

**Unlocking Panama? Some
thoughts on the impact of the
Canal expansion on liner and
bulk sea trade**

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Context – A Tale of Two Canals

Early in the third millennium – two quite major events of note for global maritime commerce:

Suez Canal

- Construction of a double section of 37 kilometres/22 miles to permit two-traffic.
- First passage through the new canal: 6 August 2015
- Total estimated cost \$8.1 billion.

Panama Canal

- Construction of new and larger lock systems (“Third Locks” project) at both Pacific & Caribbean ends of the Canal
- Deepening of channels
- First passage through the new canal: 26 June 2016
- Total estimated cost ~\$6.1 billion

...but the two developments rather different in their impact on vessel deployment...

Suez expansion:

- Increased number of daily transits;
- Reduced (halved?) average transit time;
- So ultimately able to support greater sea trade demand; but
- No appreciable impact on size of vessels (maybe a quibble over tankers in loaded condition?)



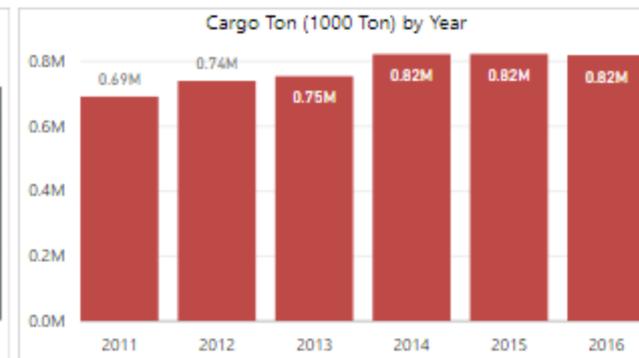
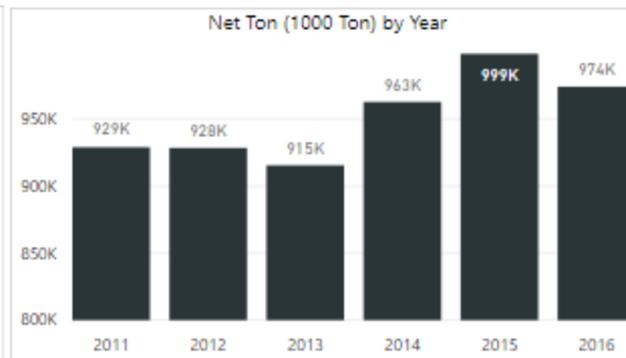
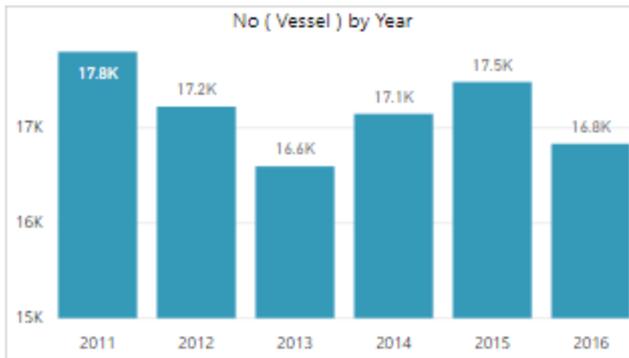
The Suez Canal expansion



acquired August 6, 2014 - April 5, 2016

Suez Canal Traffic statistics – 2011-2016

Yearly Statistics



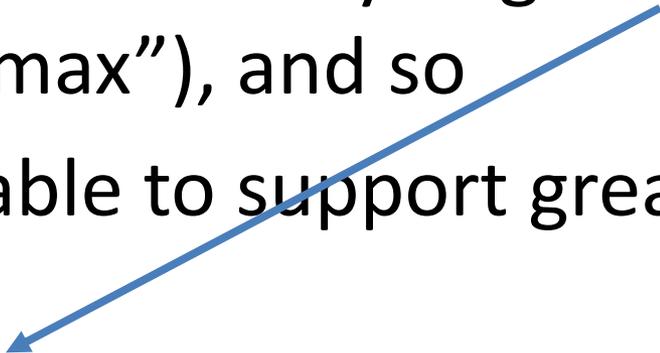
Year	No (Vessel)	Net Ton (1000 Ton)	Cargo Ton (1000 Ton)
2011	17,800	928,964	691,802
2012	17,224	928,473	739,911
2013	16,596	915,469	754,463
2014	17,148	962,745	822,320
2015	17,483	998,654	822,917
2016	16,833	974,184	819,154

...but the two developments rather different in their impact on vessel deployment...

