GLOBAL LINER SHIPPING AMERICAS

Panama vs. Non-Panama Transshipment

Asaf Ashar

NATIONAL PORTS & WATERWAYS INT., USA

www.asafashar.com

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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)

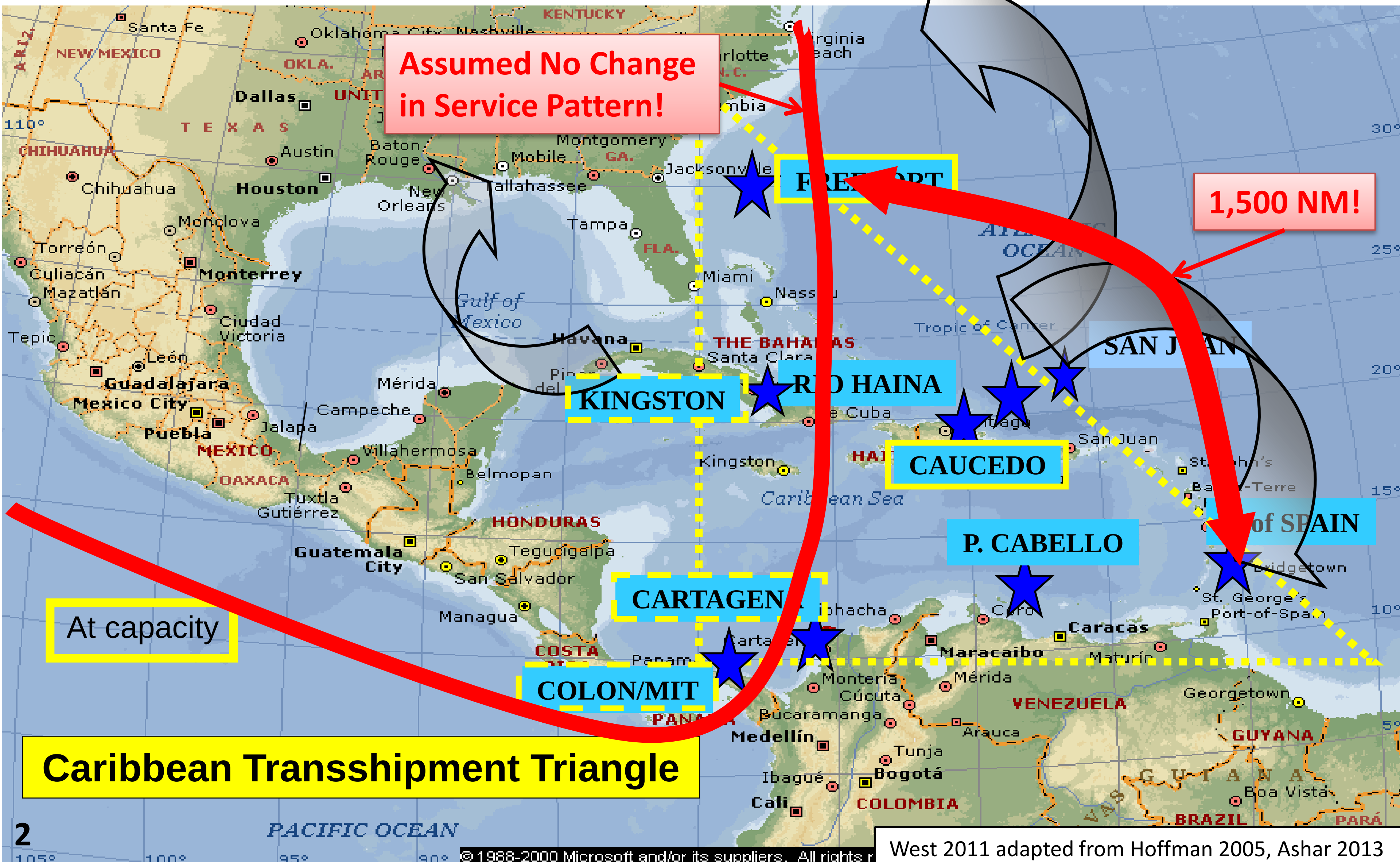
- Types of T/S:
  - Hub & Spoke
  - Interline: Intersection
  - Interline: End-to-End

  Mixture
- T/S = f(Trade Growth)
  - Bigger Ships → Fewer calls → ***more t/s***
  - More Direct Calls → ***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.
- Feedering 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?



