SUMMARY

The College of William & Mary’s Office of Economic Development and the City of Portsmouth partnered to deliver the 5th Annual Maritime Summit. The objective of the summit was to: 1) discuss the current state of the Port of Hampton Roads; and 2) identify opportunities and challenges the City of Portsmouth has in order to continue achieving its goal of becoming a World Class Maritime Center. Leaders of public, private, military, education, and government organizations convened to share their knowledge and expertise and simultaneously get a greater understanding of actions they can take that will enable the City of Portsmouth to be a global leader in the maritime industry.

Earlier summits concentrated on the planned expansion of the terminals and the need for the City to plan for related issues concerning traffic flows, workforce development, environmental impacts, and how to maintain the Port of Hampton Roads competitive with New York and Savannah in the midst of a worldwide economic recession.

The 2010 summit highlighted the negative impact of the recession:

- Freight carriers lost $25 billion worldwide;
- APM, the fourth largest terminal operator in the world, closed two terminals; and
- The Port of Virginia ranked as the 7th largest port in the United States with -16.2% TEUs.

To counter the negative impacts, information was shared that speaks to port related growth opportunities for the City of Portsmouth to capitalize on:

- City of Portsmouth named the 9th Coast Guard City;
- Potential long-term lease of APM Terminals by the Virginia Port Authority;
- Potential doubling of rail efficiency once the Heartland Corridor is complete;
- Development of the super pier at Norfolk Naval Shipyard; and
• Army Corps of Engineers projects that continue to allow Hampton Roads to have navigable waterways for commerce.

Summit participants also noted the importance of continuing to hold the annual Maritime Summit to disseminate information about the maritime industry in the City of Portsmouth and share ideas on how to move forward positioning the city as a World Class Maritime Center.

DISCUSSION OVERVIEW

The 2010 Portsmouth Maritime Summit was held at the Towne Bank Financial Center in Portsmouth, Virginia. Participants (see list at Appendix 1) included leaders of major organizations in the City of Portsmouth, City Council Members, City Staff, and Higher Education. Thirty-one individuals participated in the Maritime Summit.

Patrick Small, Director of Economic Development for the City of Portsmouth, opened the Maritime Summit by welcoming everyone to the event and thanking them for their participation. Leonard Sledge, Director of the Office of Economic Development for the College of William & Mary, served as the facilitator of the Maritime Summit. Each presenter (see agenda at Appendix 2) gave a short overview of their organization and discussed their recent and planned activities that relate to the Port of Hampton Roads. Some of the highlights are summarized below (Note – see each presentation at Appendix 3):

• **United States Coast Guard – Coast Guard City (Captain Patrick Trapp)**
  - The City of Portsmouth has been named the 9th Coast Guard City
  - The city achieved this on the first try
  - The designation brings the opportunity to showcase the city
  - 60% of the Coast Guard command area is headed out of Portsmouth
  - 23 commands operate within the City of Portsmouth
  - 2,000 Coast Guard employees and their families are assigned to duty stations in Portsmouth

• **United States Coast Guard – Sector Hampton Roads (Captain Mark Ogle)**
  - A primary objective is to rapidly reopen waterways
  - $112M per day in cargo through the Port of Hampton Roads
  - 250K registered water vehicles in Hampton Roads
  - Panama Canal widening will restrict Panamax and Post Panamax size ships to port in Virginia
  - Craney Island is the heart of the future of Portsmouth
  - Dredge project is approved in Richmond to take larger ships
- This will alleviate some transportation challenges in Hampton Roads
  - Offshore wind energy
    - One high voltage substation in the Mid-Atlantic; it is located at Camp Pendleton
  - Sector Hampton Roads awards $7-$8 million in small purchase contracts

- **APM (Ed McCarthy)**
  - Carriers lost $25B worldwide due to the economic recession
  - Carriers pared back operations
  - APM, the fourth largest terminal operator closed two terminals
  - APM Americas, operated out of Portsmouth, has the capacity to grow terminal operations through the Port of Hampton Roads
  - Overall, Port of Hampton Roads is down 17%
  - 4 hotspots in North/South America that are losing money…one is located in Portsmouth
  - Job growth has to happen by May/June 2010 in the United States by 100K per month or there will likely be another recession
  - Project 2-3% year over year growth
  - Possible long term lease of APM to the Virginia Port Authority
  - Rates to customers have been cut 20-25% to help keep them in business
  - Completion of the Heartland Corridor is key to doubling rail efficiency

- **Virginia Institute for Marine Science (Dr. Roger Mann)**
  - VIMS has had an active presence in the City of Portsmouth
  - VIMS has representation on the Board of the Elizabeth River Project
  - Active in the cleanup of Money Point, modeling of Craney Island, and storm surge modeling for Hampton Roads

- **United States Army Corps of Engineers (LTC Michael Darrow)**
  - Top priority is maintaining the Norfolk Harbor Channel and Craney Island
  - Operations and maintenance projects are competing with funds for commercial and navigation projects
  - Amount of tonnage/commercial projects drive funding priorities
  - Constituents play a key role in informing legislators of needed projects for appropriations
  - Craney Island is the least expensive dredge disposal site in the United States
  - Craney Island Eastward Expansion
    - $100K in funding
- All environmental and construction permits are obtained
- New bulkhead constructed at Craney Island
- New spillways are being constructed
- Wetlands restoration projects are underway

• **The College of William & Mary (Dr. James Bradley)**
  - William & Mary completed and in-depth study of Transportation, Warehousing, and Distribution in Hampton Roads through the SEVA-PORT project
  - In response to challenging economic times companies became innovative
  - Research showed that organizations want people who possess fundamental skills
  - Barriers to having the right workforce in place included: funding, students in programs, companies to hire graduates, and the appropriate curriculum

• **Norfolk Naval Shipyards (Jeff Cunningham)**
  - Norfolk Naval Shipyards has the only organic CVN dry dock on the east coast
  - 1.4M man days; 9,800 employees (1,200 actually in Portsmouth); $1.8B operation
  - Support worldwide naval operations
  - 4th largest employer in Hampton Roads
  - 2035 Plan includes developing hubs to become more efficient and consolidate shops to get them closer to the waterfront
  - Part of the workforce would shift if a carrier is relocated to Mayport

• **Virginia Port Authority (Russell Young)**
  - In 2009 the Port of Virginia ranked 7th among ports in the United States; down 16.2%
  - India is playing an important role in imports and exports
  - Modernization of the south end of Norfolk International Terminal
    - Positioned to handle larger ships
    - Only port on the east coast with the technology and equipment to handle larger ships
  - Barge service is a good green initiative capable of moving 120 TEUs weekly
  - Recent increase of business that historically went to Baltimore
  - Pending agreement with APM will likely shift Portsmouth International Terminal work to APM
    - APM has the ability to double from 1M to 2M TEU capacity
• Opportunities to extend the berth and bring in more new cranes
  o Heartland Corridor – June/July 2010 projected timeframe to start moving cargo
  o Opportunities for Portsmouth include: Customs Broker/Freight Forwarder Offices; 3PL Companies; Trucking Services; Bulk Operations; Logistics and Engineering Consultants; Cold Storage Facilities; Transload Operations; and Logistics Software Development

• Virginia Maritime Association (David White)
  o 343K port and port related jobs in Virginia
  o $41B in total port related revenue
  o $13.5B in port related employee compensation
  o VMA is the voice of the need for navigation
  o Suggestion to have a designated route for trucks in the City of Portsmouth

KEY POINTS TO CONSIDER

1. Engage the College of William & Mary and Old Dominion University to conduct two studies:
   a. Description – Why is Virginia losing distribution centers and what is the best method to attract business to Virginia
   b. Description – Quantify the long term benefit of the supply chain in Hampton Roads compared to the United States “east of Memphis”

2. Learn how to find available revenue:
   a. Federal Contracts, Grants, Stimulus Funds
   b. Who is the person to find the money

3. Locate all available waterfront sites

4. Educational Institutions are committed to developing the workforce

5. Expand private industry participation in the Maritime Summit

6. Help develop a plan to submit to state and federal government to alleviate the transportation system
7. Better engagement with the Transportation Planning Organization of the Hampton Roads Planning District Commission (Freight Transportation Advisory Committee)