Panama expansion:

- Increased number of daily transits;
- No great impact on transit time; but
- Transit by considerably larger vessels possible (“neo-Panamax”), and so
- Ultimately able to support greater sea trade demand.

My principal focus on Panama



A bit of history

- French the first to attempt a (sea-level) canal through the isthmus
- Massive human cost – estimated 22,000 deaths of canal workers
- Later US strategic interest – obtained control over the “Panama Canal Zone”
- Canal with locks to raise vessels over the isthmus opened in 1914

Principal impetus strategic rather than economic

The first Panamax? USS *Missouri* in the Panama locks in 1945



A bit more recent history...

- Control over the Canal passed from the US to Panama from 1999
- By this time the concept of “Panamax” dry-bulk, container and some (largely product) tanker vessels entrenched
- 2006: plans by the Canal Authority to build larger locks and deepen channels
- Planned centenary opening in 2014

**To redefine the concept of a
“Panamax” vessel**

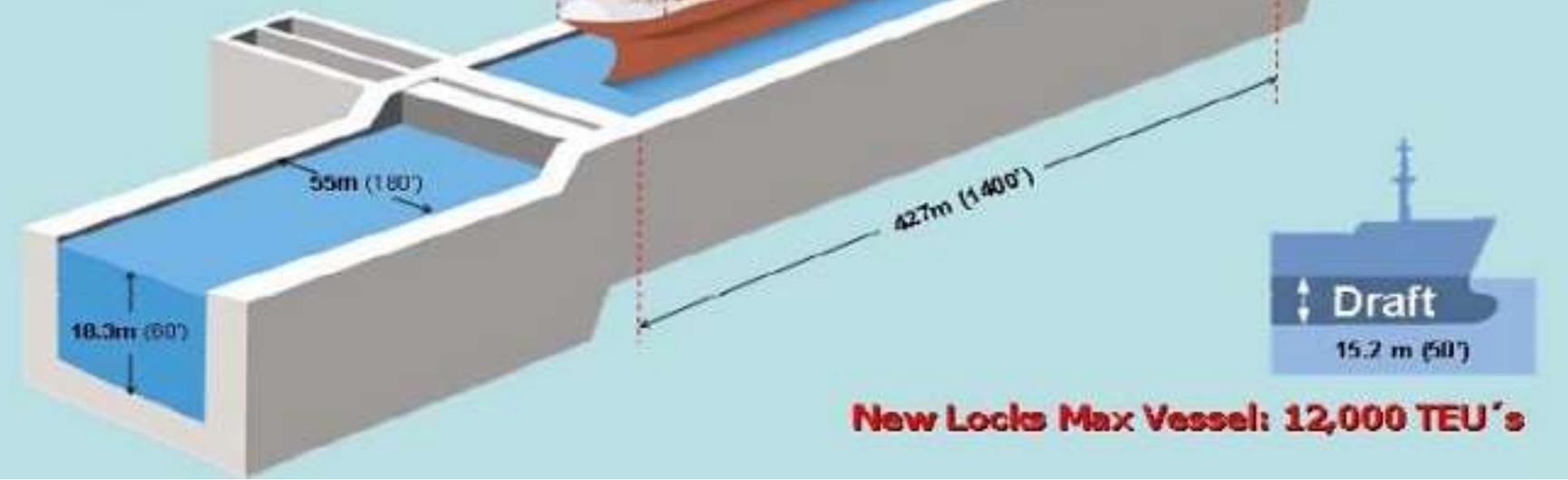
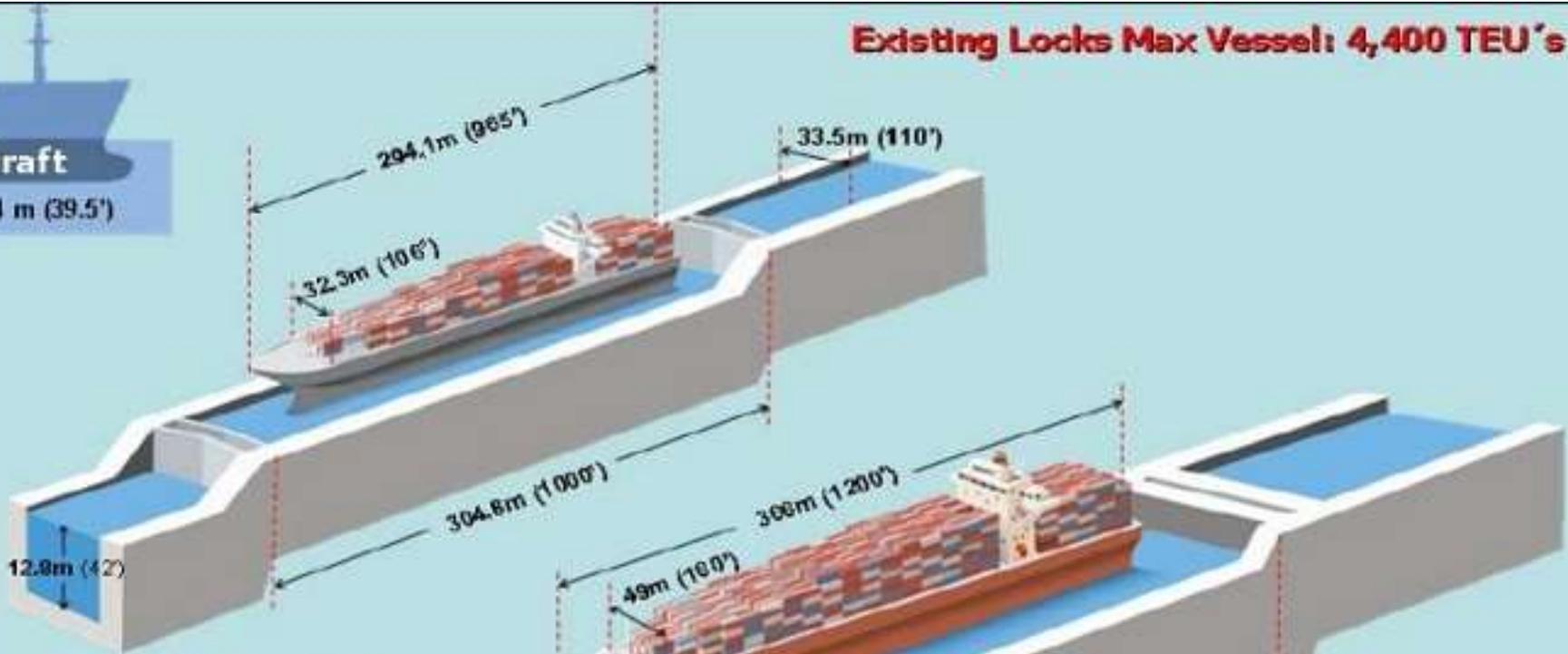


Expansion project included:

- 1** Deepening of the Pacific and Atlantic canal entrances.
- 2** Widening and deepening of the Gatún Lake navigational channel.
- 3** Deepening of Culebra Cut.
- 4** Building of the new locks and water-reutilization basins on the Atlantic and the Pacific.
- 5** Raising of Gatún Lake maximum operational level.
- 6** A new 3.8-mile Pacific access channel.