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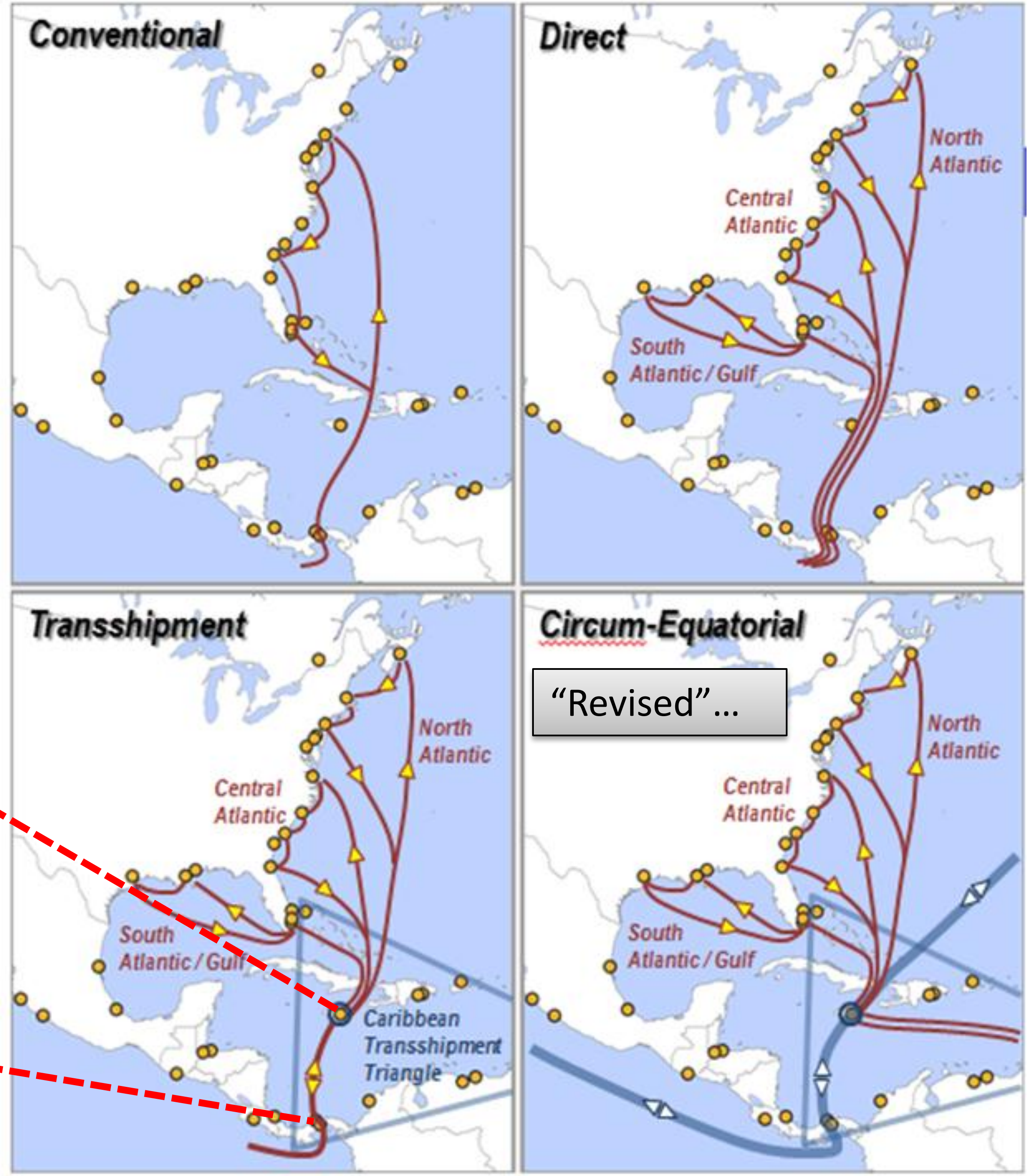
West 2011 adapted from Hoffman 2005, Ashar 2013

