



AAPA American Association
of Port Authorities

SHIFTING TRADE PATTERNS

A View From The Perspective Of
THE MARINE TERMINAL OPERATOR/STEVEDORE

- **Shifting Trade Patterns: What's Trending**
- **Infrastructure Needs & Investment Plans:
Who's Spending What & Where**
- **National Freight Infrastructure Policies
OR Lack Thereof**
- **Takeaways**

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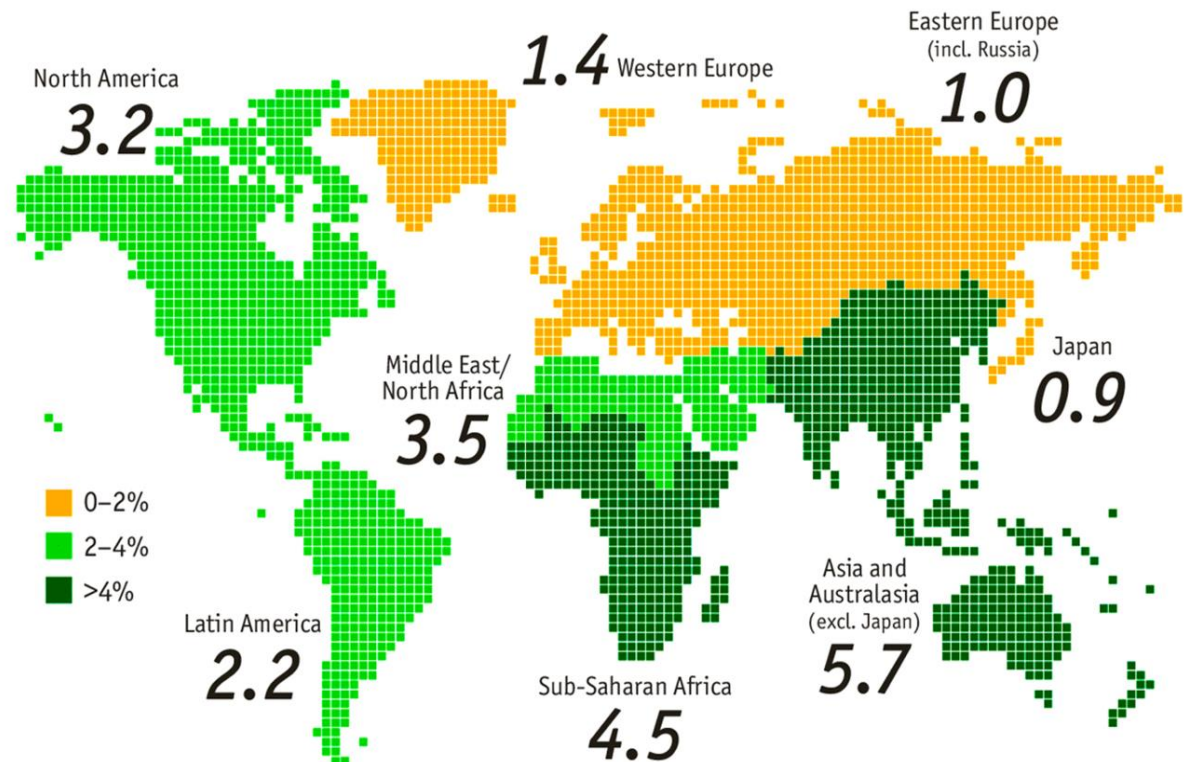


SHIFTING TRADE PATTERNS: WHAT IS TRENDING?

WORLD GDP*

The World Trade Organization, which cut its forecast for trade growth this year from 4.6% to 3.1% and for 2015 from 5.3% to 4%.

The world economy will grow by 2.9% in 2015, according to the Economist Intelligence Unit (EIU), our sister company. In 2014, world GDP was estimated to have increased by 2.5%. Global growth will be boosted by lower oil prices: a 10% fall is thought to add 0.2 percentage points to the World GDP. America will be the best-performing rich-world economy in 2015, with growth forecast at 3.3%. But the world economy will be held back by weakness in the euro area and Japan, and by slower growth in emerging markets. China will see expansion slow to 7% in 2015.