8. Considerations for the next airport in Hampton Roads to accommodate wide body jets

9. Virginia Maritime Association is a good networking convener and conduit

10. Visibility of industry to attract wood chips, cold storage facilities, etc.

11. Intercommunication and networking

**SUMMIT EVALUATION SUMMARY**

Participants in the Maritime Summit were asked to complete an evaluation form to help assess the need to continue the annual event and modifications to it. 50% of the participants completed the evaluation form. The completion rate would have been higher, except many of the attendees did not stay for the entire summit. 93.75% of the responders STRONGLY AGREE/AGREE that the City of Portsmouth should continue holding its annual Maritime Summit. The attendees saw value in the information that was shared, and they gave recommendations for future presenters and attendees that will continue to make the Maritime Summit a value added event. See Appendix 4 for the complete summary of the Maritime Summit.
# APPENDIX 1

City of Portsmouth Maritime Summit  
Friday, March 26, 2010

## Attendees

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
<th>Email</th>
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<tbody>
<tr>
<td>Dr. Nancy Bagranoff</td>
<td>Old Dominion University</td>
<td><a href="mailto:nbagranoff@odu.edu">nbagranoff@odu.edu</a></td>
</tr>
<tr>
<td>J. Robert Bray</td>
<td>Virginia Port Authority (Retired)</td>
<td><a href="mailto:jrbray2@cox.net">jrbray2@cox.net</a></td>
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<tr>
<td>Kenneth L. Chandler</td>
<td>City of Portsmouth</td>
<td><a href="mailto:chandlerk@portsmouthva.gov">chandlerk@portsmouthva.gov</a></td>
</tr>
<tr>
<td>Jeffrey Cunningham</td>
<td>Norfolk Naval Shipyard</td>
<td><a href="mailto:Jeffrey.r.cunningham@navy.mil">Jeffrey.r.cunningham@navy.mil</a></td>
</tr>
<tr>
<td>Tim Harkins</td>
<td>Earl Industries, LLC</td>
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</tr>
<tr>
<td>Councilman Stephen E. Heretick</td>
<td>City of Portsmouth</td>
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</tr>
<tr>
<td>Paul Holt</td>
<td>City of Portsmouth</td>
<td><a href="mailto:holtp@portsmouthva.gov">holtp@portsmouthva.gov</a></td>
</tr>
<tr>
<td>RADM Wayne Justice</td>
<td>United States Coast Guard</td>
<td></td>
</tr>
<tr>
<td>Bill Magann</td>
<td>W.F. Magann Corp.</td>
<td><a href="mailto:wfmagann@aol.com">wfmagann@aol.com</a></td>
</tr>
<tr>
<td>Edward McCarthy</td>
<td>APM</td>
<td><a href="mailto:e.mccarthy@apmtva.com">e.mccarthy@apmtva.com</a></td>
</tr>
<tr>
<td>Jim Bradley</td>
<td>College of William &amp; Mary</td>
<td></td>
</tr>
<tr>
<td>Theresa M. Bryant</td>
<td>Tidewater Community College</td>
<td><a href="mailto:tbrayant@tcc.edu">tbrayant@tcc.edu</a></td>
</tr>
<tr>
<td>Donna Coleman</td>
<td>Norfolk Beltline Railroad</td>
<td></td>
</tr>
<tr>
<td>LTC Michael R. Darrow</td>
<td>United States Army Corps of Engineers</td>
<td><a href="mailto:michael.r.darrow.ltc@usace.army.mil">michael.r.darrow.ltc@usace.army.mil</a></td>
</tr>
<tr>
<td>Steve Harrison</td>
<td>College of William &amp; Mary</td>
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<tr>
<td>Craig Hill</td>
<td>Portsmouth City Schools</td>
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<tr>
<td>Terry Jones</td>
<td>Tidewater Community College</td>
<td></td>
</tr>
<tr>
<td>Mike Lehmkuhler</td>
<td>Virginia Economic Development Partnership</td>
<td><a href="mailto:mlehmkuhler@yesvirginia.org">mlehmkuhler@yesvirginia.org</a></td>
</tr>
<tr>
<td>Dr. Roger Mann</td>
<td>Virginia Institute of Marine Science</td>
<td><a href="mailto:rmann@vims.edu">rmann@vims.edu</a></td>
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<tr>
<td>Luke McCoy</td>
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<td>Economic Development Authority</td>
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<tr>
<td>CDR James B. Millican</td>
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<td>United States Coast Guard</td>
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<tr>
<td>Bill Moody</td>
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<tr>
<td>Arthur W. Moye, Jr.</td>
<td></td>
<td>Virginia Maritime Association</td>
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<tr>
<td>CAPT Mark S. Ogle</td>
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<td>United States Coast Guard</td>
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<tr>
<td>G. Timothy Oksman</td>
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<tr>
<td>Councilwoman Elizabeth M. Psimas</td>
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<tr>
<td>Leonard Sledge</td>
<td></td>
<td>College of William &amp; Mary</td>
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<td>CAPT George Watkins</td>
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<td>Virginia Pilots Association (Retired)</td>
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<tr>
<td>Councilman Charles B. Whitehurst, Sr.</td>
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<tr>
<td>CAPT Patrick B. Trapp</td>
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<tr>
<td>David White</td>
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<td>Virginia Maritime Association</td>
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<tr>
<td>Russell Young</td>
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<td>Virginia Port Authority</td>
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APPENDIX 2

City of Portsmouth Maritime Summit

Friday, March 26, 2010

Agenda

8:00AM  Continental Breakfast
8:15AM  Welcome & Opening Remarks
         Summit Overview
8:30AM  United States Coast Guard (Coast Guard City)
9:05AM  APM
9:40AM  VIMS Advisory Services
10:15AM Break
10:25AM Army Corps of Engineers
11:00AM College of William & Mary
11:35PM United States Coast Guard (Sector Hampton Roads)
12:10PM Lunch
12:25PM Norfolk Naval Shipyard
1:00PM  Virginia Maritime Association
1:35PM  Virginia Port Authority
2:10PM  Break
2:20PM  Group Discussion/ Next Steps/Wrap up
3:00PM  Adjourn
APPENDIX 3

City of Portsmouth Maritime Summit

Friday, March 26, 2010

Presentations
• Selected as the Ninth Coast Guard City.

• Opportunity to showcase all the City has to offer during Coast Guard Day celebrations / events.

• One of the top requested Duty Stations in the Coast Guard.

• Home to the Atlantic Area Commander, the Fifth District Commander, and the Captain of the Port for Virginia (Sector Hampton Roads)
• **23** Coast Guard Commands within the City of Portsmouth

• **Over 3,500** Active Duty in the greater Hampton Roads area

• **2,000** Coast Guard employees and their families assigned to duty stations in Portsmouth
Long Reach from Portsmouth

- Portsmouth Coast Guard units saved 151 lives and $1.7 million in property last year

- Provided assistance for another 973 people and $27 million dollars of property
• Largest natural deepwater port

• Sixth largest volume of freight in the nation

• Millions of tons of freight come through Hampton Roads

• 100,000 jobs and approximately $4 billion in wages
Port Challenges/Balancing Interest

$112 Million a Day in Cargo

Largest Naval Base In the World

Over 250,000 Registered Recreation Vessels

The Port of Virginia is an economic engine that creates 343,000 jobs or 9% of the state’s resident workforce, $13.5 billion of employee compensation and creates $41.1 billion in revenues.
Virginia Is Positioned To Become The East Coast’s Dominant Port

• The East Coast Gateway Leader Will Need:
  – Deep Water Channels
  – Terminal Capacity
  – Good Road and Rail
  – Market Awareness

• Influencing Factors on the Horizon...
The Heartland Corridor
Gateway for Port of Virginia Cargo

1,031 Miles to Columbus
1,031 Miles to Harrisburg
1,031 Miles to Chicago
1264 Miles to Chicago
1,264 Miles to Chicago

28 Tunnels Require Modifications to Provide 20'-3" Clearance

Cuts 233 Miles and 24 hours From the Rail Route Between The Port of Virginia and Chicago
Panama Canal Expansion

- Currently, Panamax vessels (up to 4,500 TEUs) are the largest vessels that can transit the Panama Canal.
- The Panama Canal Expansion Project is scheduled for completion in 2014/2015, allowing larger vessels (up to 12,000 TEUs) to transit.
- The Port of Virginia is the only Port on the U.S. East Coast that can accommodate the new Post-Panamax vessels.

