

Craney Island Eastward Expansion Feasibility Study



**U.S. Army Corps of Engineers
Norfolk District**

**Presented to:
Civil Works Review Board
April 4, 2006**

Today's Objectives

- **Obtain Civil Works Review Board Approval**
 - ⊕ **Explain the Dual Nature of the Authorization**
 - ⊕ **Explain Low USACE Cost Share in Light of Significant NED Benefits**
 - ⊕ **Present the Resolution of All Technical and Policy Issues**



Presentation Agenda

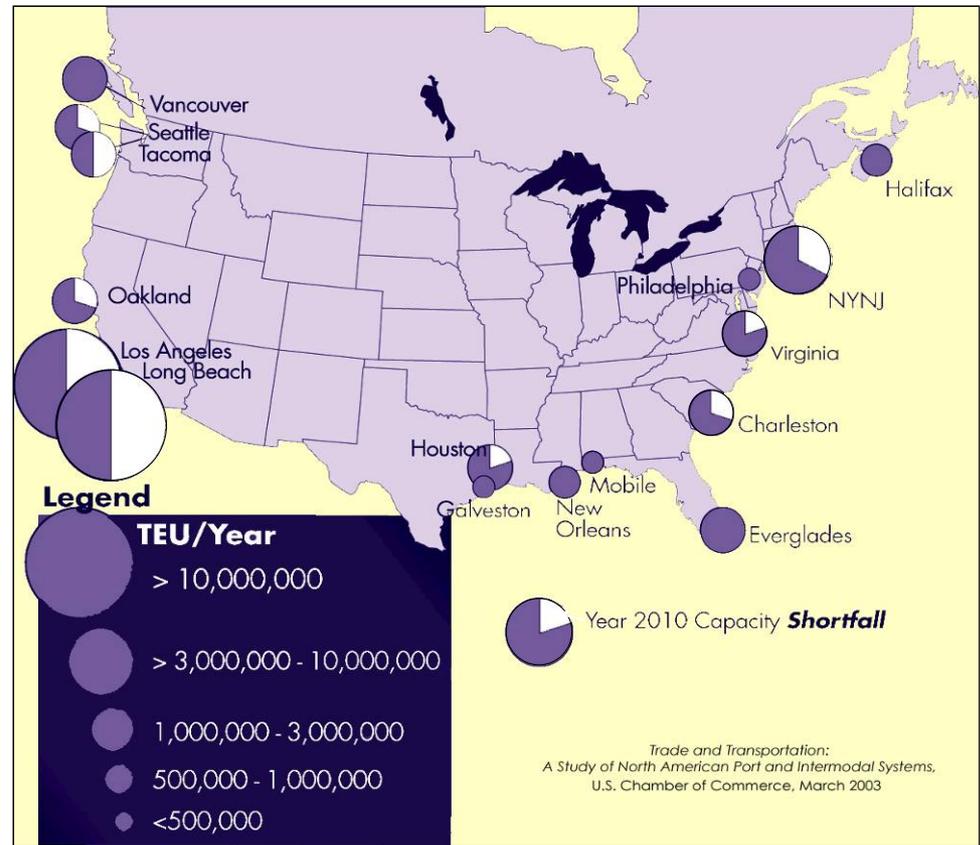
- **Study Overview**
- **Existing Conditions**
- **Without Project Conditions**
- **Plan Formulation**
- **EIS and Mitigation Plan**
- **USACE Financial Participation**
- **Policy and Process Review**
- **Summary**

Non-Federal Partner

- **Commonwealth of Virginia Through the Secretary of Transportation Represented by the Virginia Port Authority**
- **Present Today From the VPA**
 - ⊕ **Mr. Bray, Executive Director**
 - ⊕ **Mr. Keever, Deputy Executive Director**
 - ⊕ **Mr. Florin, Chief Engineer and Director of Port Development**

National Cargo Trends

- **U.S. Cargo Will Double in Volume by 2020**
- **Panama Canal Commission Forecast East Coast Cargo to Triple by 2020**
- **Latin American Trade and Transportation Study (2001)**
 - ⊕ **13 Southern US States Will Reach Capacity Between 2008 and 2012**



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Study Authorization

- **US House of Representatives Committee on Transportation and Infrastructure Resolution Dated September 24, 1997:**
 - ⊕ **“...conduct a study of eastward expansion of the Federally owned CIDMMA...**
 - ⊕ **...study shall be directly coordinated with...the VPA (Virginia Port Authority)...**
 - ⊕ **...shall give specific attention to rapid filling to accommodate anticipated port expansion and to the operation of the existing facility while extending the useful life of CIDMMA...**
 - ⊕ **...shall take into account all relevant environmental issues and the subsequent transfer of the expanded area of CIDMMA to the Commonwealth of Virginia.”**

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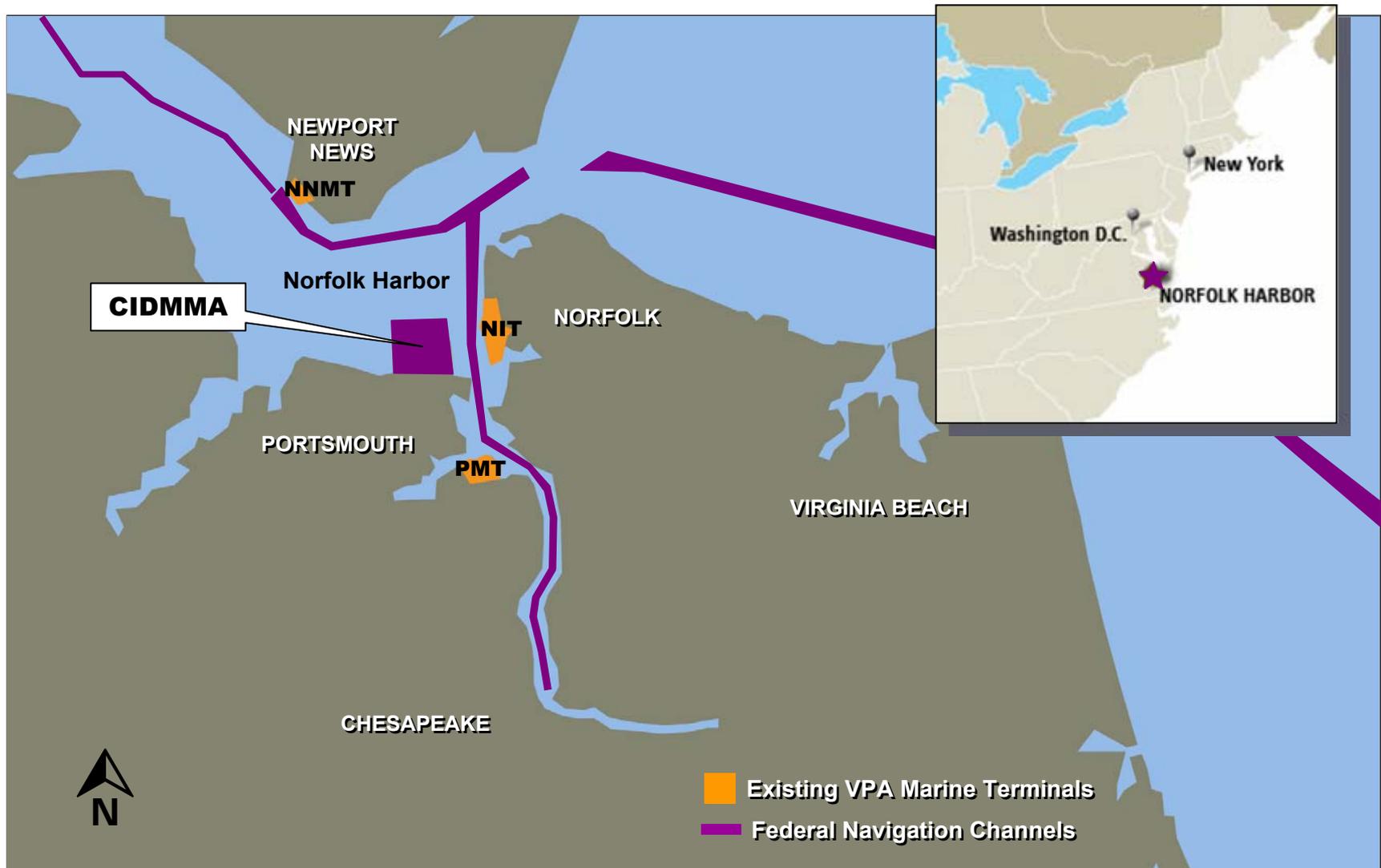
CIDMMA Operations

