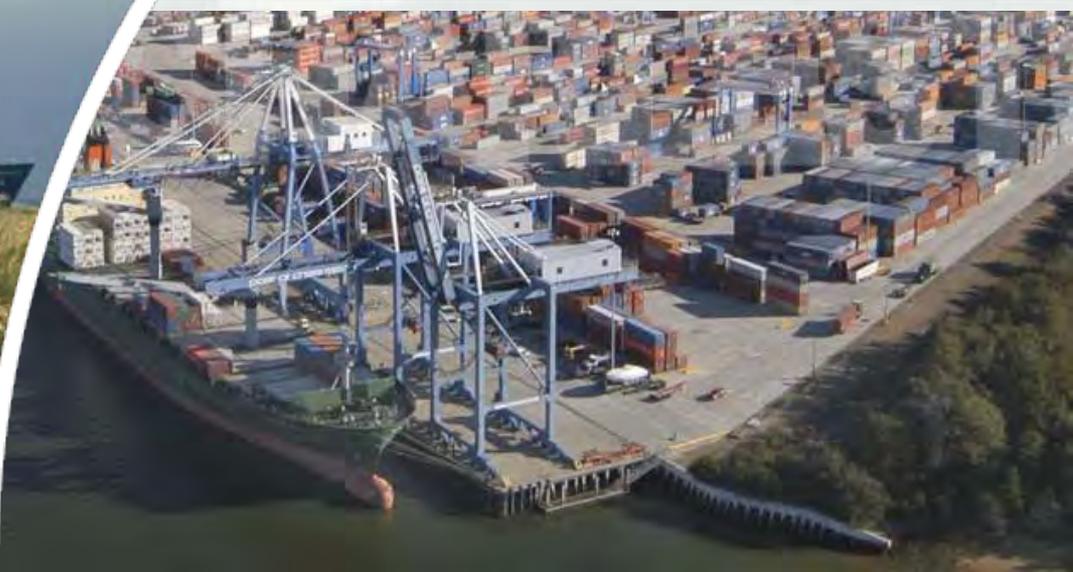


CHARLESTON HARBOR POST 45 INTEGRATED FEASIBILITY REPORT & ENVIRONMENTAL IMPACT STATEMENT

CIVIL WORKS REVIEW BOARD (CWRB)

Presented by:
LTC John Litz

June 25, 2015



POST 45 STUDY BACKGROUND

- USACE streamlined planning process
- 3x3x3 Principles
 - 3 years
 - \$3 million
 - 3 levels of Vertical Team integration
- First project to receive 3x3x3 waiver
 - Cost: reduced estimate from \$19M to \$11.75M
 - Schedule: reduced from 8 to 3 yrs



AN INVESTMENT OF NATIONAL INTEREST

- Priority project in the Administration's "We Can't Wait" Initiative
- National Rankings (2013):
 - 7th in U.S. for value of cargo (\$65.1 Billion)
 - 9th in U.S. for container traffic (1.6 Million TEUs)
- Recommended Plan: 52-foot Deepening
- Benefit-Cost Ratio:
 - 3.9 (3.375%)
 - 1.9 (7%)
- Federal Cost: \$180,000,000
- Non-federal Cost: \$341,000,000
- Project Cost: \$521,000,000



CHARLESTON HARBOR OVERVIEW

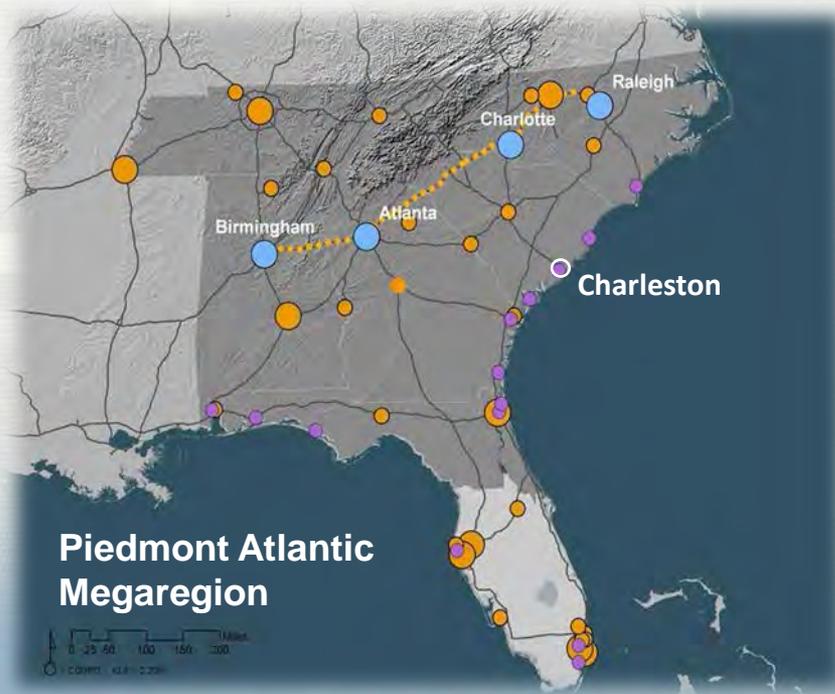


Charleston Harbor Terminal	Container	Roll On Roll Off	Break Bulk
North Charleston	X	X	X
Veterans		X	X
New Navy Base	X		
Columbus Street		X	X
Union Pier		X	X
Wando Welch	X		



BUILDING STRONG®

VITAL PORT / STRATEGIC LOCATION



- Most rapidly growing region in the Southeast: Piedmont Atlantic Megaregion
- Multimodal access: highway; on-dock or near-dock rail access; air; and water
- Strategic port (one of 17): Multiple military facilities throughout harbor
- Significant State investment (New Navy Base Terminal, Intermodal Facility, etc.)