<table>
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<tr>
<th></th>
<th>Panamax</th>
<th>Post-Panamax</th>
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<tbody>
<tr>
<td>Capacity</td>
<td>4,500 TEUs</td>
<td>12,000 TEUs</td>
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<tr>
<td>Length</td>
<td>965’</td>
<td>1,200’</td>
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<tr>
<td>Draft</td>
<td>39.5’</td>
<td>50’</td>
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<tr>
<td>Beam</td>
<td>106’</td>
<td>160’</td>
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</table>
Future Craney Island Marine Terminal

**Phase 1**
- Total Acreage: 220 (89.03 hectare)
- Pier Length: 3000 ft. (914.4 meters)
- Depth: 52 ft. (15.85 meters)
- Cranes: 6
- Capacity: 1.5M TEUs
- Cost: $1.2B
The Port is the western terminus for commercial navigation on the James River and is the westernmost commercial maritime port on the North Atlantic coast. Onsite: I-95, CSX, Norfolk Southern. I-64 nearby.

Weekly service between Norfolk and Richmond – 2000 barges annually which reduces highway traffic and congestion/fuel consumption (160 TEUs avg/week).

Port expects 2011 barge traffic increase by 120 per year – mostly bulk material.

Max Restrictions: Length: 559’, Beam: 85.5’ , Draft: 22’.

Vessel > 255’ restricted at night between Hopewell and Richmond.

2011 Basin expansion project – expand width 150’, Port proposing to straighten sections of the James River above Hopewell.
Offshore Wind Energy Initiative – impact on Port and Navigation

- Two competing proposals for wind farms - both located 12 miles off of Virginia Beach due to only mid-Atlantic high voltage sub-station - Camp Pendleton.

- Gov. McDonnell’s vision to make Virginia the "energy capital of the East Coast" and the first to produce energy offshore.

- A coalition representing Virginia Beach, Norfolk, and industry leaders was created in January to promote Virginia as the Silicon Valley of wind energy on the East Coast.

- The Virginia Offshore Wind Coalition estimates that the development of a wind power hub in Virginia has the potential to become an $80 billion industry creating more than 10,000 jobs, including a significant maritime component.
Questions?
4th Annual Maritime Summit

March 26, 2010
A truly Global Terminal Network serving all major markets
Americas Region

Key colors:
- Head Offices
- Operational terminals
- Terminals with expansion projects
- New terminal projects
- Office

Americas
1. Port Elizabeth, New Jersey, USA
2. Americas Regional Office
   Portsmouth, Virginia, USA
3. Port Elizabeth, Virginia, USA
4. Charlotte, North Carolina, USA
5. Charleston, South Carolina, USA
6. Jacksonville, Florida, USA
7. Miami, Florida, USA
8. Mobile, Alabama, USA
9. Houston, Texas, USA
10. Los Angeles, California, USA
11. Tacoma, Washington, USA
12. Punta Del Este, Brazil
13. Pen˜ a, Brazil
14. Buenos Aires, Argentina
Facilities in the US

Largest Terminal Operator in North America
The Americas market – a new reality

2007-2008

“These cargo volumes are just beyond belief...” – Los Angeles Times

“If the projects planned for Mexico, the U.S. and Canada are all available over the next three years, they will barely handle the three years of growth that will occur...” – Journal of Commerce

“We were attracted to the NY port by global trade trends, the port’s tight capacity, stable volume and container revenue, the largest consumer market, and resultant opportunities for terminal value creation...” – AIG Highstar, Journal of Commerce
Status for the US economy in 2010

- Moderate output expansion - GDP up 5.9% in Q409 due to inventory and federal stimulus - expected to slow to 2-3% in 2010 (V-recovery would be 8-9%)
- Low consumer confidence and sluggish demand
- Industrial production returning to normal growth level (i.e. less job shedding)
- Imports remain subdued and likely to remain so until we see job growth > 100k / month
What does a New Normal look like?

Lower GDP and slower growth
IMF’s GDP trajectory for deficit countries

Source: IMF Global Economic Outlook, October 2009
The New Normal

<table>
<thead>
<tr>
<th>The Good Old Days: Container trade</th>
<th>The New Normal:</th>
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<tbody>
<tr>
<td>Congestion in large gateways</td>
<td>Negative growth freed up capacity in key gateways</td>
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<tr>
<td>10-15% annual growth</td>
<td>Trade growth shift from head-haul to back-haul</td>
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<tr>
<td>Growth in trade reflected in port throughput</td>
<td>Trade growth only partially reflected in throughput</td>
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Customers

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<tr>
<td>High Revenue growth and profitability</td>
<td>Huge revenue and operating losses</td>
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<tr>
<td>High freight rates</td>
<td>Re-establishing solvency</td>
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<tr>
<td>Demand for high productivity terminals, quick ship turnaround and guaranteed capacity</td>
<td>Slow freight rates recovery</td>
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<td>Restructuring networks through consortia and VSA</td>
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Competition

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<th>The Good Old Days: Container trade</th>
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<tr>
<td>High margins</td>
<td>Margins eroding</td>
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<tr>
<td>Expectations of high volume growth lead to ambitious capacity expansions</td>
<td>Relative rankings unchanged</td>
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<tr>
<td></td>
<td>Improving cost competitiveness</td>
</tr>
<tr>
<td></td>
<td>Revising investment plans and solidifying balance sheet</td>
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</table>
Virginia Update

Port of Virginia volumes for 2009 (including APMT)  17%

Possible long-term lease of APM Terminals Virginia to the VPA
The worst year ever in the history of our industry.

2009

Brace yourself – it is continuing.
VIMS, Portsmouth and the Elizabeth River: a long term relationship.

Roger Mann, John Boon, Karen Duhring, Rom Lipcius, Walter Priest, Rochelle Seitz, Mac Sisson, Mike Unger, Lyle Varnell, and Harry Wang - alphabetical but all equal.

Virginia Institute of Marine Science
Gloucester Point.
VIMS presence in Portsmouth

- Elizabeth River Project, Board of Directors 16 years.
- Technical assistance, Portsmouth Wetlands Board
- Designs for wetlands at 4 Norfolk Naval Shipyard superfund sites.
- PAH toxicity and clean up, new technology.
- Port expansion at Craney Island - modeling and mitigation.
- Continuing tide sensing for circulation and storm surge modeling.
Paradise Creek

13 June 2001

Restoration of a superfund site
Creosote—another source for PAH coal-tar distillation fraction, approximately 90% PAH

In the Elizabeth River old abandoned wood-treatment facilities are a source for PAH via contaminated sediments
PAH induced liver lesions and cancer in *Fundulus heteroclitus*.
Antibody-based Chemical Sensor Development at VIMS

Current technology focuses on physical conditions and inorganic chemicals.

What about PAH? Can we make an oil spill detector?

There is a need for “real-time” analysis of toxic chemicals in the environment.
The Elizabeth River Project
- 16 years of river restoration -

Mission: Restore the Elizabeth River to the highest practical level of environmental quality with government, business, & community partnerships.
June 9, 2009 Dredging begins!

VIMS uses the biosensor to monitor dissolved PAH
Data reported to shore by cell phone
3-5 ring dissolved PAH

Correlation between Biosensor and Chemistry-determined PAH concentrations

\[ y = 1.1109x + 0.1206 \]

\[ R^2 = 0.9977 \]

Money Pt during dredging
3-5 ring dissolved PAH
The full Craney Island Eastward Expansion project.