- **Authorized: Rivers and Harbors Act of 1946**
- **Constructed From 1956 to 1958**
 - ⊕ **Originally Designed to Hold 96 Million CY**
- **WRDA 1976 / ERDC Management Plan**
 - ⊕ **Current Volume 225 Million CY**
 - ⊕ **Forecasted Capacity is 323 Million CY**
- **Receives Navigation-Related Dredged Material from Norfolk Harbor and Adjacent Waters**

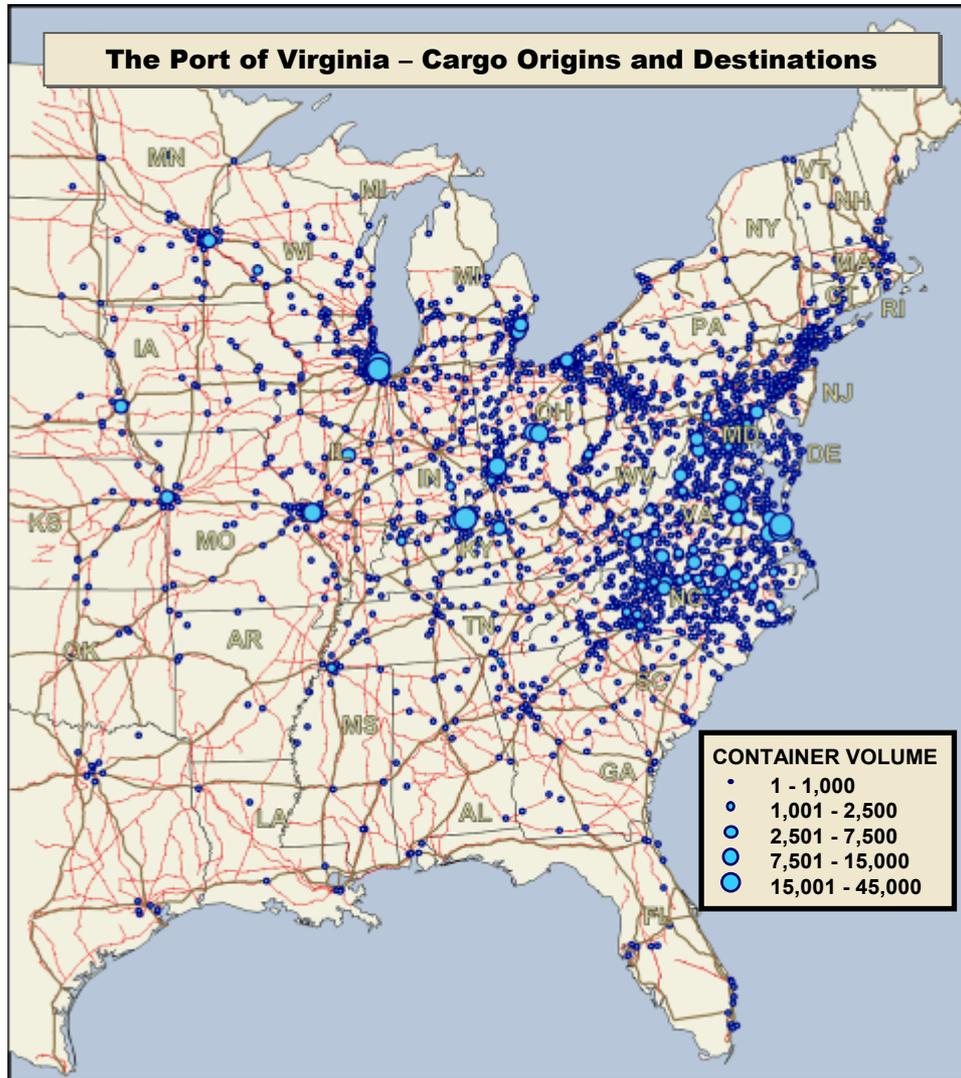
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CIDMMA Location



Norfolk Harbor Serves the Nation



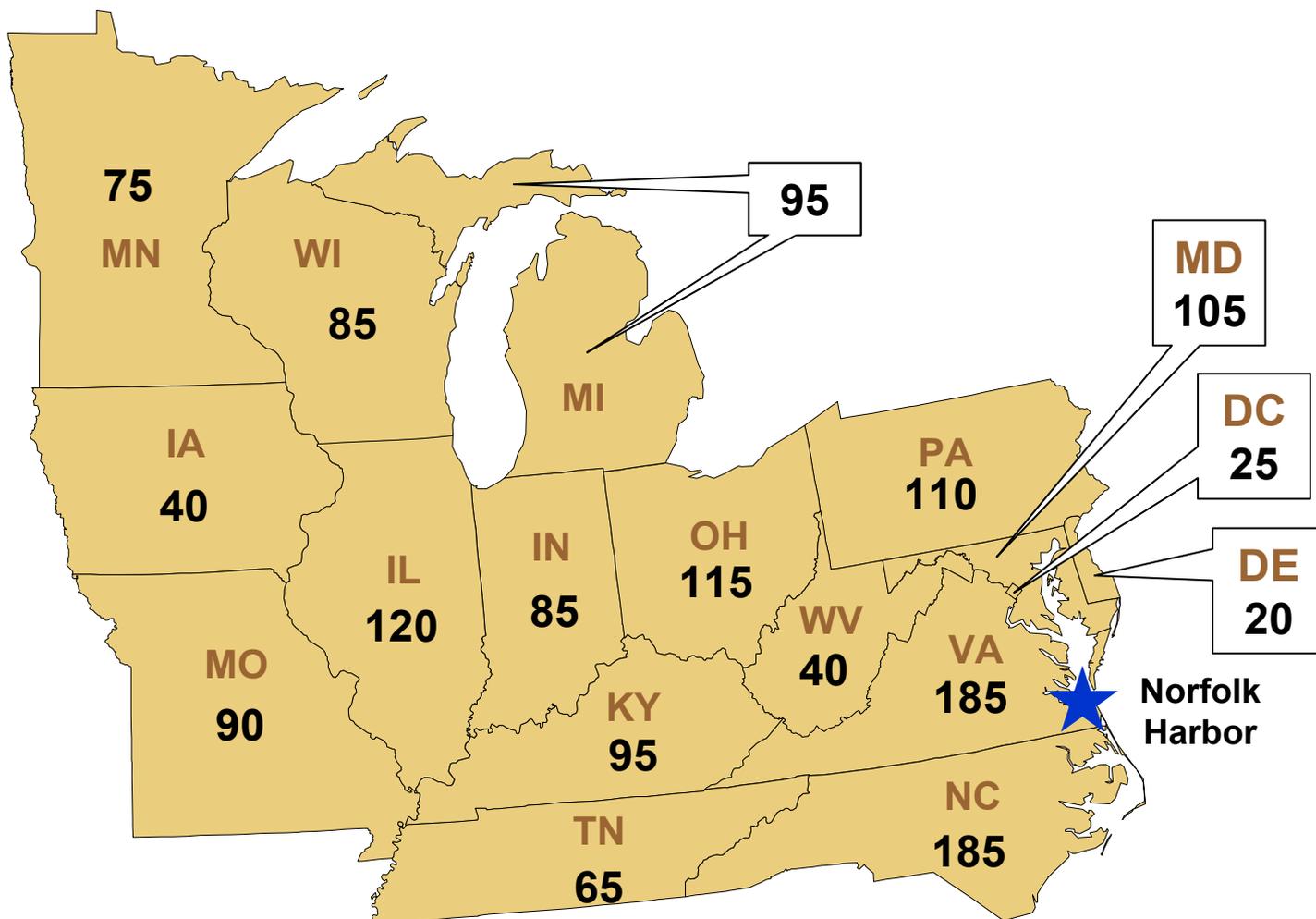
- **Over 55% of Cargo Originates in or is Destined for Locations Outside of Virginia**
- **Efficient Flow of Cargo Across the U.S. is Critically Important to the National Economy**