Impact of Panama Expansion on Service Pattern



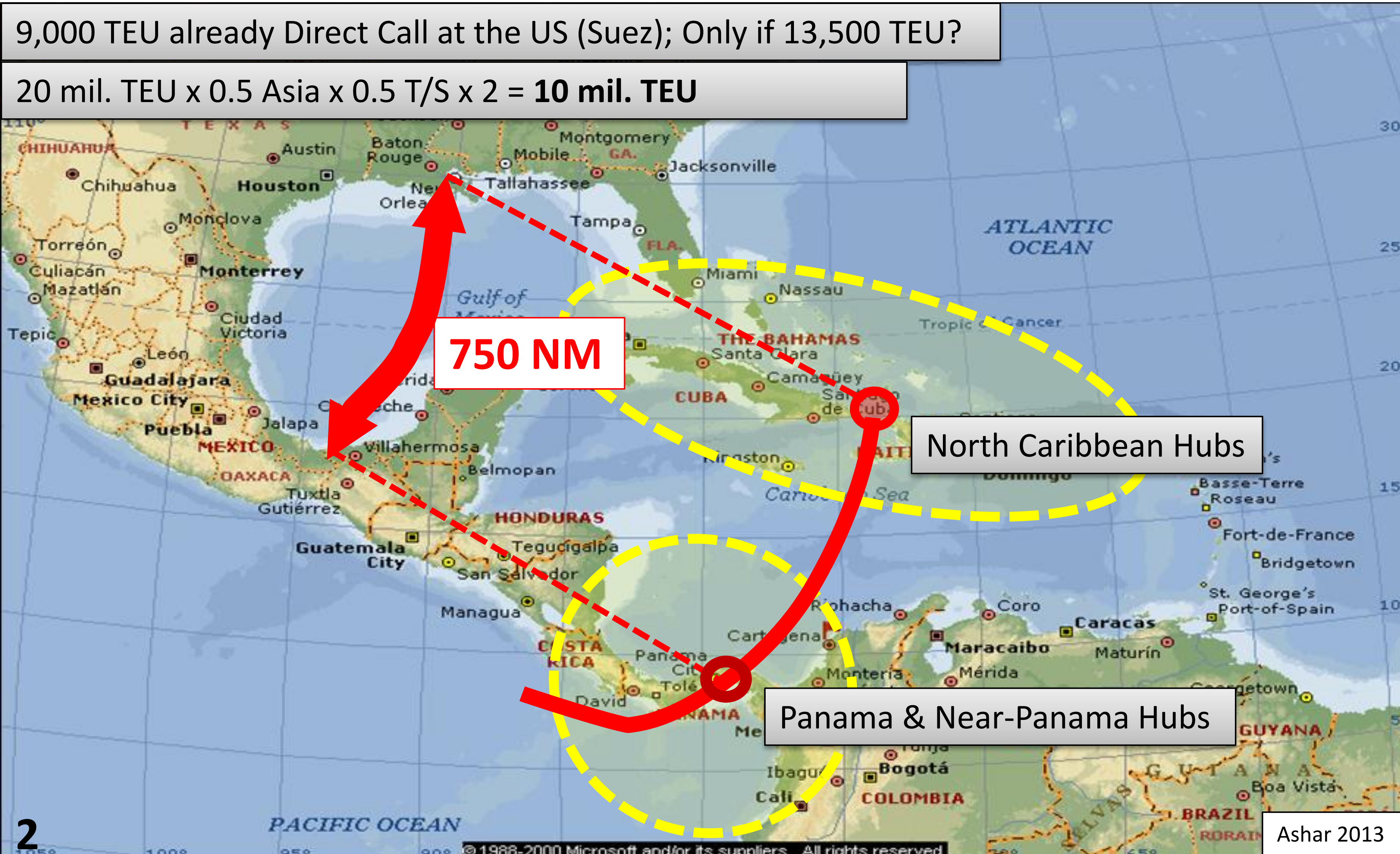
750 NM

Rodrigue adapted from Ashar 2002

Feedering 