Source: Economist Intelligence Unit

*At market exchange rates

SHIFTING TRADE PATTERNS: WHAT IS TRENDING?

**CASCADING WELL IN PLAY GLOBALLY;
VESSELS ARE LARGER IN MOST EVERY TRADE & TREND WILL CONTINUE**

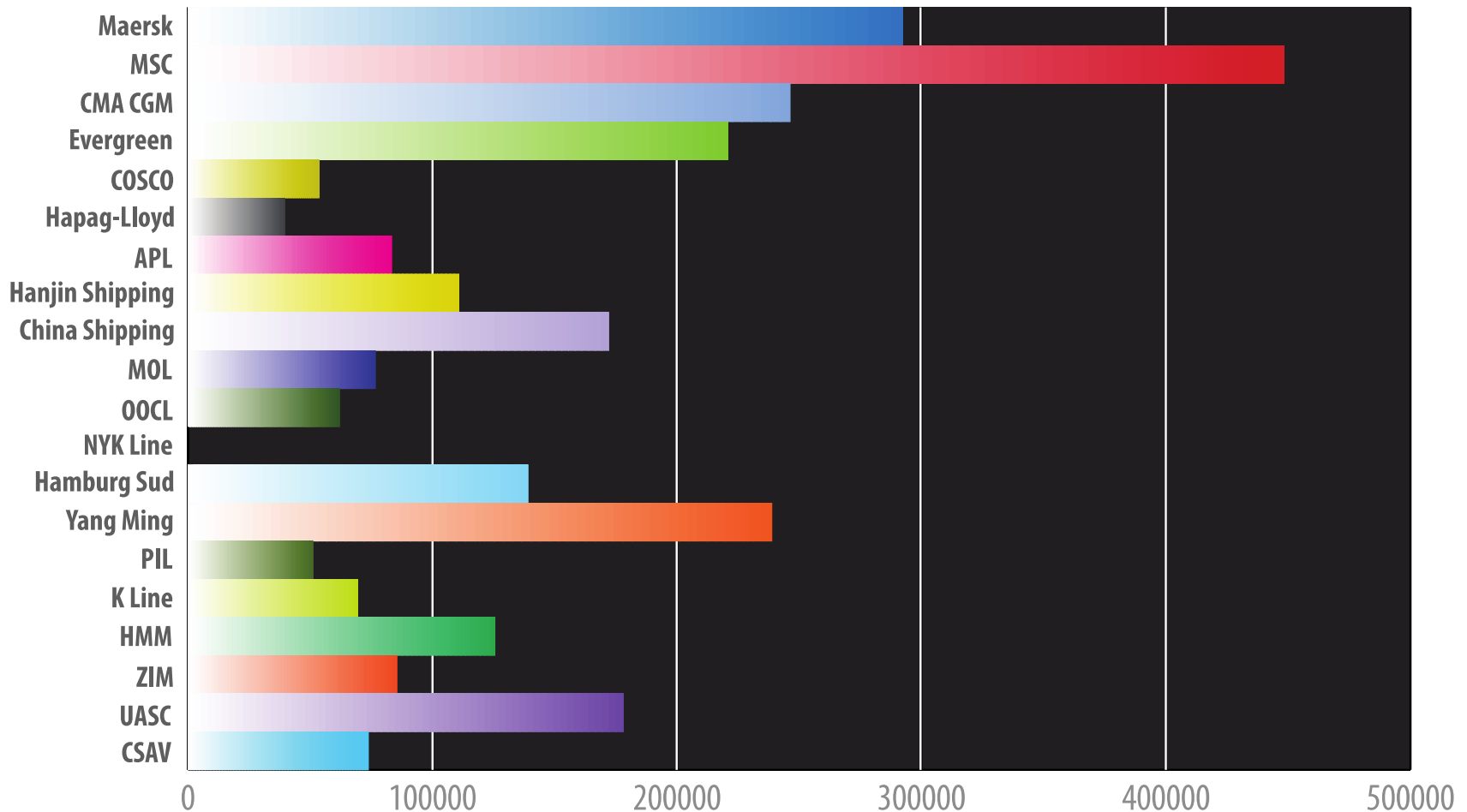
- ◆ **Alphaliner: New Container Ship Deliveries to Drive Record Capacity in 2014**
- ◆ **Expanding capacity, bigger ships to test European ports this year ... *JOC, January 2015***
- ◆ **Top 30 Ocean Carriers: Profits at last?... *Logistics Management, October 2014***



SHIFTING TRADE PATTERNS: WHAT IS TRENDING?