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Mid-Atlantic & Midwest Port Users

Selected Examples

ConAgra
 Target
 Cargill
 General Mills
 Firestone
 Caterpillar
 Kimberly-Clark
 DuPont
 Wal-Mart
 Meadwestvaco
 Whirlpool
 Owens Corning
 3M Corporation

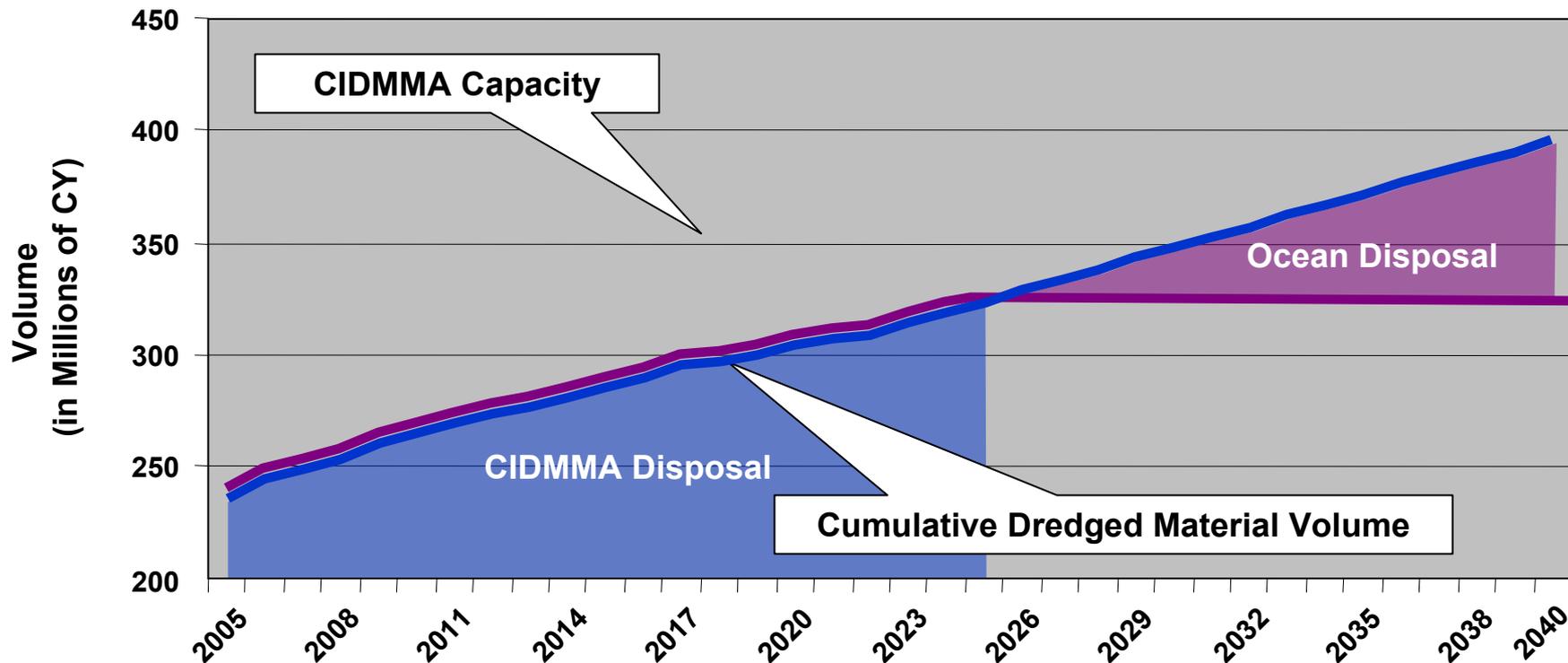


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Dredged Material Disposal

- **CIDMMA Existing Capacity Will Not Keep Pace with Demand**

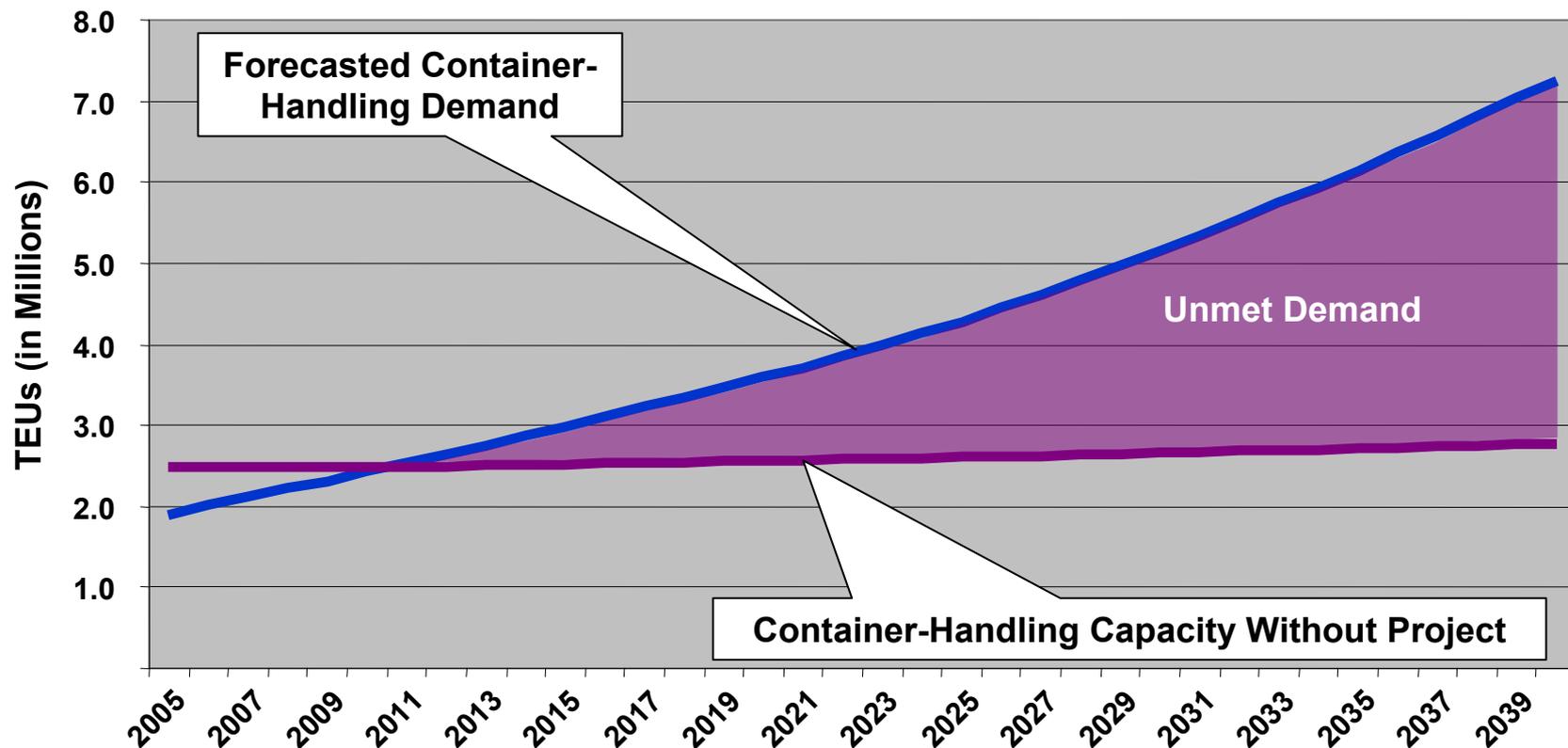


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Waterborne Commerce: Norfolk Harbor

➤ Port Improvements Will Not Keep Pace with Demand



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Problems & Opportunities

Problems

- **CIDMMA Reaches Capacity in 2025**
 - ⊕ **Shift to Upland and Ocean Disposal**