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**



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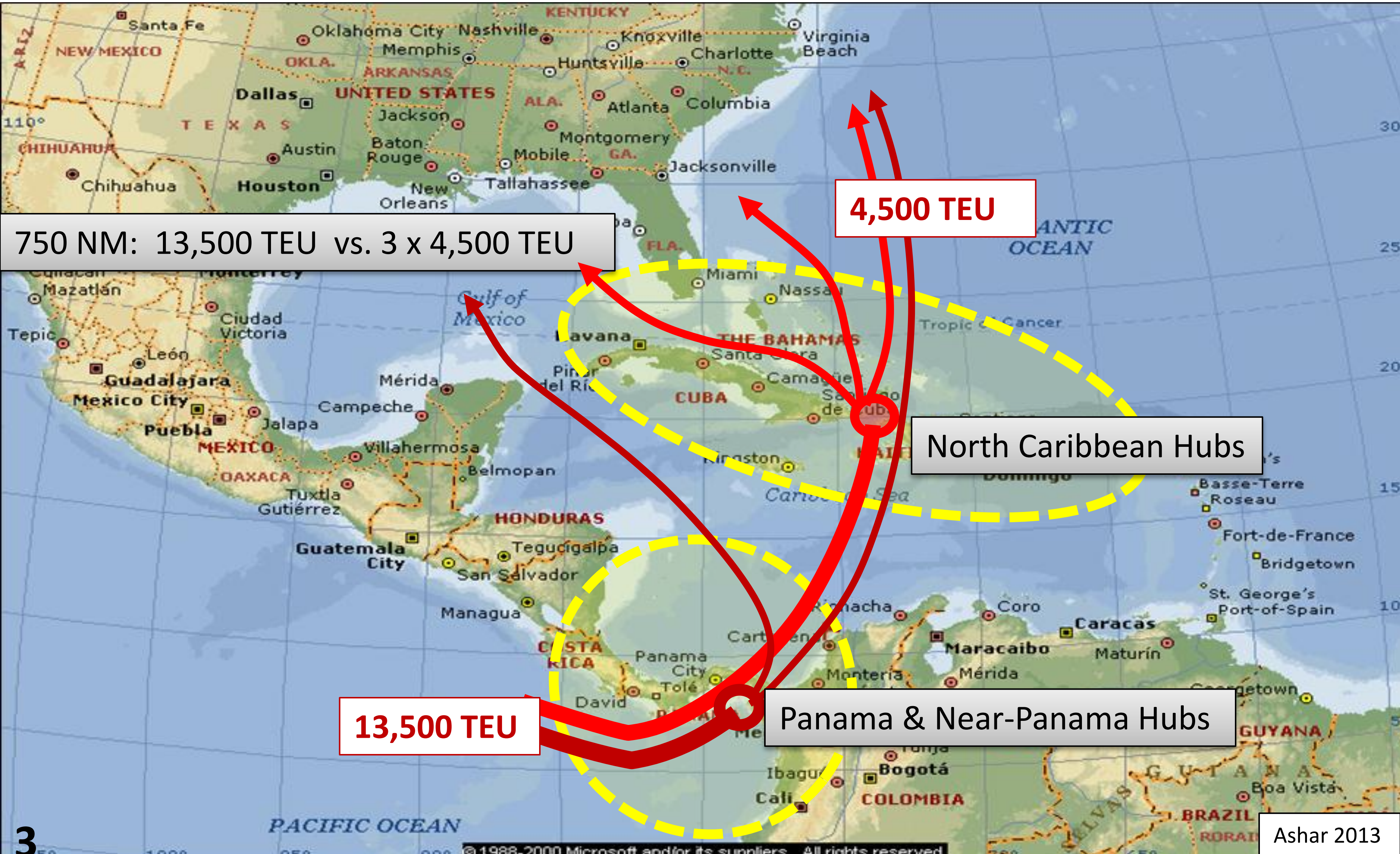
Panama vs. N Caribbean Hubs



