Panama vs. Non-Panama Transshipment

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Agenda

• Types and **Demand** for Transshipment
• **Location** of Transshipment Hubs
• Impact of Panama Expansion on **Service Pattern** and Transshipment Potentials
• Specialized Pure Transshipment Ports (**PTP**)
• Summary
Demand for Transshipment (T/S)

- Types of T/S:
  - Hub & Spoke
  - Interline: Intersection
  - Interline: End-to-End

- $T/S = f(\text{Trade Growth})$
  - Bigger Ships $\rightarrow$ Fewer calls $\rightarrow$ more t/s
  - More Direct Calls $\rightarrow$ less t/s

- Cost of T/S (too high...)

- **Default** T/S – Port Restrictions; Unutilized Ships

- Forecasting T/S as Percentage of Regional Trade is No Good! Scenario based.

- Feeder Ranges: *Intra-Caribbean* vs. *US East& Gulf*
Hub Location

• Hub & Spoke
  – First In (*Minimize Mother Sailing*)
    • Asia/US: Prince Rupert / Melford
    • Asia/Europe: Algeciras, La Havre
  – Largest (*Minimize Double-Handling*)
    • Asia/West Coast S. America: Callao
  – Central (*Minimize Feeder Sailing*)
    • Asia/Med: Malta, Calgary
  – Special Considerations (*US Ports; Jones Act*)

• Intersection
  – “Funneling Point” (*Maximize Inter-Lining*)
    • Panama, Suez, Malacca & Gibraltar Straits
“Triangle”: All Ports Created Equal?

Assumed No Change in Service Pattern!

1,500 NM!

At capacity

Caribbean Transshipment Triangle

West 2011 adapted from Hoffman 2005, Ashar 2013
Impact of Panama Expansion on Service Pattern

Rodrigue adapted from Ashar 2002
Feederding the USEC?

9,000 TEU already Direct Call at the US (Suez); Only if 13,500 TEU?

20 mil. TEU x 0.5 Asia x 0.5 T/S x 2 = **10 mil. TEU**

- **750 NM**
- **North Caribbean Hubs**
- **Panama & Near-Panama Hubs**
Panama vs. N Caribbean Hubs

750 NM: 13,500 TEU vs. 3 x 4,500 TEU

Panama & Near-Panama Hubs

North Caribbean Hubs

4,500 TEU

13,500 TEU
Panama Atlantic vs. North Caribbean

- Cost Differential between 4,500-TEU and 13,500-TEU = $0.052/FEU-NM
- 750 NM x $0.052/FEU-NM = $33/FEU
- 13,500 FEU x 52 x $33/FEU = $23 million/year

Panama Pacific vs. Callao

- 1,364 NM x 0.052/FEU-NM = $59/FEU
- 13,500 FEU x 52 x $59/FEU = $41 million/year
Present Hubs: Kingston

- Reclaimed Land; Relatively Small Area
- Straddle Carrier; Slow & Expensive
- Short & Non-Continuous Berthage
- Augusta even More Expensive
Automated Terminal

- Waterside
  - Export
  - Import
  - Transhipment

- Storage Yard

- Landside
  - Gate Entry
  - Gate Exit
  - Interchange Zone

No!

40%

HPC 2008; Ashar 2012
Pure Transshipment Ports (PTP)

• Present terminals’ design is geared for handling gateway (domestic)

• Automation is “no good” for $t/s = \text{Gateway} \times 2$; 
  \textbf{Too Expensive!}

• Lowering $t/s$ cost at PTPs either by:
  – Finding \textit{locations} with natural deep water, low-cost land, limited reclamation, low-cost labor; and/or
  – Developing specialized technology for PTPs based on handling \textit{groups of containers}
Floating Terminal: Ship-to-Barge

Land-Based STS; Floating Yard; Midstream

18,000 TEUs / 160 TEUs = 112 Barges (Miss.)

Dumping: 9 STS @ 30 moves/hr, Tandem Lift, 50% double-cycling = 800 moves/hr

< 24 hours
Mississippi River Barge Fleeting
Floating Terminal: Ship-to-Barge-to-Ship

Direct Ship-to-Ship, or Ship-to-Barge-to-Ship

Ideal for Panama Canal!

- 5,000 TEUs
- 18,000 TEUs
- 160 TEUs

Ashar 2012
A Journey into the Long Future

Panamax 4,500 TEU → NPX 13,500 TEU → MalMax 30,000 TEU

All Water Panama → All Water Suez (again)

13,500 TEU / 4,500 TEU → 30,000 TEU / 9,000 TEU; Extended Range

Floating PTPs on two sides connected by barges
Summary Observations (Near Future)

• Panama / Atlantic: *Modest Opportunities*, mainly Interline t/s due to consolidation; Too far from US; Intra-Caribbean already exploited;

• N. Caribbean: *Major Opportunities*, pending on NPX deployment and US East & Gulf Coast Port Situation

• Panama Pacific: *Major Threats*; No Switch-Back (Maersk); Direct Calls; Regional WCSA Hubs
Thank You!

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