 - ⊕ **Increased Dredged Material Disposal Costs**
- **Norfolk Harbor Port Facilities Reach Capacity for Containerized Cargo in 2011**
 - ⊕ **Unmet Norfolk TEU Demand**
 - ⊕ **Increased Transportation Costs**

Problems & Opportunities

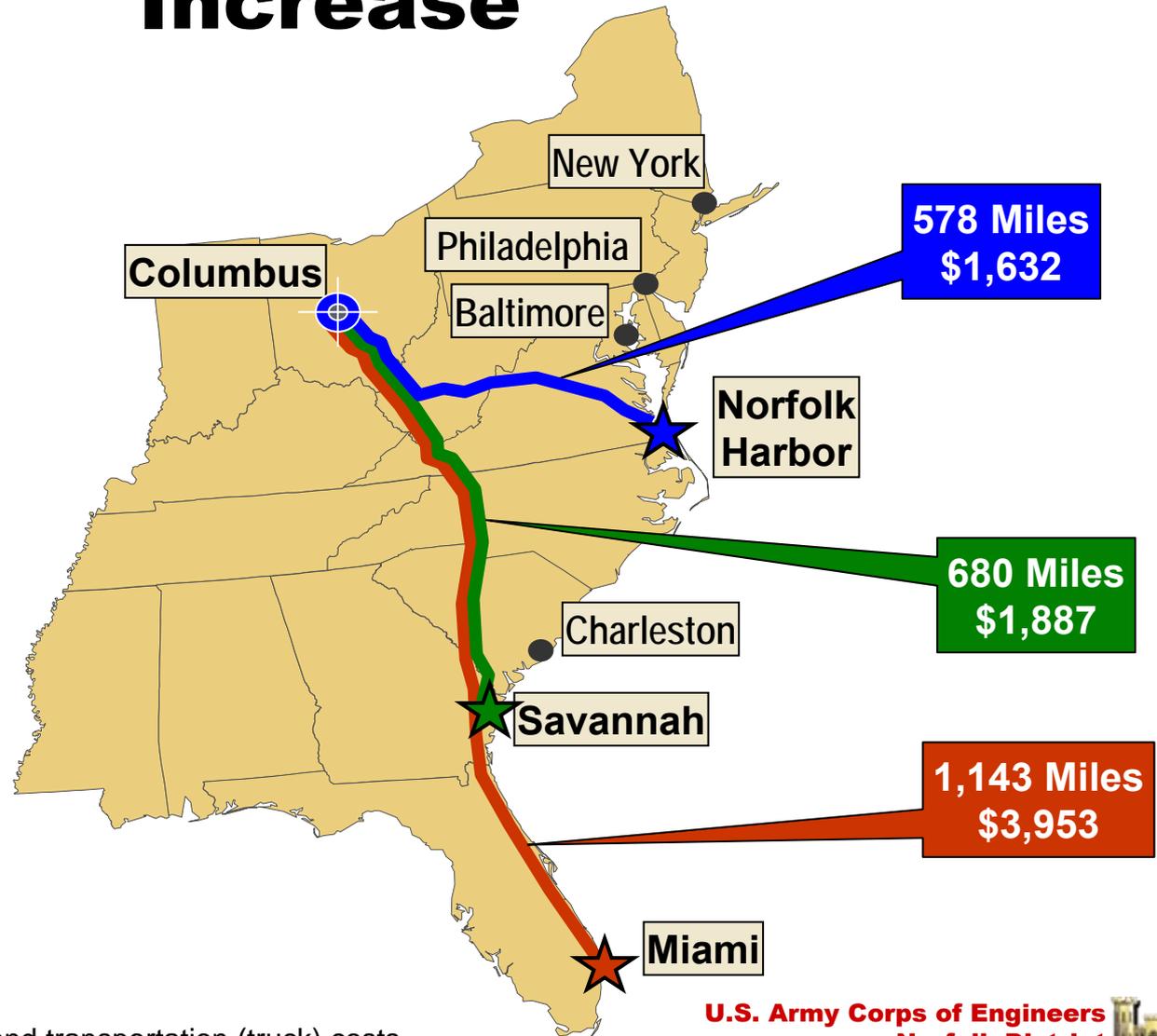
Opportunities

- **Expand CIDMMA Capacity**
- **Increase Norfolk Harbor Containerized Cargo Capacity**
- **Reduce Cost Burden to Nation by \$6 Billion Present Value, \$334 Million AAEQ**
 - ⊕ **Transportation Cost Burden \$331 Million**
 - ⊕ **Dredged Material Disposal Cost Burden \$3 Million**



Sample Transportation Cost Per TEU Increase

- **Cost Difference Factored Over Millions of Containers Results in Significant Increase in Transportation Costs**



Note: Costs include port charges, lift fees and transportation (truck) costs.