Existing Locks Max Vessel: 4,400 TEU's

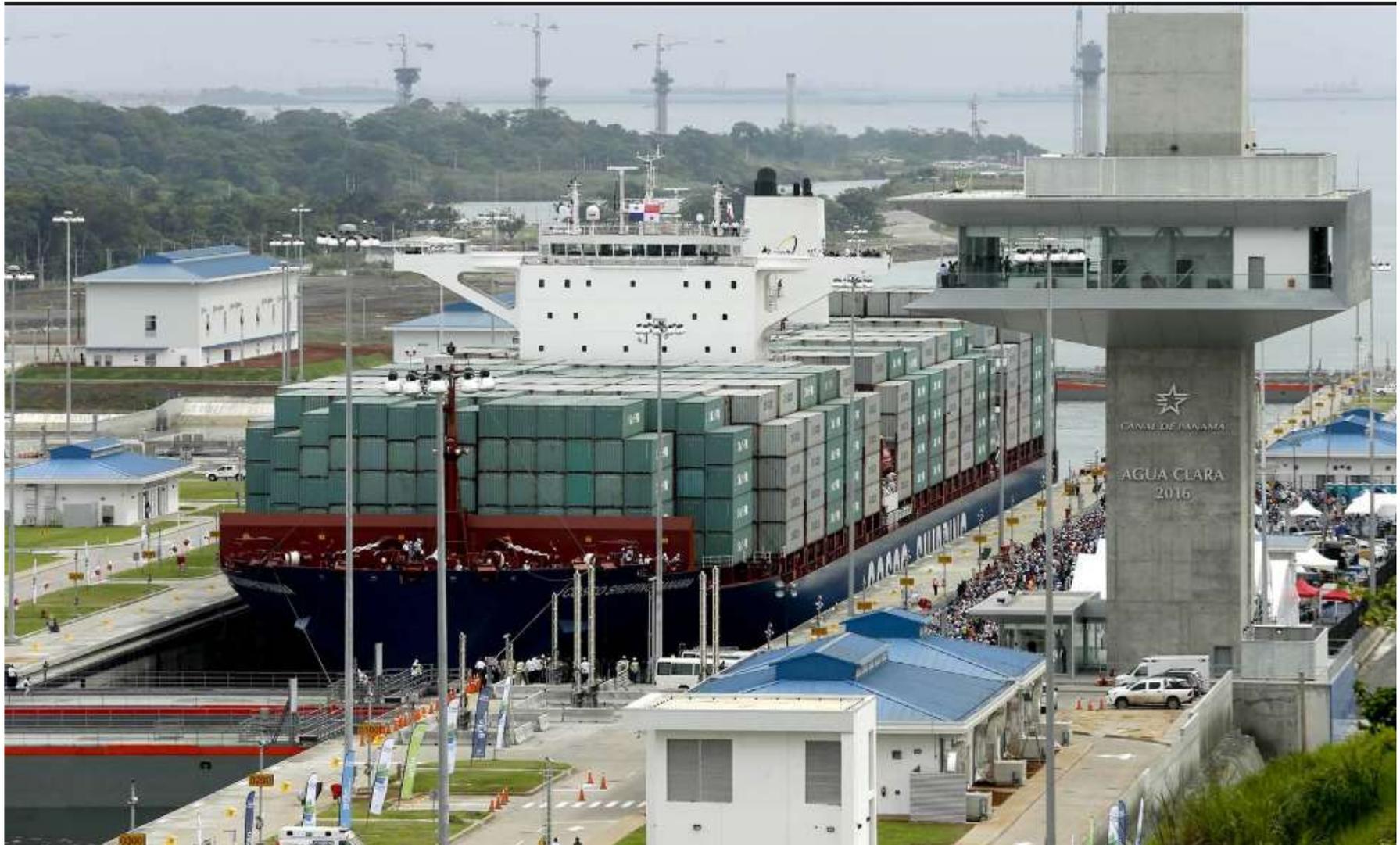
Draft
12.04 m (39.5')



Draft
15.2 m (50')

New Locks Max Vessel: 12,000 TEU's

The first “Neo-Panamax” transit – 26 June 2016



	Loa (m)	Beam (m)	Draught (m)	Air Draught (m)
Old Panamax	289.6	32.3	12.0	57.9
Neo-Panamax	366.0	49.0	15.2	57.9