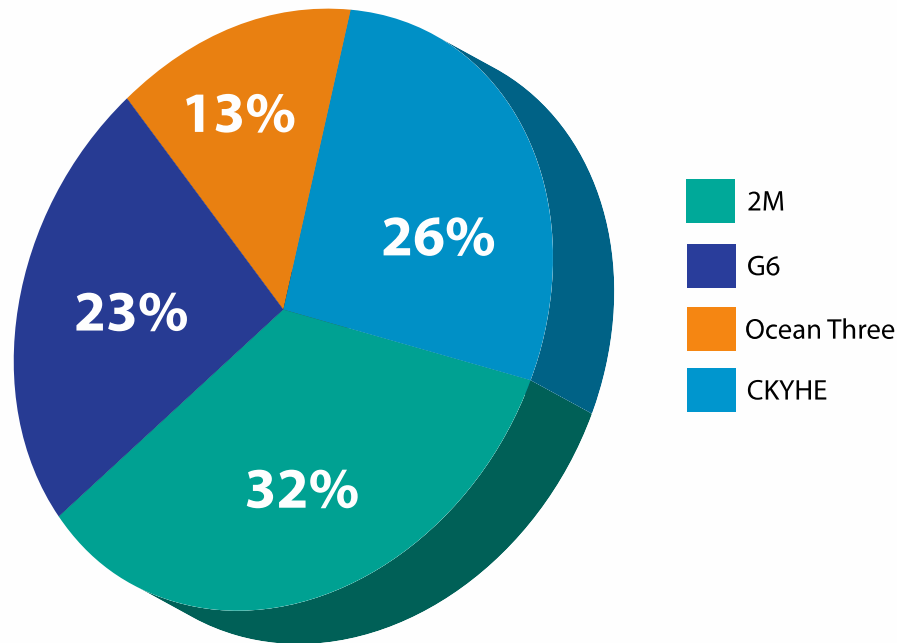
ORDERBOOKS FOR TOP 20 CONTAINER CARRIERS

TEUS (in thousands)



SHIFTING TRADE PATTERNS: WHAT IS TRENDING?

UBER ALLIANCES CONTINUE BUT CAPACITY VS DEMAND OVERAGE CONTINUES



- ◆ Drewry warns that late ship deliveries will add to 2015 overcapacity ... *Drewry, January 2015*
- ◆ A different recovery for box carriers; a continued reduction of unit costs, rather than the matching of supply and demand at the individual trade route level ... *Drewry, October 2014*
- ◆ Drewry forecasts that freight rates will decline in 2015 by as much as 3-4% year-on-year ... *Drewry, October 2014*

SHIFTING TRADE PATTERNS: THE SO-CALLED “MEGA SHIPS” ARE ALREADY HERE

**MORE
ARE
COMING
IN
MULTIPLE
TRADE
LANES.
FOR THE
STEVEDORE/
TERMINAL
OPERATOR,
IT’S
ALL ABOUT
THE SHIP!**

Newbuilding Delivery Projections - Cellular Fleet

	2010 Deliveries		2011 Deliveries		2012 Deliveries		2013 Deliveries		2014 Deliveries	
Nominal TEU	No.	TEU	No.	TEU	No.	TEU	No.	TEU	No.	TEU
10,000-18,000	31	406,330	47	597,142	55	712,978	59	780,976	38	523,976
7,500-9,999	32	275,295	25	218,717	27	232,494	47	420,014	27	243,924

Cellular Fleet Projections

Fleet as at:	31 Dec 2010		31 Dec 2011		31 Dec 2012		31 Dec 2013		31 Dec 2014	
Nominal TEU	No.	TEU	No.	TEU	No.	TEU	No.	TEU	No.	TEU
10,000-18,000	71	887,598	118	1,484,740	173	2,197,718	232	2,978,694	270	3,502,670
7,500-9,999	264	2,262,471	289	2,488,540	316	2,726,234	363	3,146,248	390	3,390,172

