



Trends in North America Terminal Operations

Volume- Containers

- ▶ U.S. Container growth rate is 1 million TEUS per year
- ▶ Worldwide fleet of containers at the beginning of 2005 was 13 million with overall capacity of approx 20 million TEUS

Container TEU Volume			
	2000	2005	% Change
New York/New Jersey	3,050,746	4,792,922	57%
Port of Virginia	1,375,000	1,981,955	44%
Port of Long Beach	4,600,787	6,709,818	46%
Port of Los Angeles	4,879,428	7,484,624	53%
Port of Seattle	1,488,267	2,087,929	40%
Port of Tacoma	1,320,272	2,063,264	56%

Source: US DOT MARAD 2004 Vessel Call Report



Volume – Vessel Calls

Annual Vessel Calls (Container Vessels)						
	2000	2001	2002	2003	2004	% Change 2000 to 2004
North Atlantic	3208	3196	3043	3036	3115	-2.90%
South Atlantic	5212	5479	5444	5341	6079	16.63%
Puerto Rico	673	586	568	504	505	-24.96%
U.S. Gulf	1178	1283	1262	1263	1284	9.00%
Pacific Northwest	1898	1705	1787	1875	1855	-2.27%
Pacific Southwest	5241	4827	5034	5268	5441	3.82%
Total Vessel Calls	17410	17076	17138	17287	18279	4.99%

Source: US DOT MARAD 2004 Vessel Call Report

Volume – Total Capacity

Annual Vessel Calls (container vessels)					Average TEU Capacity Per Vessel				
	2002	2003	2004	2005		2002	2003	2004	2005
New York	2121	2296	2331	2370	New York	3084	3210	3248	3326
Baltimore	381	337	372	376	Baltimore	2797	2919	2843	2804
Virginia Ports	1529	1064	1717	1731	Virginia Ports	3099	3181	3192	3224
Charleston	1393	1402	1481	1464	Charleston	3206	3306	3247	3323
Savannah	1085	1258	1227	1386	Savannah	3205	3462	3519	3536
Houston	772	748	787	874	Houston	2383	2568	2480	2513
LA/Long Beach	2779	2975	3082	2812	LA/Long Beach	3559	3715	3811	4103
Tacoma	529	533	526	618	Tacoma	3948	4129	4072	3590
Seattle	781	748	760	808	Seattle	3538	3783	4023	4345

Source: US DOT MARAD Vessel Call Statistics

- Savannah has seen a 28% increase in vessel calls in 4 years
- New York, Virginia, Houston and Tacoma have all seen over 12% increase in vessel calls in 4 years
- The TEU capacity of ships calling Seattle has increased by 23% in 4 years
- New York, Savannah and Long Beach have seen the TEU Capacity of ships grow by over 8% in 4 years

Terminal Capacity

- ▶ Many ports expecting to reach capacity by 2007
- ▶ Marine terminals on the west coast handle 3500 TEUs per Acre- Port of Houston averages 5887 TEUs per acre
 - ❑ Increasing the stacking density will increase terminal capacity
 - Requires equipment that can stack higher
 - Requires technology to optimize yard space
- ▶ Marine terminals are using off dock empty depots and are removing chassis from terminals in order to increase throughput capacity
- ▶ Marine terminals are charging export demurrage and reducing free time so that customers do not use the terminals as storage facilities.

Terminal Capacity - Expansion

U.S. Public Port Capital Expenditures (thousands of Dollars)				
	1946-2003	% of Expenditures	2004-2008	% of Expenditures
North Atlantic	\$ 4,772,217.00	19%	\$ 1,472,197.00	14%
South Atlantic	\$ 3,924,617.00	15%	\$ 2,348,159.00	22%
Gulf	\$ 4,664,280.00	18%	\$ 2,012,895.00	19%
South Pacific	\$ 9,004,730.00	35%	\$ 3,626,281.00	34%
North Pacific	\$ 3,013,504.00	12%	\$ 1,099,914.00	10%
Totals	\$25,379,348.00		\$10,559,446.00	