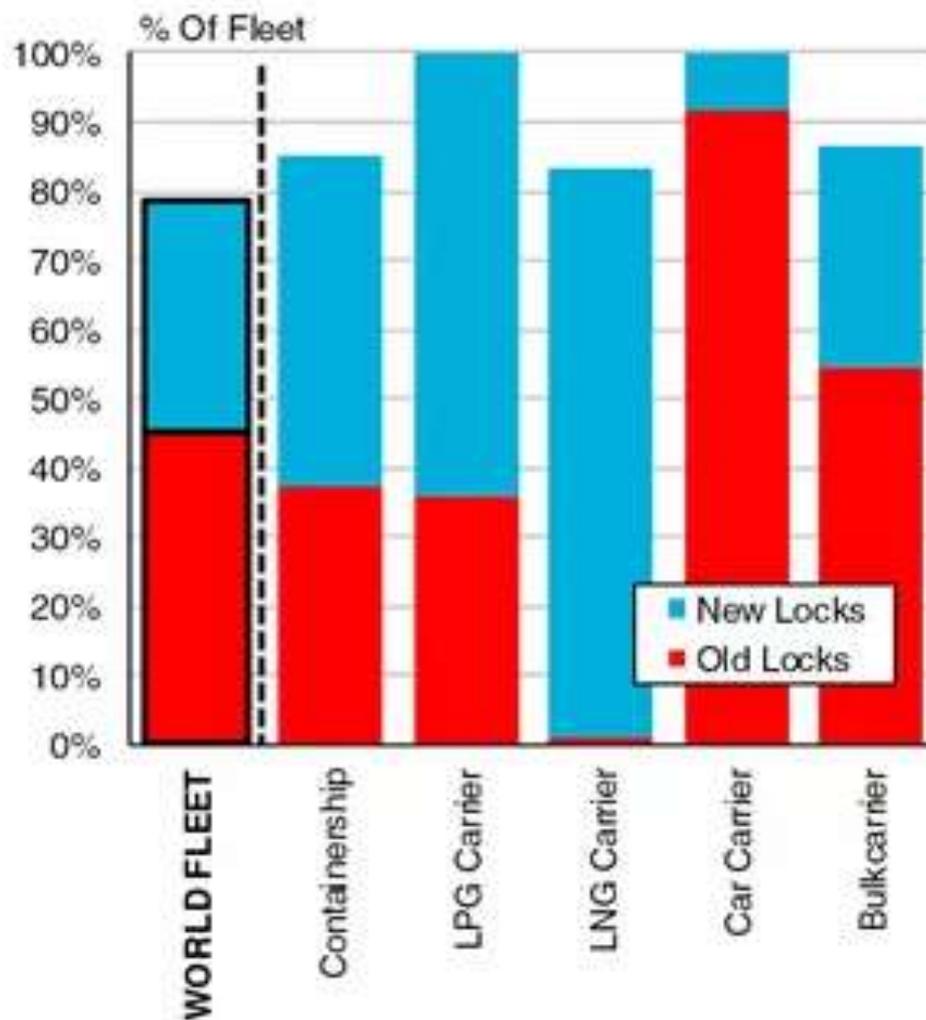
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What impact on sea trade and vessel deployment?

Graph of the Week

The Panama Canal Achieves Its 'Widest' Dreams?