Global Capacity Deployment Breakdown By Trade (As At 1 Nov. 2011)

By Vessel Count													
Trade	Size Range	100-999	1,000-1,999	2,000-2,999	3,000-3,999	4,000-5,099	5,100-7,499	7,500-9,999	10,000-15,500	Total Cellular Units	Non-Cellular	Total Liner Units	%
Europe-N. America		0	9	38	27	63	11	0	0	148	5	153	3%
Far East-N. America		0	10	25	12	198	127	94	2	468	4	472	9%
Europe-Far East		0	0	3	9	33	141	164	108	458	0	458	8%

SHIFTING TRADE PATTERNS: WHAT'S TRENDING?

Containership Calls at U.S. Ports by Vessel Size & Number of Vessels: 2006-2011

Vessel Size (TEUs)	2006	2007	2008	2009	2010	2011
Calls						
< 2,000	(R) 4,143	(R) 3,900	(R) 3,492	(R) 3,287	(R) 3,707	4,563
2,000-2,999	(R) 3,985	4,099	(R) 3,344	(R) 2,676	(R) 2,760	2,878
3,000-3,999	3,333	2,866	2,460	(R) 2,499	(R) 2,052	2,363
4,000-4,999	4,782	5,033	(R) 5,120	(R) 5,303	(R) 5,876	6,421
> 4,999	3,344	3,961	(R) 4,313	4,434	5,126	5,997
Total Calls	(R) 19,587	(R) 19,859	(R) 18,729	(R) 18,199	(R) 19,521	22,222
Vessels						
< 2,000	212	195	196	179	178	182
2,000-2,999	257	230	219	220	206	184
3,000-3,999	177	166	141	147	130	131
4,000-4,999	258	271	284	306	315	307
> 4,999	260	277	326	366	396	418
Total Vessels	1,164	1,140	1,166	1,218	1,225	1,222

Key: TEU = twenty-foot equivalent unit; R = revised

SHIFTING TRADE PATTERNS: WHAT'S TRENDING?

INFRASTRUCTURE DEMAND INCREASING IN ALL SECTORS

- ◆ **Mega-Ships Drive Investment in U.S. West Coast Infrastructure ... *JOC, October 2013***
- ◆ **Mega-Ships put strain on Canada's Transportation Infrastructure ... *JOC, October 2013***
- ◆ **Access: channel/harbor draft requirements, waterways: maintenance, security, safety**
- ◆ **Dispatch: terminal design/upgrades, equipment/labor availability (3 Gangs, 2 Days; Now 5 Gangs, 5 Days, 2 Shifts)**
- ◆ **Velocity: Gate facilities/systems, truck, rail capacity and turn times**



INFRASTRUCTURE NEEDS & INVESTMENT PLANS: WHO IS SPENDING WHAT & WHERE?

PORTS & PRIVATE SECTOR TENANTS

- ◆ The results of the AAPA's Port Infrastructure Spending Survey indicated that U.S. Ports and their private sector marine terminal partners are planning to spend at least a combined \$46 billion in port-related improvements through 2016.
- ◆ The 2012 survey found that U.S. Port Authorities are planning on investing \$18,334,777,057 through 2016 on marine terminal-related infrastructure improvements, while their private sector terminal partners plan on spending \$27,635,700,008, for a combined total of nearly \$46 billion.



INFRASTRUCTURE NEEDS & INVESTMENT PLANS: WHO IS SPENDING WHAT & WHERE?

PORTS & PRIVATE SECTOR TENANTS

This total works out to be over \$9 billion dollars average per year, of which, approximately 1/3 is spending by Port Authorities and 2/3 by their private sector partners.

Port Region	Ports' Projected Capital Expenditures For 2012-2016	Projected Private Sector Capital Expenditures For 2012-2016	TOTAL Projected Port & Private Capital Expenditures For 2012-2016
NORTH ATLANTIC	2,122,375,000	1,206,500,000	3,328,875,000
SOUTH ATLANTIC	4,080,678,910	261,602,000	4,342,280,910
GULF	4,340,061,518	17,782,298,008	22,122,359,526
GREAT LAKES	224,650,000	135,000,000	359,650,000
NORTH PACIFIC	1,765,715,068	5,914,300,000	7,680,015,068
SOUTH PACIFIC	5,801,296,561	2,336,000,000	8,137,296,561
TOTALS:	18,334,777,057	27,635,700,008	45,970,477,065

HOW DOES THIS STACK UP FOR THE PORTS?