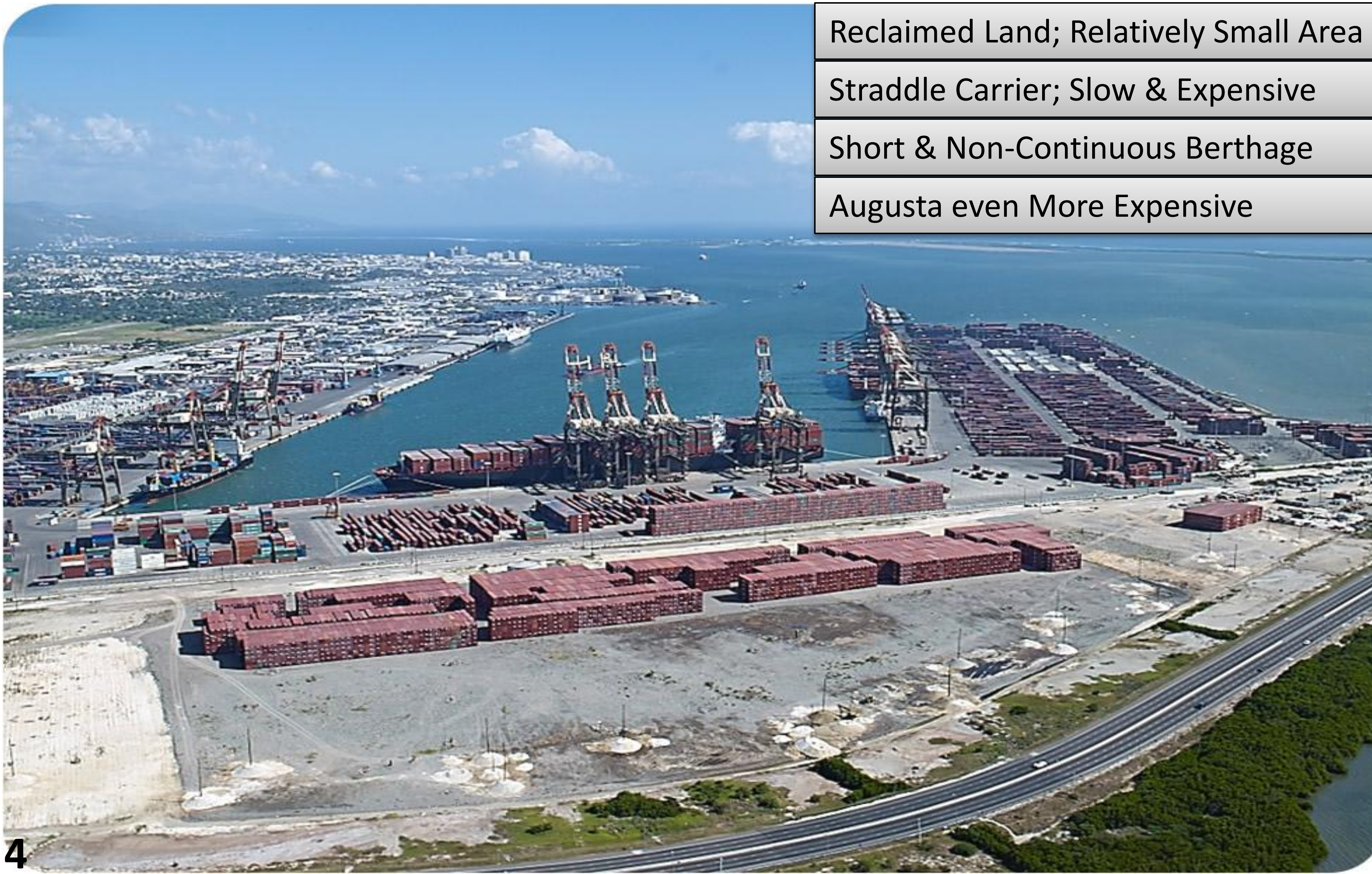
Panama Atlantic vs. North Caribbean

- 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