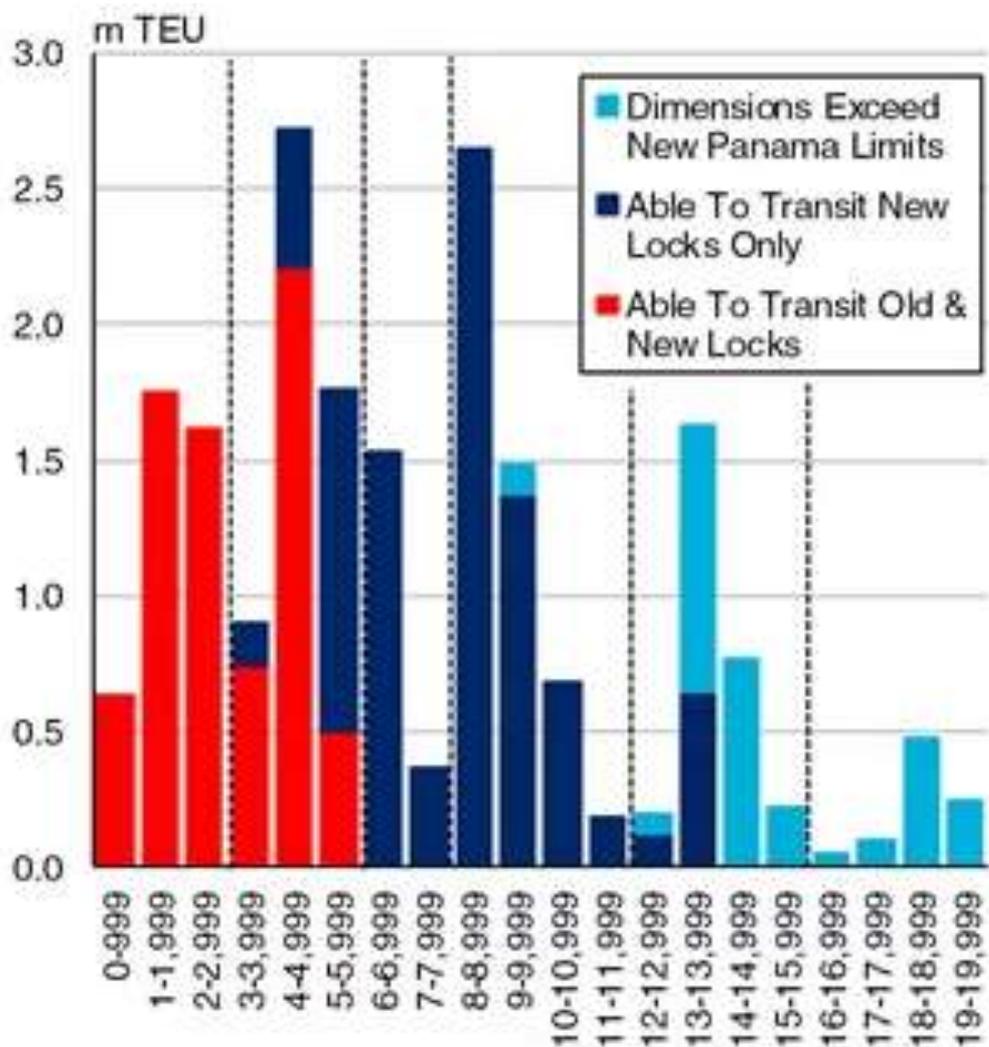
The graph shows the proportion of fleet capacity in each sector which is capable of transiting the existing (or "old") locks of the Panama Canal, and the additional proportion of fleet capacity which will be able to transit through the new expanded set of locks. Data shown in dwt for the world fleet and bulkcarriers, in TEU for containerships, cubic metres for LPG and LNG carriers, and vehicle capacity for car carriers. Statistics as at 20th June 2016.



Source : Clarksons Research

A bit too simplistic.... A more useful breakdown would be:

- Transit by Suezmax tankers in ballast and laden Aframax tankers;
- Transit by Cape-sized dry-bulk vessels in ballast, and $\leq 120,000$ dwt laden (but that upper range thinly populated); and most importantly
- Container vessels up to roughly 13,200 teu, but in more detail (also Clarksons)...



The bulk trades

- Probably minimal impact on crude oil & petroleum product (not my focus)
- Considerable impact on LPG & LNG (ditto)
- Quite small impact on major dry bulks (Colombian coal? Little Brazilian impact? Some more efficient ballast voyages?)
- Small impact on minor bulks (parcel sizes generally not > old Panamax)

..but the expansion aimed largely at the CONTAINER trades not the bulk trades

Steaming distances:

Tubarao-Qingdao & vv (Brazilian iron-ore)

- **11086 n miles via Cape of Good Hope**
- 12556 n miles via Panama
- 13311 n miles via Suez

Puerto Bolivar-Qingdao & vv (Colombian coal)

- **8891 via Panama!**
- 13489 via Suez
- 14087 via Cape of Good Hope

The container trades

- Immediate interest from container majors, consortia in “all water” route from Asia-US east coast;
- Wave of orders for neo-Panamax container ships, in advance of canal completion. 190 newbuildings by mid-2015, another 125 by early-2017 (Alphaliner);
- Deployment beyond the Panama trades (SA)
- “The age of extinction” for Panamax ships?