PORTS

Number of Commercial U.S Seaports

360

Current Spending

Approximately \$850 Million Annually

Ideal Spending

Approximately \$1.8 Billion Annually

(Kiplinger)

INFRASTRUCTURE NEEDS & INVESTMENT PLANS

WHO IS SPENDING WHAT & WHERE?

LA approves Pier 300 expansion environmental review

| American Shipper, June 8, 2012

The Port of NY-NJ's PNCT moves into 'Path of Growth'

| JOC.com | June 16, 2014

Global Container Terminals unveils plan to open a new chapter in development in NY

| AJOT | May 10, 2012

Alabama port buys land for expansion

| JOC.com | August 26, 2014

Long Beach Launches \$3 Billion Port Expansion

| JOC.com | January 30, 2010

3 new cranes part of major expansion at Port Newark

| American Shipper | May 1, 2014

Plans for New Ship-To-Rail Facility and Upgraded Cross-Hudson Barge Service

| AJOT | September 29, 2014

New York New Jersey Port approves Greenville yard redevelopment

| AJOT | September 29, 2014

Port Everglades approved for \$16.5 million in state funds cargo berth and other expansion

| AJOT | October 4, 2013

Port Canaveral plans container expansion

| American Shipper | November 20, 2013

The Port Commission of the Port of Houston Authority has approved a significant new redevelopment plan for turning basin properties

| AJOT | January 31, 2012

INFRASTRUCTURE NEEDS & INVESTMENT PLANS: WHO IS SPENDING WHAT & WHERE?

RAILROAD INFRASTRUCTURE INVESTMENT: PRIVATE & PUBLIC/PRIVATE PROJECTS



From 1980 through 2014, freight railroads invested **\$575 billion**. In 2014, privately owned freight railroads project to spend at **least \$26 billion** to purchase new equipment improve rail lines and facilities. (AAR)

HEARTLAND CORRIDOR: A public-private partnership among Norfolk Southern & federal and state agencies

NATIONAL GATEWAY: A partnership between CSX, six states & the District of Columbia

TRANSCON CORRIDOR: BNSF Railway's Transcon Corridor connects the ports and markets in California and the Southwest to the Midwest, Texas and the Southeast

SANTA TERESA: Union Pacific Railroad (UP) and the State of New Mexico recently announced a partnership to construct a state-of-the-art rail facility in the southern part of the state.

CRESCENT CORRIDOR: A partnership between Norfolk Southern (NS) and 13 states, the Crescent Corridor is a 2,500 mile rail infrastructure project stretching from the Gulf Coast to the East Coast.

INFRASTRUCTURE NEEDS & INVESTMENT PLANS: WHO IS SPENDING WHAT & WHERE?

HIGHWAYS, TUNNELS, BRIDGES, INLAND WATERWAYS: NOT SO CLEAR

HIGHWAYS

Number of highway miles in the U.S.	47,013
Current Spending	42 billion annually
Ideal Spending	\$146 billion to \$310 billion annually over a 15 to 50-year period

The top 10 highway interchange bottlenecks in the nation delay truck shipments by an average of 1.5 million hours a year. (Kiplinger)

BRIDGES

Number of Bridges in the U.S.	590,766
Number of Deficient Bridges	152,316
Current Spending	\$5.2 billion annually
Ideal Spending	\$19 billion annually over a 50-year period

The average age of bridges in America stands at 43. (Kiplinger)



NATIONAL FREIGHT INFRASTRUCTURE POLICY??