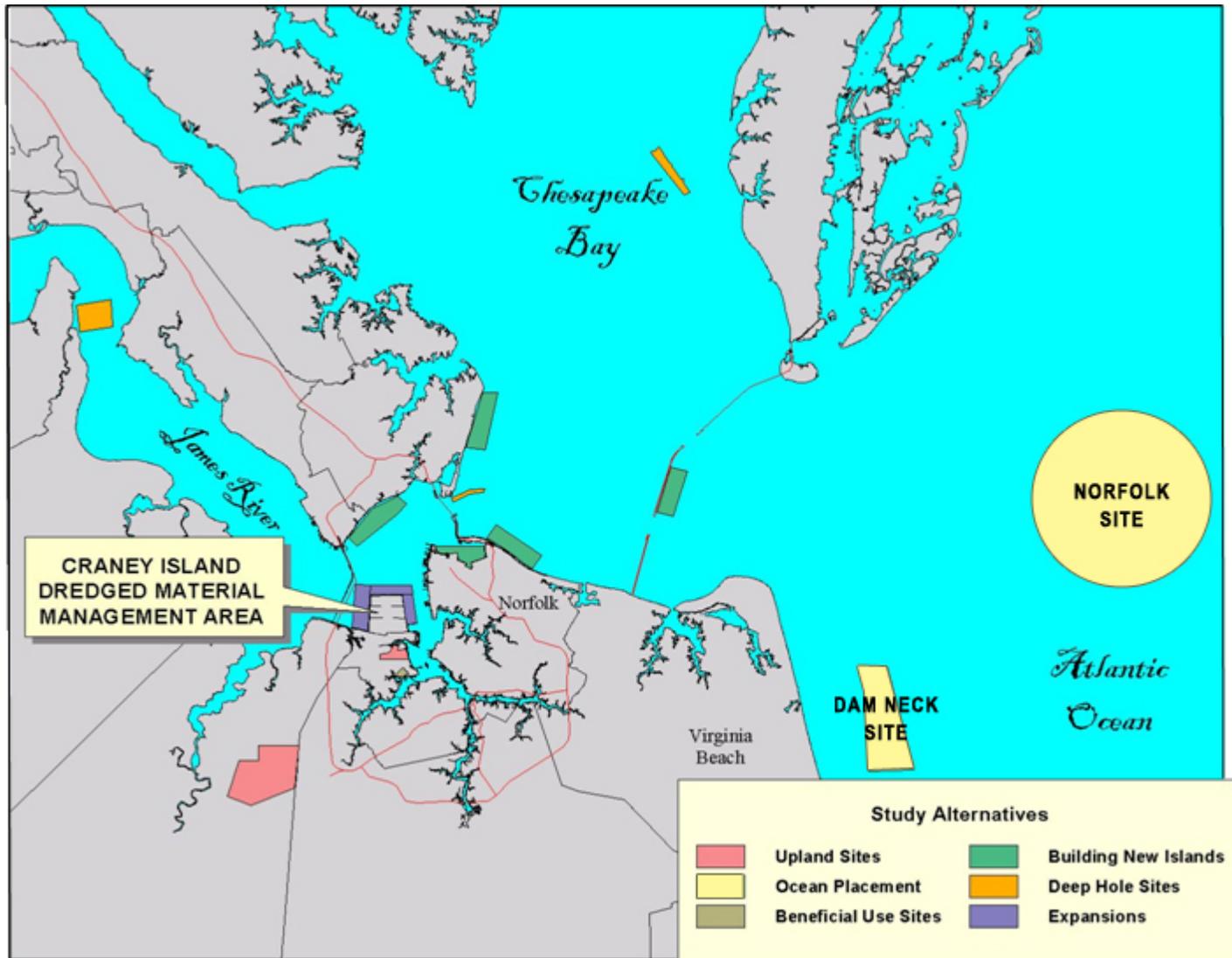
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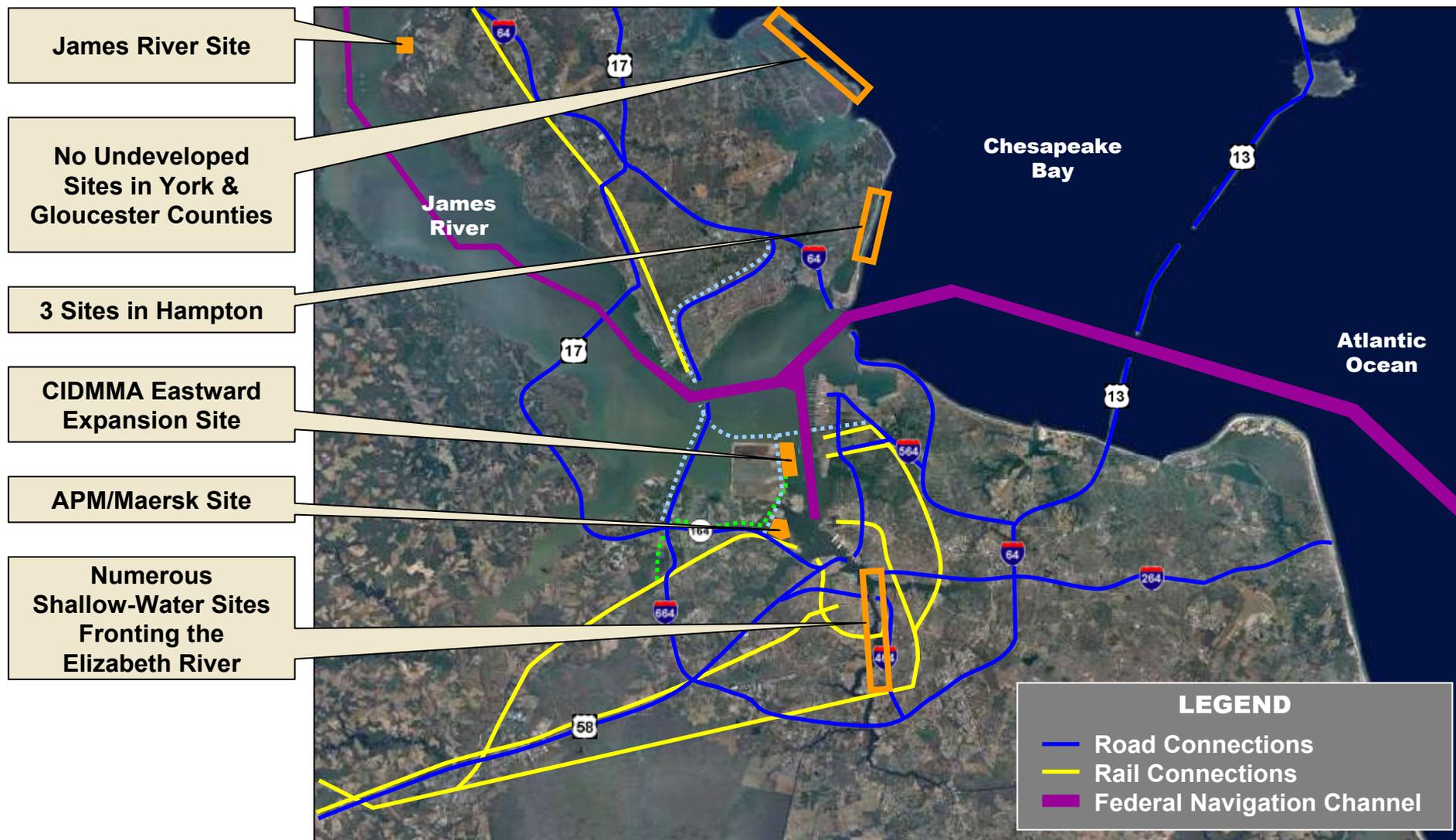
Purpose and Scope of Analysis