The south cell expansion (shown in upper right panel) and the full expansion (lower right panel).
Proposed Craney Island Eastward Expansion

APM Dredged Channel and Terminal

Proposed Norfolk Harbor Dredging by Navy
Particle Tracking Capability of Numerical Model
Compensatory Mitigation Plan for Port Expansion at Craney Island

- **Environmental Impacts**
  - Filling 522 acres open water and submerged bottom habitat
  - Loss of fisheries habitat
  - Loss of benthic habitat

- **Compensatory actions.**
  - Toxic Sediment Remediation: Dredging to remove highest concentrations and sand caps to isolate remaining contaminants
  - Wetland Restoration with fisheries habitat benefits: Excavate disturbed upland areas to create salt marsh habitat
  - Restore previously disturbed tidal wetlands
  - Oyster Reef/Clam Ground Restoration
VIMS Roles in Compensatory Mitigation Plan

Shoreline Erosion and Tidal Wetland Restoration Technical Guidance

Biological surveys of impact and restoration areas

Inter-agency coordination and advice for Local Wetlands Boards
Norfolk District Navigation Projects in the Port of Hampton Roads

LTC Michael R. Darrow
Deputy Commander
Norfolk District
26 March 2010
Presentation Topics

• Partnerships
• Civil Works Mission & Process
• Funding Needs and Challenges
• Project Updates
• Environmental Restoration Projects
• Regulatory Projects
• The Norfolk District’s Vision
An Inter-dependent Partnership

We All *Succeed* Together:
As Networked Teammates
Other Port Navigation Initiatives

• 5th Annual Hampton Roads Navigational Summit (9 April 2010)

• James River Partnership Meeting (24 May 2010)
The Right Navigation Vision:
One Port; One Estuary; One Team

- Maintain Norfolk Harbor Channel & Craney Island
- Craney Island Eastern Expansion
- Southern Branch 45’ & 40’ Project
- South Atlantic Channel
- Construct the 55’ Project
James River Partnership:
“ To Foster Navigational, Economic, and Environmental cooperation and stewardship of the James River Navigation Channel”

14th Annual James River Partnership Meeting
24 May 2010
Mariner’s Museum
Newport News, VA
Civil Works Mission

- Commercial Navigation
- Flood and Storm Damage Reduction
- Environmental (Ecosystem) Restoration
- Technical Support to Other Agencies
Civil Works Process

Operation & Maintenance

Planning

Construction

Engineering & Design

BUDGET PHASES
Commercial Navigation

Provide safe, reliable, efficient, effective, and environmentally sustainable waterborne transportation systems for movement of commerce, national security needs, and recreation.
Funding Needs and Challenges
Budget Formulation

• Since 2005 the Corps has been using a performance-based approach to the civil works budget

Budget by Performance Metrics

Highest
priority work funded

Lowest
priority work not funded
Budget Timeline for FY2012

Communications Plan
- Develop strategies now
- Start early
- Be persistent

- President Signs E&W Bill SEPTEMBER 11
- Communications Plan
  - Develop strategies now
  - Start early
  - Be persistent

- Corps Prepares Budget (MARCH-JUNE 10)
- President’s Budget Released FEBRUARY 11
- Communicates Requirements for “Adds”
- Project Stakeholders Get Involved!
# Funding and Challenges

## Current Snap-Shot – FY10/FY11

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Appropriation</th>
<th>FY10 President’s Budget</th>
<th>FY10 Appropriations</th>
<th>FY11 President’s Budget</th>
<th>FY11 Capability (current)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norfolk Harbor and Channels, Craney Island Expansion, VA</td>
<td>Construction</td>
<td>28,500,000</td>
<td>100,000</td>
<td>1,000,000</td>
<td>35,000,000</td>
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<tr>
<td>Norfolk Harbor and Channels (Deepening), VA</td>
<td>Construction</td>
<td>0</td>
<td>460,000</td>
<td>0</td>
<td>3,700,000</td>
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<tr>
<td>Fishermans Cove, Norfolk, VA</td>
<td>Construction (CAP)</td>
<td>100,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hampton Roads Drift Removal, VA</td>
<td>Operation and Maintenance</td>
<td>882,000</td>
<td>838,000</td>
<td>1,225,000</td>
<td>1,525,000</td>
</tr>
<tr>
<td>James River Channel, VA</td>
<td>Operation and Maintenance</td>
<td>4,479,000</td>
<td>4,257,000</td>
<td>4,180,000</td>
<td>7,370,000</td>
</tr>
<tr>
<td>Norfolk Harbor, VA</td>
<td>Operation and Maintenance</td>
<td>11,343,000</td>
<td>10,780,000</td>
<td>9,766,000</td>
<td>18,211,000</td>
</tr>
<tr>
<td>Prevention of Obstructive Deposits, Hampton Roads, VA</td>
<td>Operation and Maintenance</td>
<td>50,000</td>
<td>50,000</td>
<td>50,000</td>
<td>105,000</td>
</tr>
<tr>
<td>Inspection of Completed Works</td>
<td>Operation and Maintenance</td>
<td>237,000</td>
<td>225,000</td>
<td>235,000</td>
<td>235,000</td>
</tr>
<tr>
<td>Project Condition Surveys, VA</td>
<td>Operation and Maintenance</td>
<td>800,000</td>
<td>760,000</td>
<td>800,000</td>
<td>1,061,000</td>
</tr>
</tbody>
</table>
Navigation Work for Norfolk Harbor Channel and Craney Island

FY10/FY11

FY10 – USN Deepening Project

FY10 – Southern Branch Deepening Recon Study

FY11

FY10/FY11

Chesapeake Bay

Atlantic Ocean
Craney Island Dredged Material Management Area

Current Activities

• Raising dikes to meet capacity needs (Navy, Port Authority, Corps, and commercial interests)

• Construction of Spillway 3

• Reshaping of east dike to prepare for eastward expansion

• Relocation of US Navy fuel and VA Natural Gas pipelines on north and east sides
Maintain Norfolk Harbor Channel and Craney Island

- **Current Situation**

<table>
<thead>
<tr>
<th>FY11 President’s Budget</th>
<th>FY11 Capability</th>
<th>Short Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>$9.8M</td>
<td>$18.2M</td>
<td>$8.4M</td>
</tr>
</tbody>
</table>

- $9.8M = Critical ‘Just in Time’ O&M Work
- $18.2M = Successful Project with Reduced Critical Backlog

- The Shortfall –
  - Maintenance Dredging
  - Spillway #2
  - Shore Protection – Craney Island
Craney Island Eastward Expansion

Proposed Craney Island Marine Terminal
Construction Challenges

- Poor Foundation - Large Settlements
- Availability of Suitable Materials
- Aggressive Ground Improvements
- Variety of Construction Alternatives
- Construction Schedule
Where We Are Today

• Project Authorized Through 2007 WRDA
  ➢ 50/50 Cost Share-Dike Construction

• Federal Appropriations Approved
  ➢ $100,000 in FY10 Energy and Water Appropriations Bill
  ➢ Allows Dike Construction to Start

• All Environmental Permits Applied For
  ➢ All Approvals obtained in March 2010
## Project Schedule

<table>
<thead>
<tr>
<th>Project Phase</th>
<th>Time Frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastward Expansion</td>
<td></td>
</tr>
<tr>
<td>Engineering &amp; Design</td>
<td>2007 – 2010</td>
</tr>
<tr>
<td>Dike Construction</td>
<td>2012 – 2015</td>
</tr>
<tr>
<td>Marine Terminal Construction</td>
<td></td>
</tr>
<tr>
<td>Filling</td>
<td>2014 – 2017</td>
</tr>
<tr>
<td>Phase I</td>
<td>2017 to 2021</td>
</tr>
<tr>
<td>Phases II &amp; III</td>
<td>2020 to 2026</td>
</tr>
<tr>
<td>Phase IV</td>
<td>2026 to 2034</td>
</tr>
</tbody>
</table>
The American Recovery and Reinvestment Act of 2009

- Over $29 million in ARRA funds were provided to the Norfolk District.
- Over $20 million in ARRA was for Port Navigation and Restoration Projects.
- Work is still ongoing