- ◆ MAP-21, the MOVING AHEAD FOR PROGRESS IN THE 21ST CENTURY ACT *does not include a stand-alone freight program or dedicated formula funding for freight* but introduces several new provisions to Federal Transportation Policy.
- ◆ HTF short-term extension (May 2015) kicking the can down the road.
- ◆ WRDA positive movement and real resource commitment defines needs on port development. Better focus on HMT utilization and continued grants but there is still **WORK TO BE DONE.**
- ◆ The Freight Stakeholders Coalition Releases Surface Transportation Reauthorization Platform: Long-term sustainable funding for freight mobility tops recommendations. (American Trucking Associations National Customs Brokers and Forwarders Association National Association of Waterfront Employers American Association of Port Authorities Waterfront Coalition World Shipping Council)
- ◆ But - still no commitment on funding source improvements

THE AFFECT ON TERMINAL OPERATORS/STEVEDORES & OUR CONTRIBUTION TO THE SOLUTION

**THE BEST WAY THAT THE PRIVATE STEVEDORE/TERMINAL OPERATOR
CAN PARTICIPATE TO MAXIMIZE INFRASTRUCTURE UTILITY?**

IMPROVE VELOCITY/DENSITY

- ◆ **Technology critical to improving operations**
- ◆ **Equipment enhancements maximize space utilization**
- ◆ **Gate/TOS: systems continue to evolve/improve**
- ◆ **Automate: one size does not fit all and likely will be gradual as U.S. terminals expected to tailor automation to individual needs (OOCL Middle Harbor, Trapac, APL LA, VIG NFK, Global NY)**
- ◆ **Off-Peak Terminal Operations, Pier Pass – Los Angeles/Long Beach**