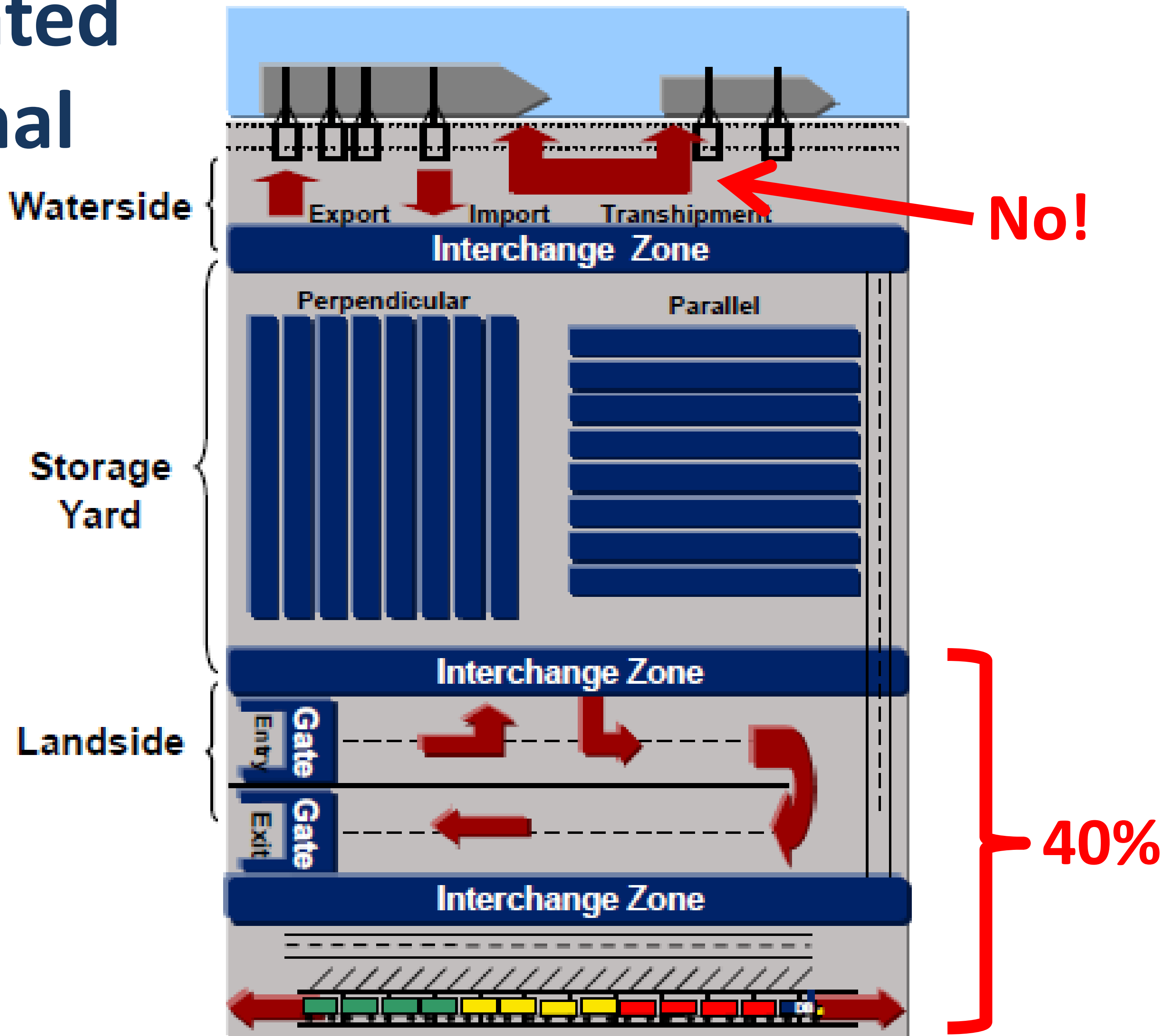
- 1,364 NM x 0.052/FEU-NM = **\$59/FEU**
- 13,500 FEU x 52 x \$59/FEU = **\$41 million/year**