<table>
<thead>
<tr>
<th>Project</th>
<th>Description</th>
<th>ARRA Funding Received to Date ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAMPTON CREEK, VA</td>
<td>Dredge channel and harbor to a maintained depth of 12 ft by Contract.</td>
<td>927</td>
</tr>
<tr>
<td>HAMPTON RDS, NORFOLK &amp; NEWPORT NEWS HBR, VA (DRIFT REMOVAL)</td>
<td>Remove floating debris with Contract personnel.</td>
<td>176</td>
</tr>
<tr>
<td>JAMES RIVER CHANNEL, VA</td>
<td>Dredge channel to a maintained depth of 25 ft by Contract</td>
<td>3,314</td>
</tr>
<tr>
<td>LYNNHAVEN INLET, VA</td>
<td>Dredge critical shoals in channel to a maintained depth of 6-10 ft by Contract</td>
<td>1,069</td>
</tr>
<tr>
<td>NORFOLK HARBOR, VA</td>
<td>Raise dikes at Craney by Contract.</td>
<td>3,000</td>
</tr>
<tr>
<td>NORFOLK HARBOR, VA</td>
<td>Sediment testing by Contractor at Dam Neck.</td>
<td>1,044</td>
</tr>
<tr>
<td>NORFOLK HARBOR, VA</td>
<td>Install rail &amp; repair Ft Norfolk seawall by Contract.</td>
<td>300</td>
</tr>
<tr>
<td>NORFOLK HARBOR, VA</td>
<td>Replace Craney Spillway #3 by Contract.</td>
<td>2,256</td>
</tr>
<tr>
<td>NORFOLK HARBOR, VA</td>
<td>Repair Craney East Bulkhead by Contract.</td>
<td>2,010</td>
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<tr>
<td>NORFOLK HARBOR, VA</td>
<td>Envir. compliance for erosion control at Craney.</td>
<td>901</td>
</tr>
<tr>
<td>NORFOLK HARBOR, VA</td>
<td>Repair storm damage Craney office by Contract.</td>
<td>300</td>
</tr>
<tr>
<td>NORFOLK HARBOR, VA</td>
<td>Install revetment at Craney by Contract.</td>
<td>2,821</td>
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<tr>
<td>NORFOLK HARBOR, VA</td>
<td>Repair security fence at Craney Island by Contract.</td>
<td>65</td>
</tr>
<tr>
<td>PAGAN RIVER, VA</td>
<td>Dredge channel to a maintained depth of 6 ft by Contract</td>
<td>2,499</td>
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<tr>
<td>CAP ELIZ RIVER, ODU, VA (206)</td>
<td>Wetlands restoration project at Old Dominion University.</td>
<td>223</td>
</tr>
</tbody>
</table>
The American Recovery and Reinvestment Act of 2009

Shoreline Protection Project on North Shoreline of Craney Island
The American Recovery and Reinvestment Act of 2009

New Bulkhead Project on East Shoreline of Craney Island
The American Recovery and Reinvestment Act of 2009

Dike Raising and New Outfall Pipe for Spillway 3 at Craney Island
Environmental Restoration Projects
Wetland and Sediment Sites

Cities of Chesapeake, Norfolk, Portsmouth, & Virginia Beach

Elizabeth River Environmental Restoration Feasibility Study
Scuffletown Creek, Chesapeake
Southern Branch Elizabeth River

Existing

Proposed
ODU Drainage Canal, Norfolk
Main Branch Elizabeth River

Existing

Proposed
Woodstock Park, Virginia Beach
Eastern Branch Elizabeth River

Existing

Proposed
Grandy Village, Norfolk
Eastern Branch Elizabeth River

Existing

Proposed
Regulatory Projects

• Proposed Deepening of Elizabeth River
  • Navy project
  • Will also benefit other commercial facilities along that reach

• Cruise Terminal at Nauticus
  • Coordination of multiple stakeholders
  • Will provide significant projects to the community

• Belharbour Marina
  • Private development vs. commercial navigation interests
The Norfolk District’s Vision

- Holistic approach to managing water resources
  - Planning, Operations, Regulatory

- Collaboration between stakeholders crucial

- Water Resources Division
  - Single champion at the Norfolk District to handle all water resource management needs

- [http://armyengineersnorfolk.blogspot.com](http://armyengineersnorfolk.blogspot.com)
Questions/Comments?
SEVAPORT Grant

- U.S. Department of Labor funding
- Administered by Opportunity Inc.
- Many different groups/efforts involved
- Disclaimer

“This workforce solution was funded by a grant awarded under Workforce Innovation in Regional Economic Development (WIRED) as implemented by the U.S. Department of Labor’s Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor (DOL). The DOL makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership. This solution is copyrighted by the institution that created it. Internal use by an organization and/or personal use by an individual for non-commercial purposes is permissible. All other uses require prior authorization of the copyright owner.”
Our Project

- In-depth study of Hampton Roads Transportation, Warehousing, and Distribution (TWD) operations
  - White paper
  - Performance benchmarks
  - Determine TWD training needs
- Initiating curriculum development in TWD topics
- Training/Awareness of Modeling and Simulation
HR TWD White Paper

- Web site link
  masonweb.wm.edu/sevaport/
- HR TWD operations are world class
  - World class is a moving target
  - Improvement always needed
    - M&S, Lean, and Six Sigma can help here
- Our study took place during difficult times
  - Fuel cost spiked, recession hit
  - In response, some distribution operations exhibited flexibility
  - Observed responses reduced transportation cost
TWD Findings-Skills

- Required job applicant skill categories:
  - Fundamental Skills
    - Basic math, logical thinking, punctuality, willingness to learn, flexibility, etc.
  - Technical skills
    - Picking systems knowledge, equipment troubleshooting and programming, knowledge of WMS, WCS, TLS, YMS software, etc.

- Which skills are most important?
  - Fundamental: 80%
    - “We can train on technical systems”
  - Technical: 20%
TWD Findings - Technology

- At a high level, these are technologies used:
  - Warehouse Management System (WMS)
  - Warehouse Control System (WCS)
  - Truck Loading System (TLS)
  - Yard Management Software (YMS)
  - Distribution Center Automation (sometimes)

- At high level TWD processes:
  - Incoming → (Put-away) → Outgoing
  - Picking → Packing → Loading → Shipping

- At a high level all operations have power equipment
TWD Findings-Technology

- TWD Technologies not implemented uniformly for forms at operational level
- Dissimilarities at a operational level
  - Different software packages
  - Different data entry/communication methods:
    - Voice-pick systems
    - Paper pick sheets
    - Pick-to-light systems
  - Different equipment vendors
  - Different process/procedure details
TWD Findings-Training

- Our suggested training falls into these categories:
  - Specific skills that are fairly transferrable
  - Specific skills that are not fully transferrable
    - Serves as a hiring signal and qualification
    - Evaluated student’s affinity to particular skills
    - Would develop basic understanding of processes and equipment
    - Must be expectation of retraining
  - General Topics
TWD Findings-Training

- Skills training examples
  - Truck driver training
  - Power Equipment Training
    - Forklift, clamp truck, other Power Equipment
  - Picking training

- General courses
  - Supply Chain Management 101
    - Typical supply chains, roles of facilities, decision-making processes
    - Note: whitepaper materials are curriculum basis
  - Warehousing/Distribution Centers 101
  - Transportation and Logistics 101
  - Lean Six Sigma Process Improvement
Other general training topics (continued):
- Health and Safety Orientation
  - Perhaps some OSHA regulation training also
- Freight Forwarding
- Problem Solving
- Sustainability (possibly important for future??)

See white paper for details
Initiate TWD Training Curriculum

- Community Colleges Consortium
  - Tidewater CC
  - Paul D. Camp CC
  - Thomas Nelson CC
  - The Pruden Center

- Requirements for success:
  - Funding
  - Students
  - Companies to hire graduates
  - Appropriate curriculum
Initiate TWD Training Curriculum

- If you are interested in supporting or influencing this program, then contact:

  Al Will
  Coordinator, Workforce Development
  Paul D. Camp CC
  awill@pc.vccs.edu
  Cell: (757) 880-8391
Modeling and Simulation Training

- M&S was a focus of the study
  - How to grow the M&S industry in HR
  - Opportunities to apply M&S to TWD operations

- Our conclusions—in brief
  - Many opportunities for process analysis
  - Most DCs do not have the staffing to do M&S
    - “Central office”, consultants, and academics are required
  - Opportunities for simpler M&S/analysis
    - “Desktop M&S”
  - Awareness issue: M&S isn’t just complex war fighting simulations
    - Many other kinds of simulation and applications
Modeling and Simulation Training

- M&S overview session at VMASC on 1/15
- 4 follow-up sessions
  - Excel I
  - Excel II
  - Risk Modeling and Analysis
    - Modeling and mitigating catastrophic disruptions
  - Discrete-Event Computer Simulation
    - Analyzing process performance without investing in equipment or rearranging the process
    - Variation and uncertainty degrade process performance
    - Examples: crossdocking operation, port operations
  - Applicability: all processes
# Modeling and Simulation Seminars