Source: US DOT Nov 2005 Report

- ▶ Data based on 45 Port Authorities and Terminal Operators
- ▶ Of the \$10,559,446 being spent 2004-2008, \$4,331,111 is on container terminals and \$1,732,908 is for the infrastructure of the terminals (i.e. road, rail, utilities etc)

Environmental, Safety and Security

- ▶ Maritime Transportation Act of 2002 (MTSA)
 - ❑ Has strengthened and added protective layers of defense to our Nation's Port security
 - ❑ MARSEC System – mirrors the Homeland Security Levels (color coded system) – USCG issues MARSEC directives setting forth mandatory measures
 - ❑ MTSA requires each terminal operator to have a trained Facility Security Officer (FSO) and they must have a Facility Security Plan (FSP)
- ▶ The International Ship and Port Facility Security Code (ISPS Code) –
 - ❑ Comprehensive set of measures to enhance the security of ships and port facilities
 - ❑ developed after 9/11
 - ❑ ISPS Codes formalizes and standardizes global security measures

Environmental, Safety and Security

This Vessel or Facility is currently operating at

MARSEC LEVEL 3

Security Level

Further specific protective security measures shall be maintained for a limited period of time when a transportation security incident is probable or imminent, although it may not be possible to identify the specific target.

MARSEC Level 3 corresponds to the Homeland Security Advisory System Red

Report transportation security incidents or suspicious people, objects or activities to:

U.S.C.G. National Response Center
1-800-424-8802

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33CFR104.270(c)(6) • 33CFR105.260(b)(6)
ISPS PART A 9.20 • ISPS PART A 16.23

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Environmental, Safety and Security

- ▶ Through 2004, ports have received over \$515 million in Federal Grant funding for port security
- ▶ It is expected that port facility security costs to meet the MTSA act of 2002 will be \$5.4 billion over the next 10 years.



Cost

- ▶ Technology and organizational innovations, efficiency gains and cost reductions have been passed to shippers in the form of lower rates and improved service.
- ▶ Terminal operators are being pushed to lower the cost per lift while increasing production
- ▶ Cost of providing enhanced security, vacis exams are being passed on to the customers



Productivity

- ▶ All terminals are looking to increase productivity
 - ❑ Technology advancements to automate yards
 - ❑ Twin pick and quad lift spreader bars on cranes
 - ❑ RTGS with GPS auto pilot
 - ❑ OCR and RFID to increase traffic flow



Customer Demands

- ▶ Demand a greater reliability at lower costs
- ▶ Real time and accurate updates via technology
 - ❑ Cargo releases, Vessel production, etc
- ▶ Reduced turn time in terminals –
 - ❑ Most drivers are paid per move, not hourly
- ▶ Increased vessel production in order for ships to spend less time in ports



Truck Power

- ▶ Truck traffic is projected to double by 2025
- ▶ National Highway System consists of approximately 160,000 miles of Federal, State and Local roadways
- ▶ Pier Pass – in Los Angeles and Long Beach – in first five months, shifted 1.2 million truck moves to night and weekend gates. Now 40% of truck traffic work on off peak hours
- ▶ Rising fuel costs make it difficult to keep drivers if fuel surcharges are not offered
- ▶ Some Marine Terminals work via appointment systems to control the truck volume in the terminal



Rail Links

- ▶ The Nation's rail system consists of a private rail network with 174,000 miles of track connecting all 48 contiguous states as well as Canada and Mexico.
- ▶ BNSF Railway, Union Pacific Railroad, Norfolk Southern and CSX are each spending more than \$1 billion this year to add tracks, increase intermodal capacity, purchase locomotives and rail cars, and hire more crew



Competition

- ▶ Number of competitors is decreasing as stevedores merge and terminal operators buy other operators
- ▶ In 2004 the top 25 U.S. container ports handled more than 98% of the total volume of containerized cargo
- ▶ Terminal operations is a narrow margin business
- ▶ Business is not always awarded based on 'base rates' but the service levels the terminal operator commits to as well as the 'extras' that are included in the base rate