Present Hubs: Kingston



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

Automated Terminal



HPC 2008; Ashar 2012

Pure Transshipment Ports (PTP)

- Present terminals' design is geared for handling gateway (domestic)
- Automation is "no good" for t/s = Gateway x 2; ***Too Expensive!***
- Lowering t/s cost at PTPs either by:
  - Finding ***locations*** with natural deep water, low-cost land, limited reclamation, low-cost labor; and/or
  - Developing specialized technology for PTPs based on handling ***groups of containers***

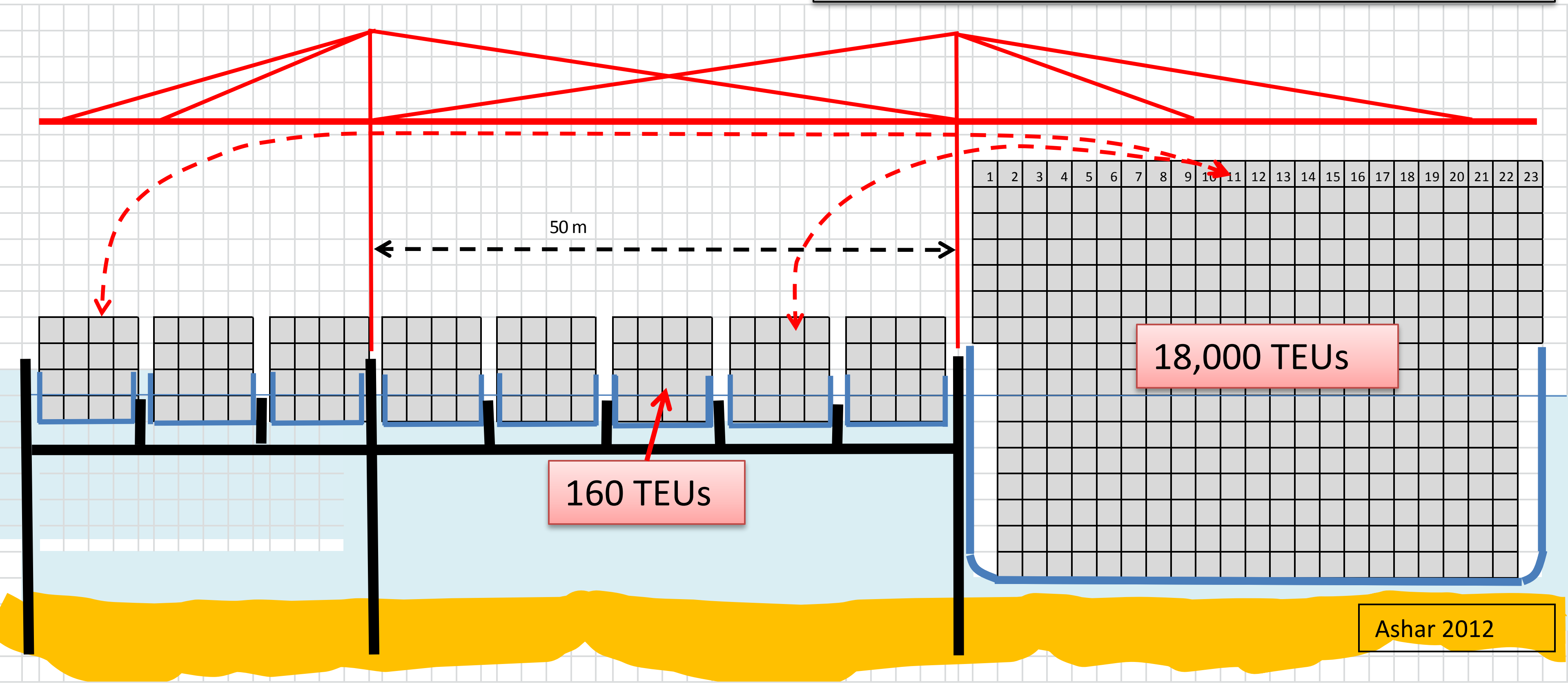
Floating Terminal: Ship-to-Barge

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



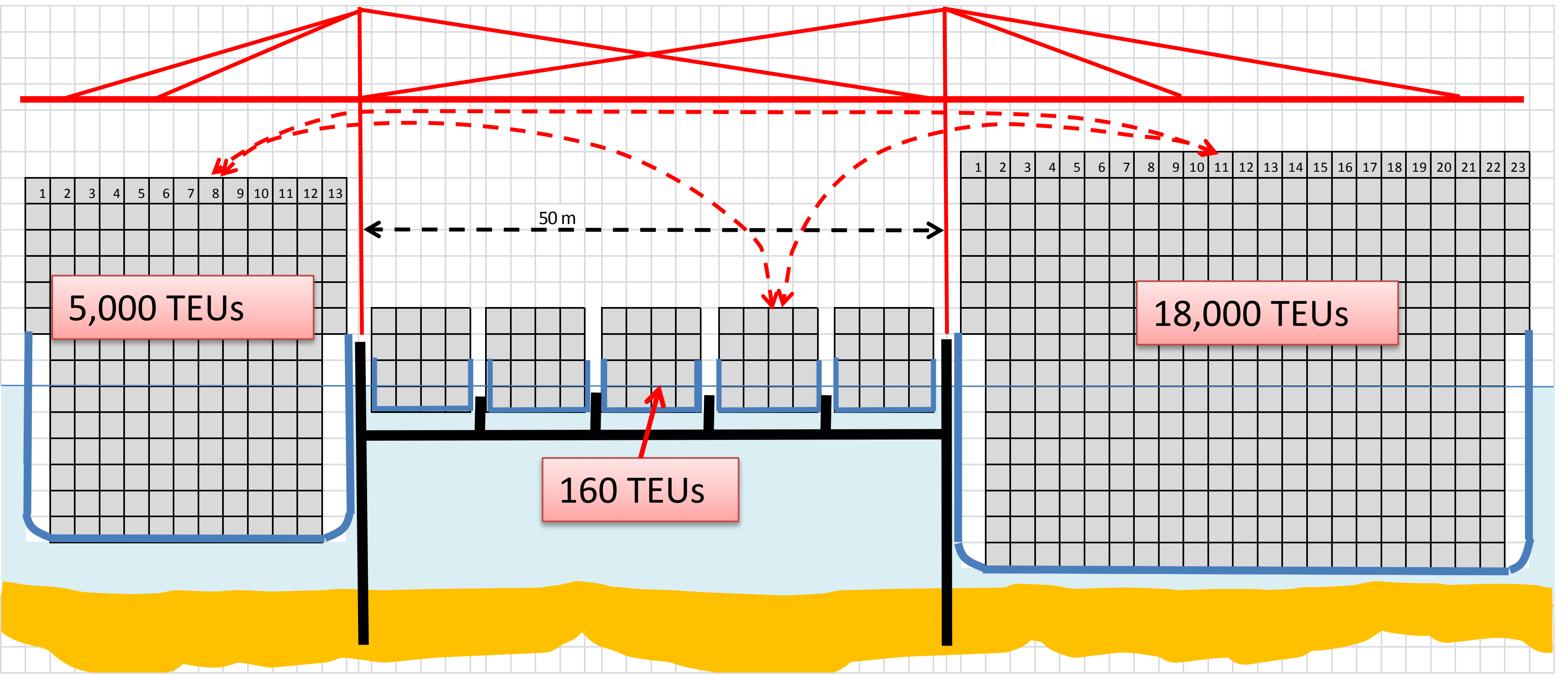
Mississippi River Barge Fleeting

Google; Ashar 2012

Floating Terminal: Ship-to-Barge-to-Ship

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

Ideal for Panama Canal!