- E-mail for details or to register: [james.bradley@mason.wm.edu](mailto:james.bradley@mason.wm.edu)

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 26</td>
<td>Unlocking the Extraordinary Power of Excel: Part 1</td>
<td>William and Mary Peninsula Center</td>
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<tr>
<td></td>
<td></td>
<td><a href="#">Directions</a></td>
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<tr>
<td>April 9</td>
<td>Assessing and Reducing Your Company’s Vulnerability to Catastrophes</td>
<td><a href="#">VMASC</a></td>
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<tr>
<td>April 30</td>
<td>Unlocking the Extraordinary Power of Excel: Part 2</td>
<td>William and Mary Peninsula Center</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="#">Directions</a></td>
</tr>
<tr>
<td>May 14</td>
<td>Using Computer Simulation to Make Better Decisions</td>
<td><a href="#">VMASC</a></td>
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Unlocking the Extraordinary Power of Excel: 1
Excel is the most frequently used analysis tool in business. Because it is universally available and recognized, it is important to be aware of all its potential. This seminar will demonstrate practical applications of the power of Excel and make previously impractical analysis possible. There will many examples and lots of discussion. The topics for discussion will include:

• Basics—Ribbon System, Setting Options, Quick Access Menu
• The look and feel of effective Excel spreadsheets—Feng Shui of Spreadsheets
• Collecting data with Excel—Data Entry/Data Validation
• Statistical analysis with Excel—The treasure of the Data Analysis tool
• Graphical analysis with Excel—Visualizing data and its patterns
• Creating and analyzing small databases with Excel—Pivot tables/Sorting/Filtering
• Creating What-if models with Excel—Scenario building and sensitivity analysis
Unlocking the Extraordinary Power of Excel: 2

Excel is the most frequently used analysis tool in business. Because it is universally available and recognized, it is important to be aware of all its potential. This seminar will demonstrate practical applications of the power of Excel and make previously impractical analysis possible. Our emphasis will be on model building and analysis, particularly using Monte Carlo simulation to model and analyze risk. There will many examples and lots of discussion. The topics for discussion will include:

- Statistical Analysis Continued
- Pivot tables
- Deterministic Models
- Modeling the realism of risk and uncertainty with Excel—Sampling with Excel
- Choosing an approach to model risk—How much complexity is enough?
- How do we quantify risk—3 ways to view uncertain events
- A strategy for modeling—Making sure you don’t waste time and effort
- The Mother of All Business Simulations—Monte Carlo Methods
- Presentation of Monte Carlo results—The risk profile
- Simple Macros, Sensitivity Analysis, Scenarios, Optimization
Modeling and Simulation Seminars

Assessing and Reducing Your Company’s Vulnerability to Catastrophes

Every company, facility, and supply chain faces the risk that its operations will be shut down to catastrophic events, such as 9/11, natural disasters, and pandemics. This session will give you:

• A framework to assess the risk that your company faces,
• A method of measuring risk,
• A method to prioritize your actions to reduce risk,
• Examples of actions that reduce risk, and
• A process to implement your plan

An overview of the above approach will be summarized and, then, the attendees will work on an exercise to better understand the steps above. Possible applications of modeling and simulation to this problem will be discussed.
Modeling and Simulation Seminars

Making Better Decisions with Computer Simulation
Installation of new equipment and changes to distribution center (DC) processes often involve significant monetary investment or effort to rearrange DC processes. Computer simulation offers an opportunity to evaluate the impact of these changes on critical performance measures before the investment is made, thus possibly avoiding an investment that doesn’t payoff and increasing the chance of a successful process improvement. This seminar will:

• Demonstrate how simulation models are constructed with discrete-event simulation software packages.

• Show how simulation models would be used in an overall analysis to determine the best way to design or improve a DC process.

Although this seminar will focus on simulation used in the context of a distribution center, it is relevant for all types of businesses.
Contact Information

- James R. Bradley
  - james.bradley@mason.wm.edu
  - (757) 221-2802

- Hector H. Guerrero
  - hector.guerrero@mason.wm.edu
  - (757) 221-2850
Norfolk Naval Shipyard

1767 - Navy's oldest Shipyard that predates the US Navy by over 30 years

- **USS Chesapeake - 1794-99** - sister ship of the USS Constitution and one of the first six ships built for the US Navy after the Revolution
- **Dry dock one - 1833** - 1st functioning drydock in the Western Hemisphere
- **USS Delaware - 1833** - 1st ship to be drydocked in the Western Hemisphere
- **CSS Virginia - 1st Confederate ironclad warship** (burned-out hull of the USS Merrimack)
- **USS Texas - 1889-92** - 1st battleship
• **USS Raleigh - 1889-92 - 1st modern cruiser**

• **USS Birmingham (CS-2) - 1910 - 1st flight from a flight deck built on a ship**

• **USS Langley - 1919-1922 - 1st aircraft carrier (converted from collier Jupiter)**

• **Nine Presidents have toured the Shipyard**
SHIPYARD OVERVIEW

Full Service Waterfront Support

- 5 Drydocks
- Only Organic CVN East Coast Drydock
- 4 Major Servicing Piers
- CVN, LHA/LHD, SSBN, SSGN, SSN, Surface Ships, Tenders

Fully Capable Depot Maintenance Plant

- Full Service Shipyard
- Component Repair

Operating Profile

- 1.4 Million Man Days Per Year
- Annual Business $1.8 Billion
- 9830 Civilians & Military

Fleet Support

- Industrial Support Area for Ship Force
- MWR, NEX, Commissary, Gym
- CDC, Housing Areas
- Fleet Training Center
- Fleet Berthing Support
Norfolk Naval Shipyard

Carrier Piers

W-130

NRMD (CIF)

<table>
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<tr>
<th></th>
<th>Total Assigned</th>
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</thead>
<tbody>
<tr>
<td>NNSY MILITARY TOTAL</td>
<td>1088</td>
</tr>
<tr>
<td>NNSY CIVILIAN TOTAL</td>
<td>544</td>
</tr>
</tbody>
</table>
- Naval Foundry & Propeller Center

- Kings Bay

- NPTU - Charleston

- Norfolk Ship Support Activity
NNSY Workforce Travel

Service to the Fleet
Any Ship, Any Time, Anywhere
SHIPYARD OVERVIEW
COMMUNITY COOPERATION AND CONTRIBUTIONS

NORFOLK NAVAL SHIPYARD IS THE 4TH LARGEST HAMPTON ROADS EMPLOYER

RED CROSS
875 PINTS

VIRGINIA NATIONAL DEFENSE INDUSTRIAL AUTHORITY (VNDIA)

HAMPTON ROADS FEDERAL FACILITIES ALLIANCE

VA MILITARY ADVISORY COUNCIL

CFC GIFT 700,000
$ 15M LAST 30 YEARS

DESTRUCTIVE WEATHER SUPPORT (Safe Haven)

SHIPFORCE VOLUNTEER WORK
(Painting/Building Homes, Environmental Cleanup, Toys for Tots, Joy Fund, School outreach)

- PATH OF HISTORY
- FIRE & POLICE MUTUAL
- AID/COOPERATION
- NEIGHBORHOOD SECURITY WATCH
- STARBASE ATLANTIS YOUTH PROGRAM
- MENTORING
- ROBOTICS
- CHROME

10% of WORKFORCE VOLUNTEER LEADERSHIP
(School Boards, Hospitals, Scouts, Rescue Squads)
Norfolk Naval Shipyard

NORTH END SUB DISTRICT

SOUTH END BIG DECK DISTRICT

INDUSTRIAL SUPPORT DISTRICT

NORTH END FUNCTIONS WILL RE-LOCATE TO CIA

TRAINING CAMPUS

CIA FENCE

NNSY IN THE 21ST CENTURY
NORFOLK NAVAL SHIPYARD
Service to the Fleet – Any Ship, Any Time, Any Where

Norfolk Naval Shipyard
585 ACRES (179 acres within the CIA)
5 supporting dry-docks
5 major piers/wharves
10 miles railroad trackage
4 miles ground level crane trackage
6M SF building space
PRV of 2.4B

Special Areas
St Juliens Creek Annex 499.33
Paradise Creek Disposal 90.97
Stanley Court/NNSY 16.42
New Gosport/NNSY 57.17
St Helena Norfolk 12.29
South Gate 63.00

Special Activities
Carrier Planning Activity (CPA) – PMS-312
Surface Ship Life Cycle Maintenance Activity (SSLCMA) – SEA-21
**Focus On Product Lines/ Mission**

(3 CVNs, 1 LHA/LHD, 2 SSBNs, and 1 SSN)

**Integrate Vision Into Regional Shore Infrastructure Plans**

**Improve Facility Infrastructure By:**

- Maximizing productivity - coordinating lean manufacturing efforts
- Recapitalizing mission essential infrastructure
- Allowing use of vacated and re-capitalized facilities for other military activities, e.g. [Naval Coastal Warfare Group Two](#)
- Reducing footprint

**Maintain Ability to Respond to Emergent or Unique Tasking**
NNSY instills a commitment to excellence in efficiently executing our roles and responsibilities to ensure Total Ownership Costs are reduced and accounted for in the execution of each phase of our mission.