Panama Canal – Principal routes (vessel tonnage)

The main trade routes with traffic in the Panama Canal are:

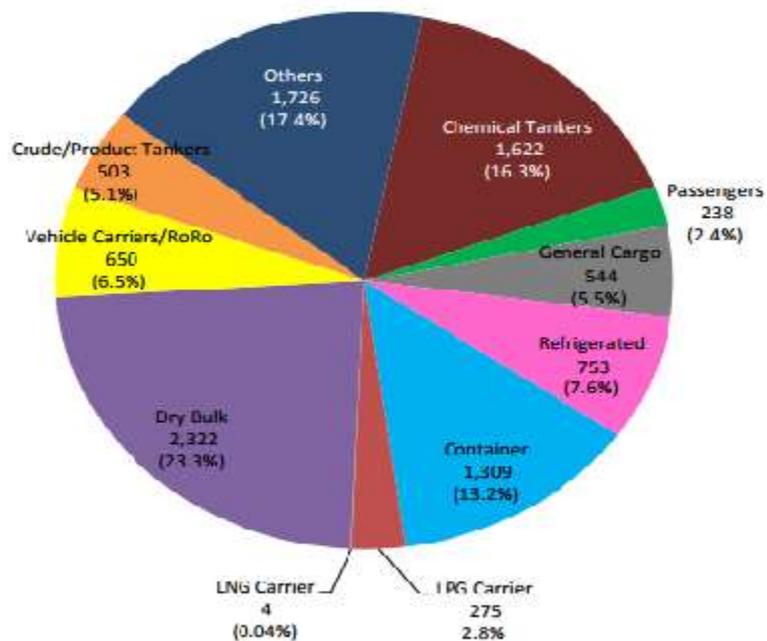
- East Coast of U.S.A. and Asia (Far East)
- East Coast of U.S.A. and West Coast of South America
- Europe and West Coast of South America
- East Coast of U.S.A. and West Coast of Central America
- Coast to Coast of South America

These main routes, along with other that use the waterway, reported for the 2016 fiscal year a total of 329,445 PC/UMS[1] net tonnage, representing a decrease of 3.1% compared with 2015.

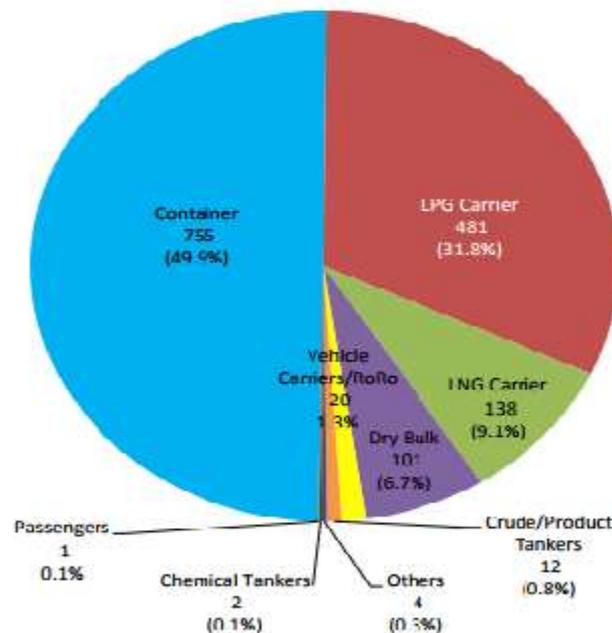


Cumulative Monthly Panama Canal Traffic by Market Segment From October 2016 to July 2017 of Fiscal Year 2017

Panamamax



Neopanamax



Container LPG Carrier LNG Carrier Dry Bulk
Vehicle Carriers/RoRo Crude/Product Tankers Others Chemical Tankers
Passengers General Cargo Refrigerated

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Strong response from principal US east coast ports



Strong response from principal US east coast ports

- **Savannah:** channel deepening to close to 15 metres, terminal expansion
- **Charleston:** channel deepening to 16 metres, new terminal construction, expanded dry-port investment
- **Jacksonville:** channel deepening to close to 15 metres, terminal expansion
- **Norfolk:** channels over 16 metres, major terminal expansion
- **New Jersey/New York ports:** constraint was air draught – Bayonne Bridge carriage way raised for neo-Panamax vessel access