- **Address the Dual Nature of Study Authorization**
 - ⊕ **Extend CIDMMA Capacity**
 - ⊕ **Increase Norfolk Harbor Port Capacity**
- **Recommend a Plan in Compliance with All Federal, State, and Local Laws**
- **Identify a Plan Supported by VPA**
- **Assess Potential USACE Financial Participation in Recommended Plan**

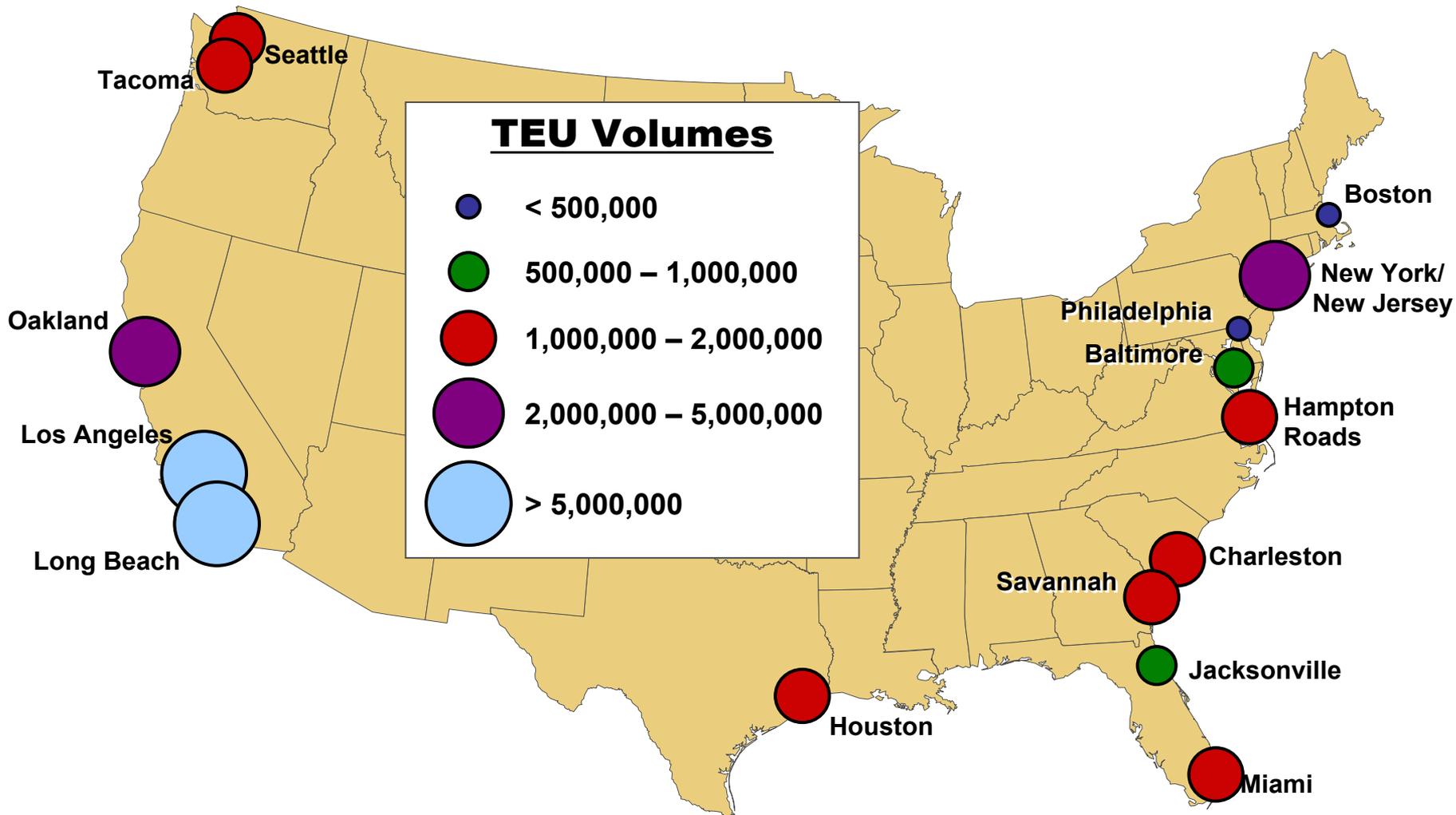
Dredged Material Sites Considered



Port Expansion Sites Considered



Major Container Ports Considered



Source: The American Association of Port Authorities, 2004
TEU = Twenty-foot Equivalent Unit

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Public Outreach & Agency Coordination

- **29 Federal, State, Local Agencies Engaged**
- **22 Local Interest Groups and Maritime Industry Representatives Engaged**
- **Committees & Subcommittees**
 - ⊕ **NEPA Technical Committee, Mitigation, Hydrodynamic, and Navigation Modeling Subcommittees**
- **Public Meetings**
 - ⊕ **7 Stakeholder Meetings from 1999-2005**
 - ⊕ **27 Committee and Agency Meetings and Workshops**

Final Alternatives



Average Annual Equivalent NED Benefits

Economic Evaluation

Cost Savings	Eastward Expansion	Eastward Expansion w/ West Dike Strengthening
Transportation	\$ 331,184,000	\$ 331,184,000
Dredging	\$ 2,286,000	\$ 8,546,000
Atlantic Channel Maintenance	\$ 97,000	\$ 97,000
TOTAL	\$ 333,567,000	\$ 339,827,000

- **\$6 Billion Present Value Cost Savings**
- **Nearly 100% of NED Benefits Provided by Port**

Note: Average Annual Equivalent 50 years at 5.125%
All costs are in FY 2006 Price Levels

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Average Annual Equivalent NED Costs

Economic Evaluation

Cost Item	Eastward Expansion	Eastward Expansion w/ West Dike Strengthening
Cell Construction	\$ 37,341,000	\$ 37,341,000
Terminal Construction	\$ 34,688,000	\$ 34,688,000
West Dike Strengthening	N/A	\$ 1,600,000
Real Estate	\$ 69,000	\$ 284,000
CIDMMA O&M	\$ 65,000	\$ 1,558,000
Access Channel O&M	\$ 209,000	\$ 209,000
Mitigation	\$ 3,018,000	\$ 3,086,000
TOTAL	\$ 75,390,000	\$ 78,766,000

➤ \$1.2 B Total Terminal Construction Cost 100% Non-Federal (VPA) Responsibility

Note: Average Annual Equivalent 50 years at 5.125%

All costs are in FY 2006 Price Levels

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Study Overview | Existing Conditions | Without Project Conditions | **Plan Formulation**

EIS & Mitigation Plan | USACE Financial Participation | Policy & Process Review

Average Annual Equivalent NED Benefits

Economic Evaluation

	Eastward Expansion Locally Preferred Plan	Eastward Expansion w/ West Dike Strengthening
Total Benefit	\$ 333,567,000	\$ 339,827,000
Total Cost	\$ 75,390,000	\$ 78,766,000
Net Benefit	\$ 258,177,000	\$ 261,061,000
Benefit/Cost Ratio	4.4	4.3

Note: Average Annual Equivalent 50 years at 5.125%
All costs are in FY 2006 Price Levels