NNSY is one of the premier facilities for the U.S. Navy in maintaining, repairing, and modernizing ships, performing this task with “Any Ship, Any Time, Any Where.”

NNSY attracts, recruits, develops, and retains a diverse, high-performing and mission-focused workforce while ensuring the welfare of our Sailors, Civilians, and their families.
NORFOLK NAVAL SHIPYARD
“Any Ship, Any Time, Any Where”
Virginia Maritime Association

“Voice of the Port”

Portsmouth Maritime Summit

March 26, 2010
Port Economic Contribution

• 343,000 Port and Port Related Jobs – 9%, of Virginia’s Resident Workforce, or Almost 1 Out of Every 10 Jobs

• $41 Billion in Total Revenues

• $13.5 Billion in Employee Compensation

• $1.2 Billion in State and Local Taxes - $1 Out of Every $18 Raised by Local Income, Sales and Property Taxes
VMA’s Mission

“PROMOTE, PROTECT, AND ENCOURAGE WATERBORNE COMMERCE THROUGH THE PORT OF HAMPTON ROADS”
VMA Structure

- Membership over 400 companies with over 70,000 employees in Virginia
- Information Services
- Committee Work
- National Forums
- Industry Watchdog and Advocate
- Social and Educational Events
VMA Initiatives

• Federal
  – 55’ Channel Congressional Authorization
  – Hurricane Contingency Plan Development
  – Port Security

• State
  – General Assembly
  – Established Virginia Intermodal Mediation Committee
  – VNG Pipeline Anchorage Mitigation

• Local
  – Navigation / Bridge Issues
  – Hampton Boulevard Congestion Panel
  – Dispute Resolution
VMA Priorities

• Facilitating Maritime Commerce
• Infrastructure Improvements
• Navigational Summit
• Workforce Development
• Education & Awareness of the Port
The Port of Virginia Briefing

Mr. Russell Young
Director of Economic Development
Virginia Port Authority

March 26, 2010
Agenda

- Overview
- Terminals
- The Future
  - Port Opportunities
  - Development Opportunities
- Portsmouth Companies
Overview
## 2009 U.S. Port Rankings

<table>
<thead>
<tr>
<th>Rank</th>
<th>US Port</th>
<th>CY 2009</th>
<th>CY 2008</th>
<th>% Change</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>LA/Long Beach</td>
<td>11,816,592</td>
<td>14,337,801</td>
<td>-18.0%</td>
</tr>
<tr>
<td>3</td>
<td>NY/New Jersey</td>
<td>4,207,911</td>
<td>4,873,652</td>
<td>-13.7%</td>
</tr>
<tr>
<td>4</td>
<td>Savannah</td>
<td>2,356,574</td>
<td>2,616,185</td>
<td>-9.9%</td>
</tr>
<tr>
<td>5</td>
<td>Oakland</td>
<td>2,051,175</td>
<td>2,236,244</td>
<td>-8.3%</td>
</tr>
<tr>
<td>6</td>
<td>Houston</td>
<td>1,797,155</td>
<td>1,794,243</td>
<td>0.2%</td>
</tr>
<tr>
<td>7</td>
<td>Port of Virginia</td>
<td>1,745,228</td>
<td>2,083,278</td>
<td>-16.2%</td>
</tr>
<tr>
<td>8</td>
<td>Seattle</td>
<td>1,582,888</td>
<td>1,704,228</td>
<td>-7.1%</td>
</tr>
<tr>
<td>9</td>
<td>Tacoma</td>
<td>1,545,855</td>
<td>1,861,352</td>
<td>-16.9%</td>
</tr>
<tr>
<td>10</td>
<td>Charleston</td>
<td>1,181,357</td>
<td>1,635,537</td>
<td>-27.8%</td>
</tr>
</tbody>
</table>
Historical Port Performance

TEUs

Calendar Year

### Decline in Imports

#### Volume Change at Top US Ports for Import TEUs
2009 vs. 2008

<table>
<thead>
<tr>
<th>Rank</th>
<th>Top US Ports</th>
<th>Volume Change</th>
<th>Volume Change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LA/Long Beach</td>
<td>-1,259,323</td>
<td>-17.66</td>
</tr>
<tr>
<td>2</td>
<td>NY/New Jersey</td>
<td>-295,882</td>
<td>-11.55</td>
</tr>
<tr>
<td>3</td>
<td>Savannah, GA</td>
<td>-194,676</td>
<td>-18.17</td>
</tr>
<tr>
<td>4</td>
<td>Norfolk, VA</td>
<td>-144,140</td>
<td>-15.15</td>
</tr>
<tr>
<td>5</td>
<td>Oakland, CA</td>
<td>-94,955</td>
<td>-12.67</td>
</tr>
<tr>
<td>6</td>
<td>Seattle, WA</td>
<td>-49,808</td>
<td>-7.53</td>
</tr>
<tr>
<td>7</td>
<td>Charleston, SC</td>
<td>-200,861</td>
<td>-28.86</td>
</tr>
<tr>
<td>8</td>
<td>Tacoma, WA</td>
<td>-176,964</td>
<td>-27.34</td>
</tr>
<tr>
<td>9</td>
<td>Houston, TX</td>
<td>-97,303</td>
<td>-18.36</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>-2,513,912</strong></td>
<td><strong>-16.76</strong></td>
</tr>
</tbody>
</table>

TEU count includes all international containerized cargo discharged at U.S. ports. *Data subject to modification due to NY/NEWARK AREA, NEWARK, NEW JERSEY & NEW YORK, NY TEUs are shown combined.*
## Exports on the Rise

### Top Commodities at The Port of Virginia

<table>
<thead>
<tr>
<th>Import</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furniture</td>
<td>Paper &amp; Paper Board</td>
</tr>
<tr>
<td>Auto Parts</td>
<td>Logs &amp; Lumber</td>
</tr>
<tr>
<td>Non Alcoholic Beverages</td>
<td>Grains &amp; Flour Products</td>
</tr>
<tr>
<td>Tobacco</td>
<td>Wood Pulp</td>
</tr>
<tr>
<td>Metalware</td>
<td>Grocery Products</td>
</tr>
<tr>
<td>Paper &amp; Paperboard</td>
<td>Tobacco</td>
</tr>
<tr>
<td>Natural Rubber</td>
<td>Pet &amp; Animal Feed</td>
</tr>
<tr>
<td>Granite</td>
<td>Meat, Chiefly Fresh &amp; Frozen</td>
</tr>
<tr>
<td>Coffee</td>
<td>Poultry, Chiefly Fresh &amp; Frozen</td>
</tr>
<tr>
<td>Woodenware</td>
<td>Unclassifiable Chemicals</td>
</tr>
</tbody>
</table>

*Source: PIERS, General Cargo Short Tons*
## Top Trading Partners

<table>
<thead>
<tr>
<th>Import</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>China</td>
</tr>
<tr>
<td>Brazil</td>
<td>Belgium</td>
</tr>
<tr>
<td>Germany</td>
<td>Germany</td>
</tr>
<tr>
<td>India</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>Italy</td>
<td>Netherlands</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Japan</td>
</tr>
<tr>
<td>Belgium</td>
<td>Italy</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Brazil</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Saudi Arabia</td>
</tr>
<tr>
<td>France</td>
<td>India</td>
</tr>
</tbody>
</table>