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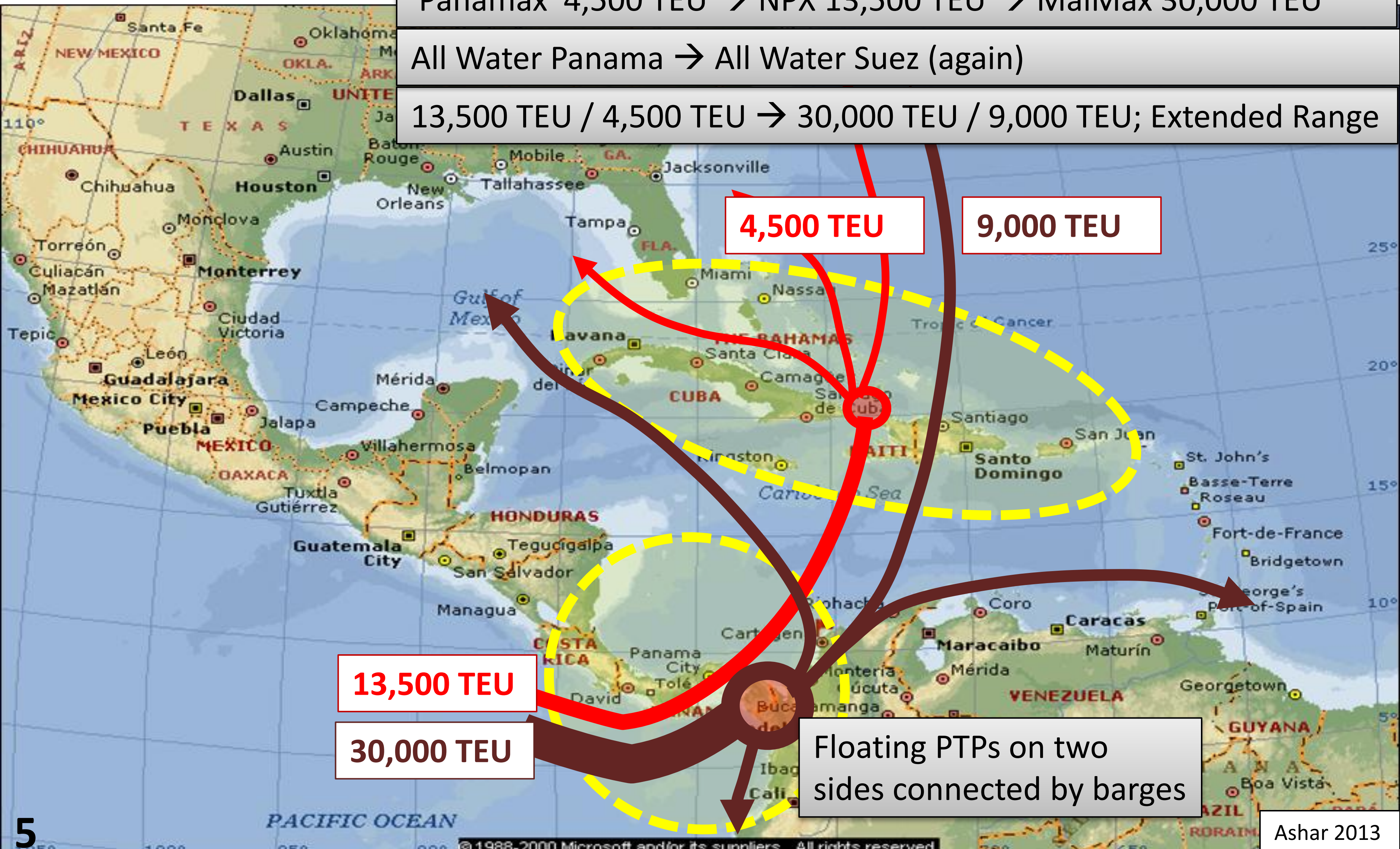
A Journey into the Long Future

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



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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

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Thank You!

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