions.
- Load or Volume of cargo - Pull factor
- Cascade Effect – Push factor
- Port factors – turn-around time: productivity, capacity, equipment, labour practices
- Other factors like security, piracy, legislation such as Jones Act, Cabotage laws

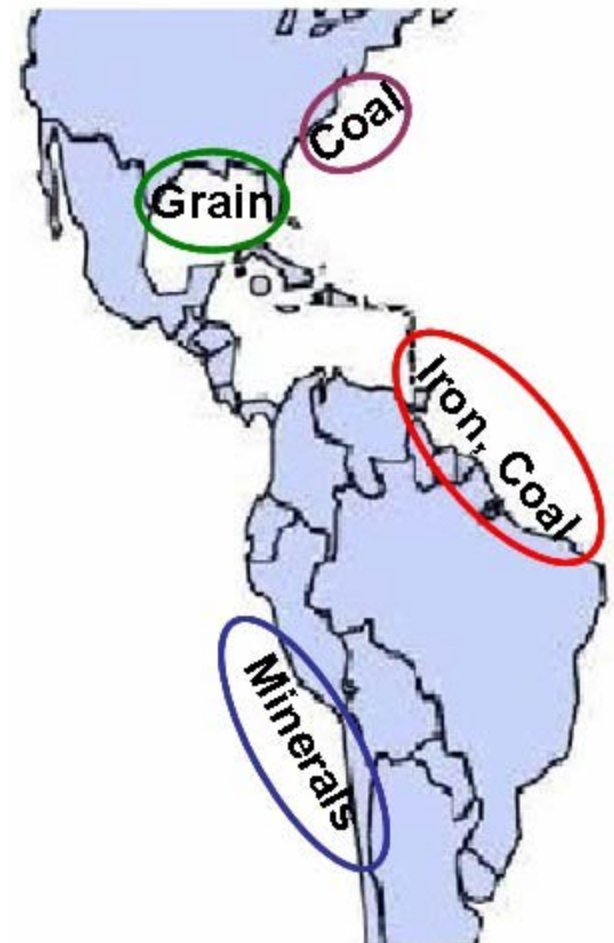
Concentration Effect

Deployment of large SPPX ship leads to concentration effects:

- Cargo will be concentrated in fewer ships, larger ships
- Cargo will be concentrated in a few hub ports, and transshipped to final destinations
- Slot sharing or joint service
- Sailing frequency may reduce – recent example of slow steaming as a response to high fuel costs and excess capacity at expense of shippers.

Effect of Canal Expansion on Bulk cargo trade

- Presently 85,000 dwt bulk Panamax bulkers transit Canal
- Post expansion will see Cape sized vessel of 120,000 dwt, upto 175,000 dwt. Draft increase from 39.5 ft (12m) to 50 ft (15m)
- Lower freight from better utilisation of Panamax vessels or from use of larger vessels
- Will see increase of following trades:
 - Grain flow from US Gulf, to Asia and WCSA
 - Metallurgical coal from USEC to Asia
 - Iron ore from northern Brazil, thermal coal from Colombia to Asia
 - Minerals from Chile and Peru to USEC and Europe will get a boost.



General Comments / Questions:

- For Latin America, strong economic growth, commodity cycle, and increased world trade will drive container traffic and port business. A replay of South East Asia in the 90's.
- Canal expansion is only a facilitator, not a cause. Extent of Canal impact will largely depend on the Canal tariff. Alternatives are already available. Shipping lines are flexible, and able to re-route to avoid high costs.
- Increased trade volume, ship size, and canal expansion favour transshipment. However, not a winners take all case. Numerous minor transshipment ports will co-exists with the major hubs to take the spill over, and provide non available berthing windows at the major hubs.
- Port Authorities need to take a business like view of port development. New transshipment centres requires huge investment outlay and competitive pricing. Not every one's game in today's deleveraging world.

General Comments / Questions:

- Is there a lack of coastal shipping choices to stimulate feeder shipping?
- New impetus for Policy makers to overhaul Cabotage laws to promote freer and competitive short seas shipping, to reduce distortions to economies. Example: it costs more to ship a container from San Antonio to Iquique than San Antonio to Callao
- Development of feeder port vital for economy and industries of the particular province. Example: In Mexico, Mazatlan and Guaymas not well served by feeder shipping.
- Cabotage trade now mainly done by trucking. Long coast lines of S America favour seaborne traffic versus land transport. To be encouraged as a greener alternative.

Thank you