*Source: PIERS, in TEUs*
Emerging Markets for potential business
Terminal Overview
Norfolk International Terminals

- 2008: 900-ft Extension to the North Wharf
- 2009: 150-acre renovation of the South Container Yard
MSC Tomoko at NIT

- 8,400 TEU capacity
- 17 containers across
- Larger than a Nimitz class aircraft carrier at approx. 1,090 feet long
NIT Central Rail Yard

- Relocated and Expanded Centralized Rail Yard
- Twelve 1,500 ft. Rail Tracks Added
- Will triple On-dock Rail Capacity to 600,000 Lifts
Direct Rail Access: connection with CSX and also Norfolk Southern via the Norfolk and Portsmouth Belt Line Railroad
Newport News Marine Terminals
Phase 1 – completed in 2007

Total Acreage: 230
Pier Length: 3200 ft.
Depth: 55 ft.
Cranes: 6
Capacity: 1 Million TEUs
Cost: $500 Million
VIP is located 220 miles northwest of Norfolk in Front Royal, VA, across 161 acres

On-site rail service by Norfolk Southern with five-day-a-week rail service between the VIP and the marine terminals in Hampton Roads

Direct interstate access to I-81 and I-66
The Future
Status:
- Expected to be complete June/July 2010
- 23 of 28 (82%) tunnels completed
- 20,924 of 28,843 linear feet (73%) of tunnel length completed

The Heartland Corridor

28 Tunnels Require Modifications to Provide 20’-3” Clearance

Heartland Corridor

The Port of Virginia

Status:

Expected to be complete June/July 2010

23 of 28 (82%) tunnels completed

20,924 of 28,843 linear feet (73%) of tunnel length completed
APM Terminals – Phase 2

Phase 2 - as volume dictates
Total Acreage: 291
Pier Length: 4000 ft.
Cranes: 12
Capacity: 2.2 Million TEUs
Cost: $250 Million - Projected
Currently, Panamax vessels (up to 4,500 TEUs) are the largest vessels that can transit the Panama Canal.

The Panama Canal Expansion Project is scheduled to be completed in 2014, allowing larger vessels (up to 12,000 TEUs) to transit.

<table>
<thead>
<tr>
<th></th>
<th>Panamax</th>
<th>Post-Panamax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>4,500 TEUs</td>
<td>12,000 TEUs</td>
</tr>
<tr>
<td>Length</td>
<td>965’</td>
<td>1,200’</td>
</tr>
<tr>
<td>Draft</td>
<td>40’</td>
<td>50’</td>
</tr>
<tr>
<td>Beam</td>
<td>106’</td>
<td>160’</td>
</tr>
</tbody>
</table>
Future Craney Island Marine Terminal

Phase 1 – by 2020
- Total Acreage: 220
- Pier Length: 3000 ft.
- Depth: 52 ft.
- Cranes: 6
- Capacity: 1.5M TEUs
- Cost: $1.2B

Phase 2 – June 2032
- Total Acreage: 600
- Pier Length: 8000 ft.
- Depth: 52 ft.
- Cranes: 15
- Capacity: 5M TEUs
- Cost: $1.06B
Port Opportunities
Potential APM Lease
Auto Handling Facility
Transloading Woodchips
Transloading Bulk Polymers
Vegetable Oil Tanks
Transloading Wind Turbines
Development Opportunities
Navy Property Adjacent to NIT
ProLogis Build-to-Suit Opportunity
Former Ford Assembly Plant, Norfolk
Portsmouth Companies
Port-related Companies in Portsmouth

- A OK Transportation
- Aficionado Transport
- All Points
- Anytime Freight Brokers
- ARREFF Terminals
- Averitt Express
- Bay Area Movers
- BBT Logistics
- Cornerstone Systems

- CrossGlobe
- CTC Transportation
- East Coast Specialized Logistics
- Everest Express
- Express Container Services
- Faith In God Trucking
- Five Star Transport
- Fleet Imports
- G&P Trucking
- Gilco Trucking
Port-related Companies in Portsmouth

• Hoover Transportation Services Inc.
• Howell’s Motor Freight
• International Distribution Services
• International Global Logistics
• JPS Express
• Knight Transportation
• Lindab
• Massimo Zanetti
• Marva Marble

• MIB Trucking Inc.
• Northstar Services
• Prodisco Kitchen & Bath
• Rail Direct Transportation
• Roadlink Transportation
• RPM Warehouse
• SDDC Military POV Processing Center
• Sea Lane Express
• Serv U Inc.
• Southeastern Freight Lines
• Tradewinds
Opportunities for Portsmouth

- Customs Broker/ Freight Forwarder Offices
- 3PL Companies
- Trucking Services
- Bulk Operations
- Logistics & Engineering Consultants
- Cold Storage Facilities
- Transload Operations
- Logistics Software Development
APPENDIX 4

City of Portsmouth Maritime Summit

Friday, March 26, 2010

Evaluation Summary
APPENDIX 4

City of Portsmouth Maritime Summit

Friday, March 26, 2010

Evaluation Summary
CITY OF PORTSMOUTH MARITIME SUMMIT EVALUATION
MARCH 26, 2010

TOTAL # OF RESPONSES | STRONGLY AGREE | AGREE | NEUTRAL | DISAGREE | STRONGLY DISAGREE
--- | --- | --- | --- | --- | ---

**QUESTION 1** - THE INFORMATION PRESENTED TODAY IS RELEVANT TO MY ORGANIZATION ACCOMPLISHING ITS STRATEGIC GOALS
16 | 62.50% | 31.25% | 6.25% | 0% | 0%

Additional Comments - most direct communications with Portsmouth

**QUESTION 2** - I AM SATISFIED WITH THE LOGISTICAL PLANNING OF THE PORTSMOUTH MARITIME SUMMIT (I.E. COMMUNICATIONS, LOCATION, TIME, ROOM SETUP, MEALS, ETC)
15 | 60.00% | 40.00% | 0% | 0% | 0%

Additional Comments - make half-day with a lunch presentation; remove the computer from the podium; original deadline for the slides was a bit early

**QUESTION 3** - THE PORTSMOUTH MARITIME SUMMIT MET MY EXPECTATIONS
16 | 50.00% | 43.75% | 6.25% | 0% | 0%

Additional Comments - some overlap in presentation; missed some due to train derailment

**QUESTION 4** - I BELIEVE IT IS IMPORTANT FOR ME/MY ORGANIZATION TO PARTICIPATE IN THE PORTSMOUTH MARITIME SUMMIT
16 | 68.75% | 25.00% | 6.25% | 0% | 0%

Additional Comments - we need to know what's on the horizon

**QUESTION 5** - THE CITY OF PORTSMOUTH SHOULD CONTINUE HOSTING AN ANNUAL MARITIME SUMMIT
16 | 81.25% | 12.50% | 6.25% | 0% | 0%

Additional Comments - key to have local elected representatives present as they can carry the key messages forward

**QUESTION 6** - I WOULD LIKE TO SEE THE FOLLOWING ORGANIZATIONS GIVE A PRESENTATION AT A FUTURE PORTSMOUTH MARITIME SUMMIT
Responses - CSX (2); Donna Coleman from NP Beltline; BAE; Colonn Shipyard; more rail and renewable energy; Navy; one of the Senators/Representatives...key activities working at the Hill and priorities; insights into the best ways to ge the money to fund our needs; TCC maritime program; Elizabeth River Project

**QUESTION 7** - I BELIEVE IT WILL BE BENEFICIAL TO INVITE THE FOLLOWING ORGANIZATIONS TO ATTEND A FUTURE PORTSMOUTH MARITIME SUMMIT
Responses - Navy; trucking companies; distribution centers; Northrop Grumman; private industry; CSX; legislators; Virginia International Terminals; Hampton Roads Planning District Commission

**QUESTION 8** - THE ONE THING I PLAN TO DO AS A RESULT OF ATTENDING THE PORTSMOUTH MARITIME SUMMIT IS:
Responses - Support the Port; Have great new contacts; Take back some key points and issues raised for activity within our organization; Get the information out; Follow up on recommendations about supply chains

**QUESTION 9** - ADDITIONAL COMMENTS
Responses - Please continue this annual event and expand participants from other groups that are part of the port business operations; Good conference...more industry; Very good conversations and questions as a result of the presentations