Most/all predicated on increased trans-Panama traffic

Bayonne Bridge



January 1, 2017



June 7, 2017



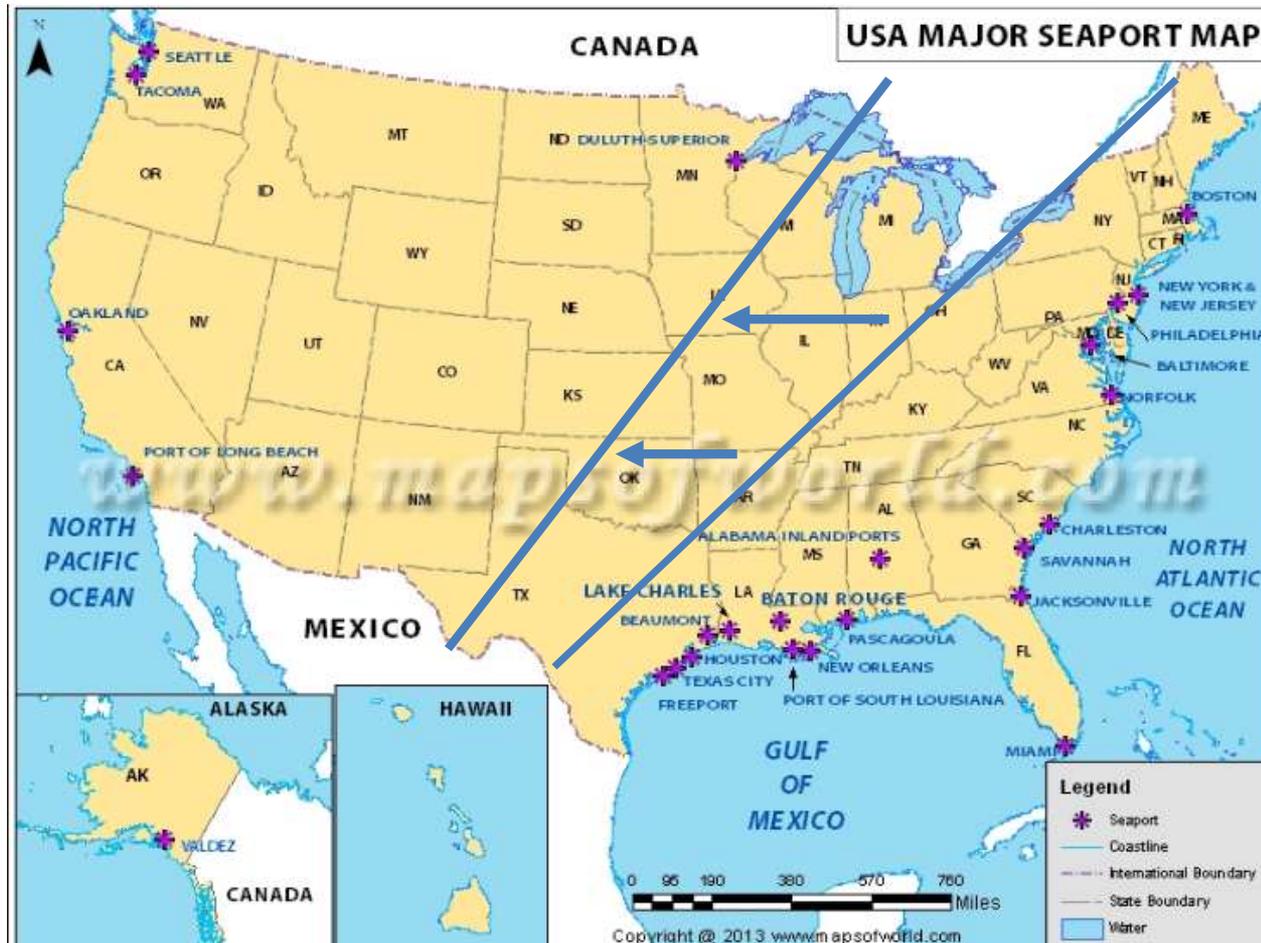
THE PORT AUTHORITY OF NY & NJ

First 13,000-TEU containership calls at Port of NY/NJ

By Kirk Moore



A wider hinterland for US east coast ports?



Thank you