THE AFFECT ON TERMINAL OPERATORS/STEVEDORES & OUR CONTRIBUTION TO THE SOLUTION

GREY CHASSIS POOLS

Improved asset utilization, reduce terminal space requirements

SATELLITE/INLAND TERMINALS

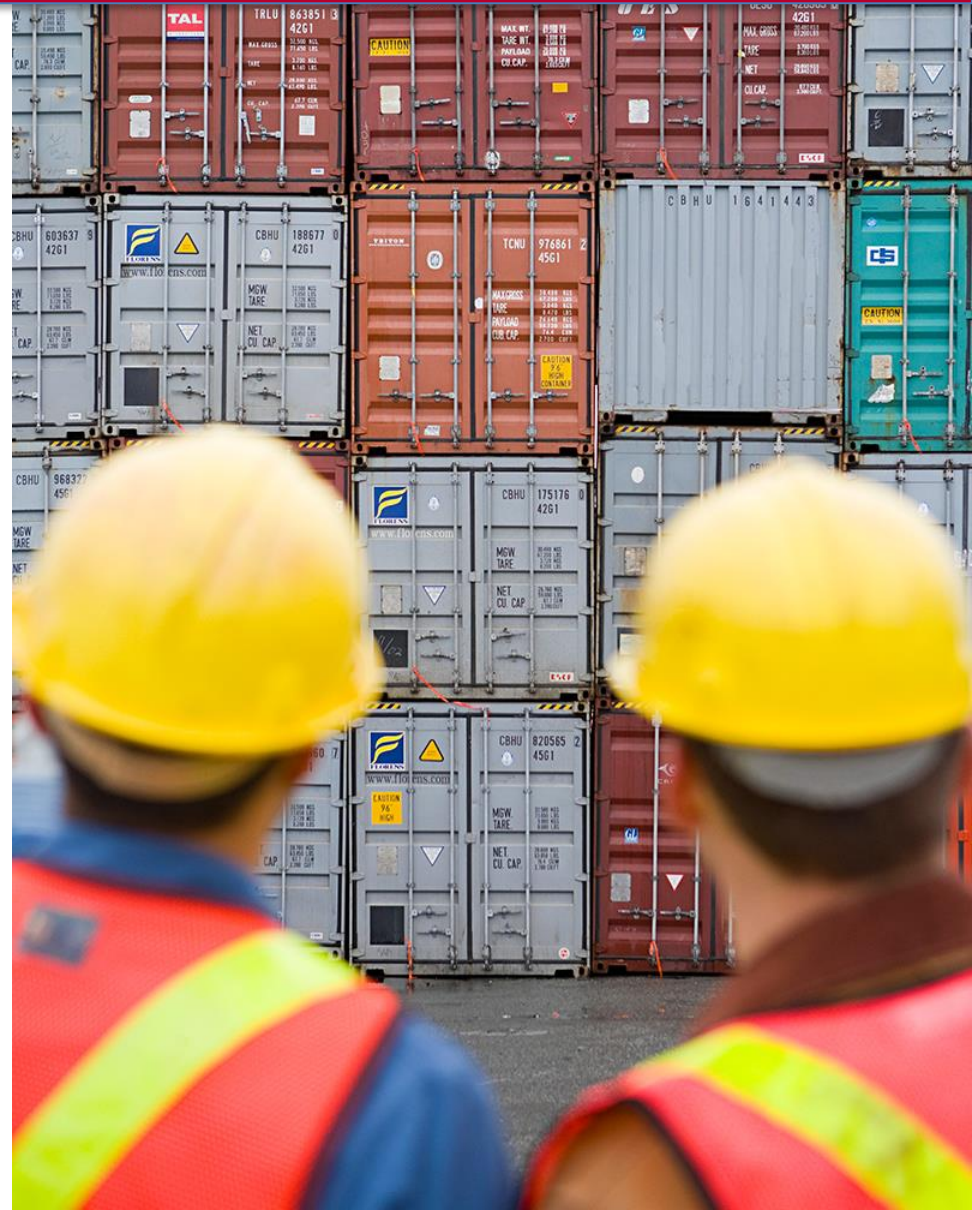
Accommodate inbound loads/mts

INTERMODAL/RAIL INFRASTRUCTURE INTERFACE

On/near dock rail improvements

GREY BOX POOLS

Unlikely near-term but perhaps now more momentum with recent shift to grey chassis concept



TAKEAWAYS FROM THE PRIVATE SECTOR THE VIEW OF THE TERMINAL OPERATOR/STEVEDORE


OPERATING PROFILE: THE MARKET

- ◆ **Mega Vessels Are Here to Stay**
The future is here and will continue to test facility capabilities.
- ◆ **Uber Alliances will increasingly be the staple of major trade lanes. These Alliances will financially and operationally challenge ports and terminal operators.**

INFRASTRUCTURE & TERMINAL INVESTMENT

- ◆ **Substantial Private/Public investment in play**
- ◆ **Focus remains fragmented by modal type**
- ◆ **Private sector highly focused on return on capital employed and meeting IRR**
- ◆ **Continued Public – Private approach**

TAKEAWAYS FROM THE PRIVATE SECTOR THE VIEW OF THE TERMINAL OPERATOR/STEVEDORE



Major North America Terminal Operators & Stevedores

Size/Scope Of Business

\$600 mil plus annual revenue

Broad Geographic/Operating Scope

West Coast North America

East Coast North America

Gulf Coast North America

Marquee: High Demand Terminal Locations

Large Asset Base Readily Available

Equipment

Systems

Management

State-Of-The-Art, Well-Established and/or Proprietary Terminal Operating System/IT Systems

Project Development – Internal Resources Available

Research/Analysis Engineering

Finance: Management & Administration

Ready Access To Capital

Ability To Respond Quickly To Opportunities

TAKEAWAYS FROM THE PRIVATE SECTOR THE VIEW OF THE TERMINAL OPERATOR/STEVEDORE

IRRESPECTIVE OF NATIONAL FREIGHT INFRASTRUCTURE POLICY – PRIVATE SECTOR AND PORTS CANNOT SUPPORT ALL THAT IS NEEDED

- ◆ **Throughput cost and handling cargo efficiently will determine success. Reliability on the dockside is essential.**
- ◆ **The proprietary container terminal operated for an individual shipping line is becoming an endangered species.**
- ◆ **There will likely be more consolidation within Terminal Operators & Stevedoring Companies.**
- ◆ **Formation of operating/equipment sharing agreements become more asset efficient.**
- ◆ **Push to automation sooner where possible.**
- ◆ **More joint ventures with carriers.**
- ◆ **New approaches to billing for stevedoring/terminal services for account of BCO?
(Pier Pass, THC to include stevedoring)**

NATIONAL FREIGHT POLICY??

THE SIGNS ARE PROMISING BUT BE CAREFUL WHAT YOU WISH FOR!



National Freight Infrastructure Policy

- ◆ Heightened Focus On Dredging
- ◆ MP-21 Designates The Need For A National Freight Program
- ◆ The Private Sector Is Investing Carefully
- ◆ Sound Signs Of Public/Private Success
- ◆ National Network Funding Sources Remain Murky





Thank You!
Enjoy Your Stay in Tampa.