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Recommended Plan

➤ Eastward Expansion

⊕ **Locally Preferred Plan (LPP)**

⊕ **Net Benefits \$258 Million (AAEQ)**

⊕ **B/C Ratio 4.4**



EIS Status

- **Notice of Intent: March 2, 2001**
- **Committees and Workgroups**
 - ⊕ **Stakeholders, NEPA Committee, Mitigation, and Hydrodynamic Modeling Subcommittee**
 - ⊕ **Dozens of Scoping Meetings Over 5 Years**
 - ⊕ **VIMS Resource Identification Workshop, Independent Review with USFWS, NOAA, and EPA**
- **Draft EIS Federal Register Notice: September 23, 2005**
 - ⊕ **Fully Reviewed by Federal and State Agencies**
 - ⊕ **No Unresolved Issues in Response to Comments**

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Mitigation Plan

➤ Avoidance and Minimization

- ⊕ **Eastward Expansion had Least Hydrodynamic Impacts of All Evaluated Expansion Alternatives**

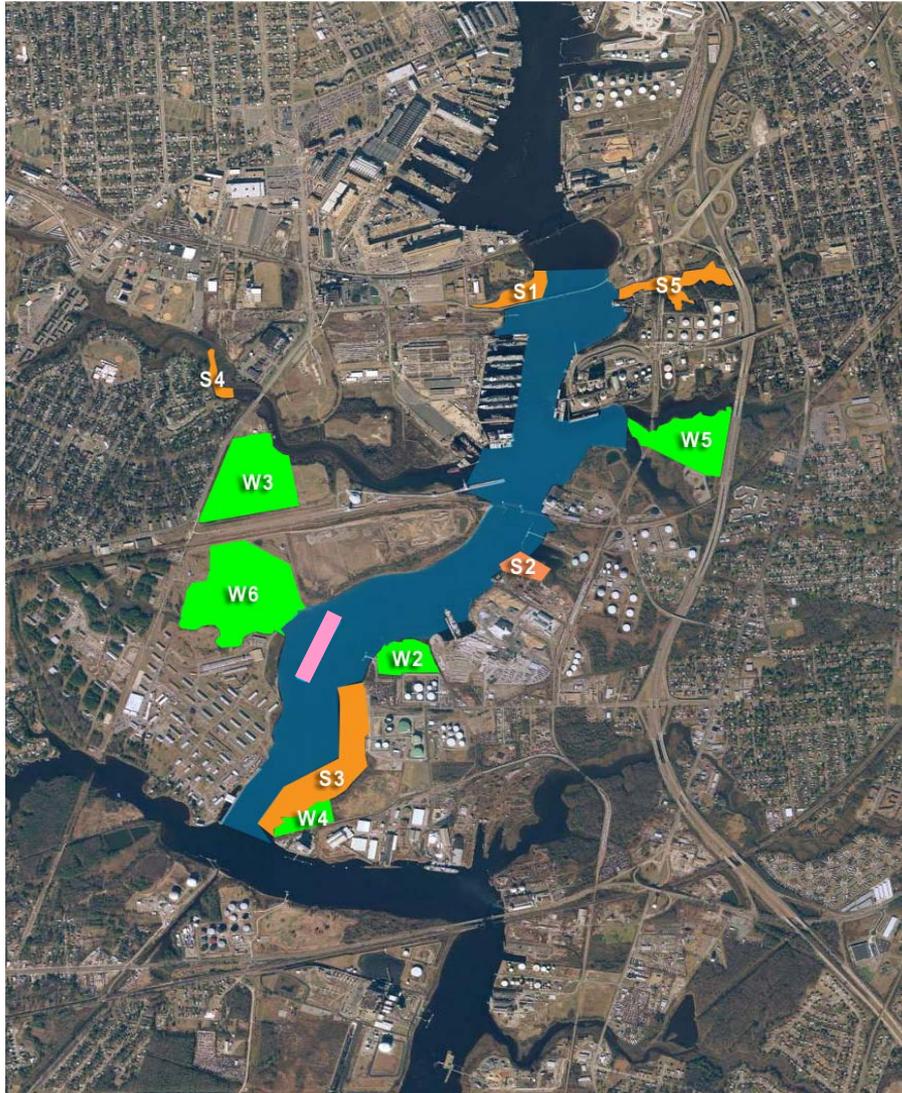
➤ Compensatory Mitigation Plan

- ⊕ **Plan Components: Sediment Clean-up, Wetlands Restoration, and Oyster Restoration**
- ⊕ **IWR “Best Buy” Plan also Endorsed by Stakeholders to include USFWS, NOAA and EPA**
- ⊕ **VPA Indemnifies USACE from any Potential CERCLA Liability**



Final Recommended Mitigation Plan

Total Mitigation Area \approx 487 Acres



LEGEND

- Potential Sediment Remediation Opportunities
 \approx 67 Acres
- Restoration Area Resulting from
Sediment Remediation (incl. 67 ac.)
Shown \approx 411 Acres
- Wetlands Restoration Areas
 \approx 56 Acres
- Oyster Reef Creation, Site Shown \approx 2 Acres
Total Oyster Reef Creation Proposed \approx 20 Acres

KEY TO SITES:

- | | |
|--------------------------------|------------------------|
| W2 – Former Exxon Site | S1 – Wycoff |
| W3 – Paradise Creek Park | S2 – Republic |
| W4 – Elizabeth River Terminals | S3 – Money Point |
| W5 – Jones and Gilligan Creeks | S4 – Paradise Creek |
| W6 – St. Julians | S5 – Scuffletown Creek |

Note: James River / Hoffler Creek Sites Not Pictured

Environmental Operating Principles

- **Achieve Environmental Sustainability – Plan focuses on interdependence of ecological communities (sediments, wetlands, and oysters).**
- **Assess and Mitigate Cumulative Impacts – Plan fully addresses and mitigates all impacts.**
- **Share Scientific Knowledge – Plan developed with 12 Federal and State agencies and 3 local interest groups**
- **Search to Find Innovative Win-Win Solutions – “...the current (mitigation) plan offers the potential to achieve the win-win for the river and the economy that has been our long-held goal...” Elizabeth River Project 11/2005 letter**

Cost Share Determination

- **Eastward Expansion Cost Share is Determined by**
 - ⊕ **Least Cost Dredged Material Disposal Method, which is**
 - ⊕ **Strengthening Existing Dikes w/out Eastward Expansion**
- **Transportation Cost Savings are Excluded from Least Cost Calculations**

Construction Cost Share Apportionment

	Federal	Non-Federal	Total
Eastward Expansion	\$ 9,864,000	\$ 633,478,000	\$ 643,342,000
Access Channel	\$ 16,356,000	\$ 11,642,000	\$ 27,998,000
TOTAL	\$ 26,220,000	\$ 645,120,000	\$ 671,340,000
Percentage	3.9%	96.1%	100%

➤ **Excludes VPA Terminal Construction Cost**

Note: All costs shown in 2006 dollars.

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Effects on the Four Accounts

- **NED: \$258 Million AAEQ Net Benefits**
- **RED: 54,000 Jobs, \$1.7 Billion Annual Wages, \$155 Million in Annual State and Local Taxes**
- **NER: No Net Loss of Ecosystem Services**
- **OSE: Expand Education, Training, and Military Logistics Opportunities**

Independent Technical Review

➤ All ITR Successfully Completed

➤ Internal ITR

- ⊕ NAO Review Team

➤ External ITR

- ⊕ Economics: NAN and NAD

- ⊕ Hydrodynamic Modeling: ERDC, Academia, Consultants, Stakeholders

- ⊕ Port Design and Safety: ERDC, Consultants

- ⊕ NEPA: Federal and State Agencies, Academia, Stakeholders

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Quality Control

- **QC Report Dated January 2006**
- **Legal Certification of Feasibility Report Made by NAO District Counsel in February 2006**
- **Feasibility Report Complies with all Applicable Policy and Laws in Place at This Time**

HQ Policy Review

- **Extensive HQ and NAD Support**
- **Policy Issues Have Been Resolved per PGM**
- **Resolved USACE Policy Issues:**
 - ⊕ **Federal Cost Share**
 - ⊕ **Cost of Mitigation Plan**
 - ⊕ **Potential USACE CERCLA Related Liability**

Statement of Sponsor Support The Virginia Port Authority

- **Fully Supports the Recommendation**
- **Proud to Sponsor a Project that Saves the Nation \$6 Billion in Future Transportation Costs**
- **Remains Concerned With the 3.9% Federal Cost Share (\$26 Million out of \$671 Million)**

North Atlantic Division Position

- **Concurrence with NAO District Commander's findings & recommendations.**
- **Confirm that the report complies with all applicable policy & laws in place at this time.**
- **Anticipate favorable response to the draft Chief's Report recommending eastward expansion of Craney Island.**
- **Plan for eastward expansion of Craney Island is a successful result of plan formulation to increase dredged material capacity and to achieve transportation cost savings through increased throughput capacity.**
- **Craney Island's excellent partnership with the Virginia Port Authority sets an example for other stakeholders to collaborate with the Corps.**

Quality Assurance Briefing: North Atlantic Division

- QC Report dated Jan 2006
- Documentation on vetting aspects of cost-sharing, cost of mitigation and potential CERCLA material.
- Signatures for entire study team and QC team members are listed.

Certification of Legal & Policy Compliance

- Legal certification of the final feasibility report made by NAO District Counsel on 8 Feb 2006.
- Policy Compliance: ITR conducted by NAO, supplemented by external technical reviewers. ITR certification includes signature of review team members. All comments have been resolved by NAO and are documented in ITR report.
- Federal cost share and cost of mitigation are examples of ITR comments.

Civil Works Review Board

Significant Policy Review Concerns

Craney Island Eastern Expansion Norfolk Harbor and Channels Navigation Project

C. Lee Ware, P.E.

Office of Water Project Review

Policy and Policy Compliance Division

Washington, DC – April 2006



Craney Island Eastern Expansion Project

General Navigation Features (GNF):

- Channels, Anchorages, Turning Basins
- Jetties and Breakwaters
- Locks
- Dredged Material Disposal Areas



Craney Island Eastern Expansion Project

Local Service Facilities (LSF):

- Docks
- Terminal and Transfer Facilities
- Berthing Areas
- Local Access Channels
- Must be accessible and available to all on equal terms



Craney Island Eastern Expansion Project

Areas of Policy Concern:

- Federal/Corps Interest
- Cost-sharing
- Without-Project Throughput Capacity
- Identification of GNF Features
- Least Cost Disposal Plan/DMMP
- Mitigation Plan Formulation
- Financing Plan, LOI



Craney Island Eastern Expansion Project

Federal/Corps Interest

Concern: The AFB materials incorrectly recommended significant Federal interest in cost-sharing CIEE, because transportation cost savings benefits exceeded the project costs. However, HQ identified that CIEE is not a GNF.

Reason: Most CIEE costs and benefits are attributable to the port development rather than navigation and disposal features (GNF).

Resolution: The final report recommends a small Federal interest based on the additional disposal capacity at the CIEE facility and its access channel.

Resolution Impact: The concern has been resolved.



Craney Island Eastern Expansion Project

Cost-sharing

Concern: The AFB materials incorrectly recommended 50/50 cost-sharing, based on GNF rules for a channel depth over 45'.

Reason: Because it is not the least cost disposal plan it is not eligible for GNF cost-sharing.

Resolution: The final report recommends 3.9% Federal cost-sharing based on the effects on disposal capacity and access channel to CIEE.

Resolution Impact: The concern is resolved. Ongoing policy review may change the cost-share slightly.



Craney Island Eastern Expansion Project

Without-Project Throughput Capacity

Concern: The AFB materials were unclear on whether alternative ports had sufficient throughput capacity to handle excess Norfolk commodities.

Reason: The future without project condition must define the tonnage, routing, and cost of commodity movements as a basis for measuring transportation savings benefits and establishing project justification.

Resolution: The final report has expanded discussion on the capacity of alternative ports and the cost for routing excess commodities through Norfolk.

Resolution Impact: Concern resolved



Craney Island Eastern Expansion Project

Least Cost Disposal Plan/DMMP

Concern: The AFB materials did not clearly identify the least cost disposal plan resulting from a Dredged Material Management Plan.

Reason: The report needed to identify the least cost disposal plan in order to establish the basis for Federal interest in cost sharing.

Resolution: The report identified the western berm as the least cost means of providing additional disposal capacity, which established the basis for Federal cost-sharing of capacity expansion.

Resolution Impact: Concern resolved



Craney Island Eastern Expansion Project

Identification of GNF Features

Concern: The AFB materials identified no features of the CIEE project that qualified as GNF. Channel dredging was shown as local access, Craney expansion is not the least cost disposal option. HQ identified potential for access channel to be cost-shared as traditional GNF.

Reason: For a disposal site to be treated as GNF, it must be the least cost disposal option. Access channel dredging to a single public port qualifies as multi-beneficiary and is cost-shared as GNF according to the depth.

Resolution: The final report identifies the approach channel, excluding berth areas, as a GNF feature, cost-shared according to the depth criteria.

Resolution Impact: Concern resolved



Craney Island Eastern Expansion Project

Mitigation Plan Formulation

Concern: The draft report proposed mitigation that involved remediation of CERCLA contaminants. HQ questioned whether the costs were reasonable and if Federal cost-sharing in those actions was appropriate.

Reason: Corps policy requires sponsor to hold and save the government harmless relative to CERCLA materials.

Resolution: The non-Federal sponsor will assume responsibility for any CERCLA liability associated with the mitigation plan. Therefore, no Civil Works funding or liability will be involved.

Resolution Impact: Concern resolved



Craney Island Eastern Expansion Project

Financing Plan/Letter of Intent

Concern: The final report does not provide a financing plan and letter of intent consistent with the recommended cost sharing. The sponsor is seeking more favorable project cost-sharing.

Reason: Reports must include the sponsor's financing plan and a district assessment of financial capability to support the recommended plan.

Resolution: An updated letter of intent is being provided, consistent with the recommended cost-sharing for the project for inclusion in the report.

Resolution/Impact: This recent concern is being resolved. Ongoing review considerations may ultimately change the final local share.



Craney Island Eastern Expansion Project

HQUSACE Policy Compliance Review Team RECOMMENDATION

Release the report and EIS for S&A Review



Open Discussion

Summary

- **VPA, NAO, NAD, and HQUSACE Support the Feasibility Report's Recommendation**
- **All ITR, NEPA, Quality Control, and HQUSACE Policy Review Issues Have Been Resolved**
- **Recommended Plan Provides \$6 Billion Present Value NED Benefits (\$334 Million AAEQ) with a B/C Ratio of 4.4**
- **Federal Cost Share is Limited to 3.9% Based on Current USACE Policy**





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