The need for a 52-foot harbor in Charleston

**NON-FEDERAL
SPONSOR**



**SOUTH
CAROLINA
PORTS**

June 2015



Sustained Secular Trends Impact Depth Requirements for USEC ports

Major vessel infrastructure limitations to be removed by end of 2016

- Panama Canal expansion = vessels up to 1,204 feet long/ 14,000 TEU
- Bayonne Bridge raised to 215 feet high

More capacity offered on ships >7,500 TEU than below by 2017

- Summer draft between 48 and 52 feet

All major lines have ordered ships >10,000 TEU

Eight lines have ordered ships > 18,000 TEU

Export growth to outpace import growth

- US container trade expected to be export-dominant again by 2020
- Exports average 3 tons heavier per TEU than imports
- US Southeast = the largest exporting region in the US



Total 10-Year CAPEX Commitment

**10-YEAR
CAPEX
SPENDING**

\$2 BILLION

New Container Terminal	\$700 Million	South Carolina Ports Authority ((\$1.35 Billion))
S.C. Inland Port	\$50 Million	
Other Infrastructure & IT Projects (Interstate Highway Expansion, Existing Facility Improvements, Container Cranes, New IT Systems, etc.)	\$600 Million	
Harbor Deepening to 52 Feet	\$300 Million	State of South Carolina ((\$725 Million))
Port Access Road	\$225 Million	
New Dual Access Intermodal Railhead	\$200 Million	
Total 10-Year CAPEX Commitment		\$2 Billion



Draft of Cellular Fleet 3,000 TEU and Above





Future Ship Deployments Are Clear...

Asia/Europe

18,000+ TEU



Asia/USA

8,000 – 13,000 TEU

Europe/USA

5,000 – 9,000 TEU

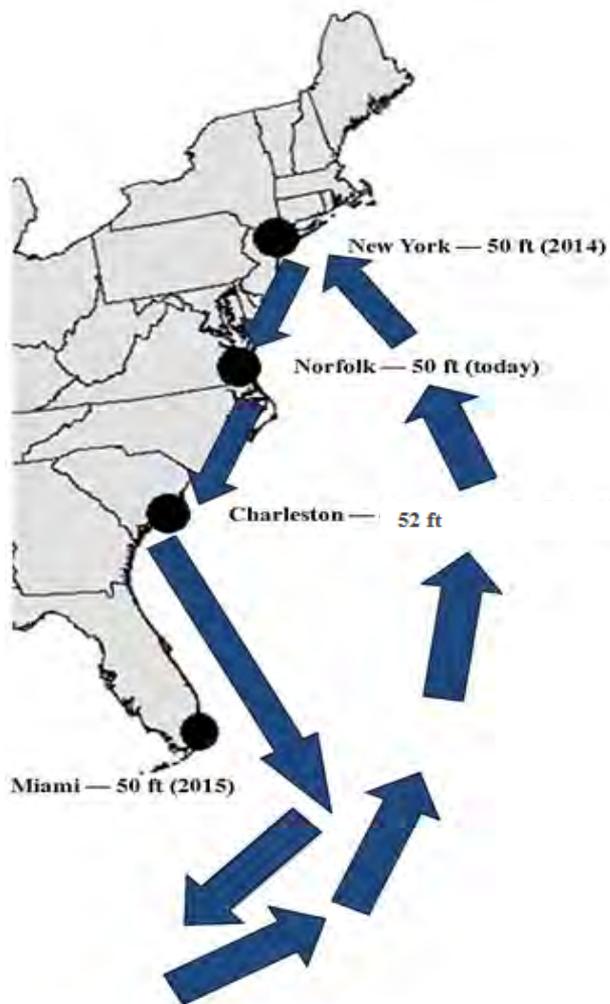


Other Trades

3,000 – 10,000 TEU



Asia/USEC Ship Rotation: Post-Panama Canal Expansion - 2016



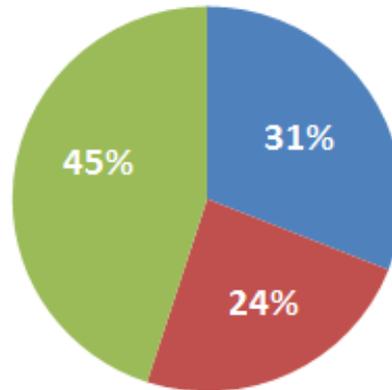
Note: No South Florida call included.



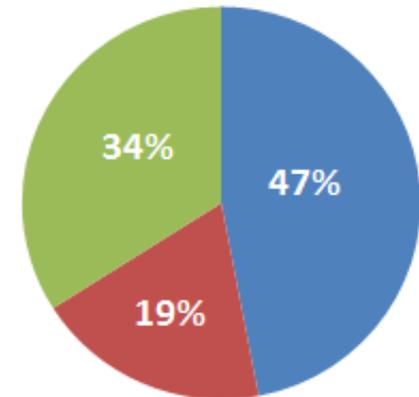
2014 US East Coast Exports/Imports by Region (TEU x 1000)



Export Total



Import Total



- North Atlantic
- Mid-Atlantic
- South Atlantic

Note: Exports = 13 tons per TEU, imports = 10 tons TEU



Summary



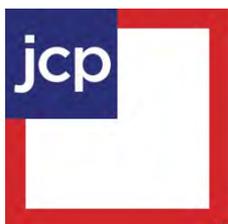
The Port of Charleston is important to both the region and the nation.



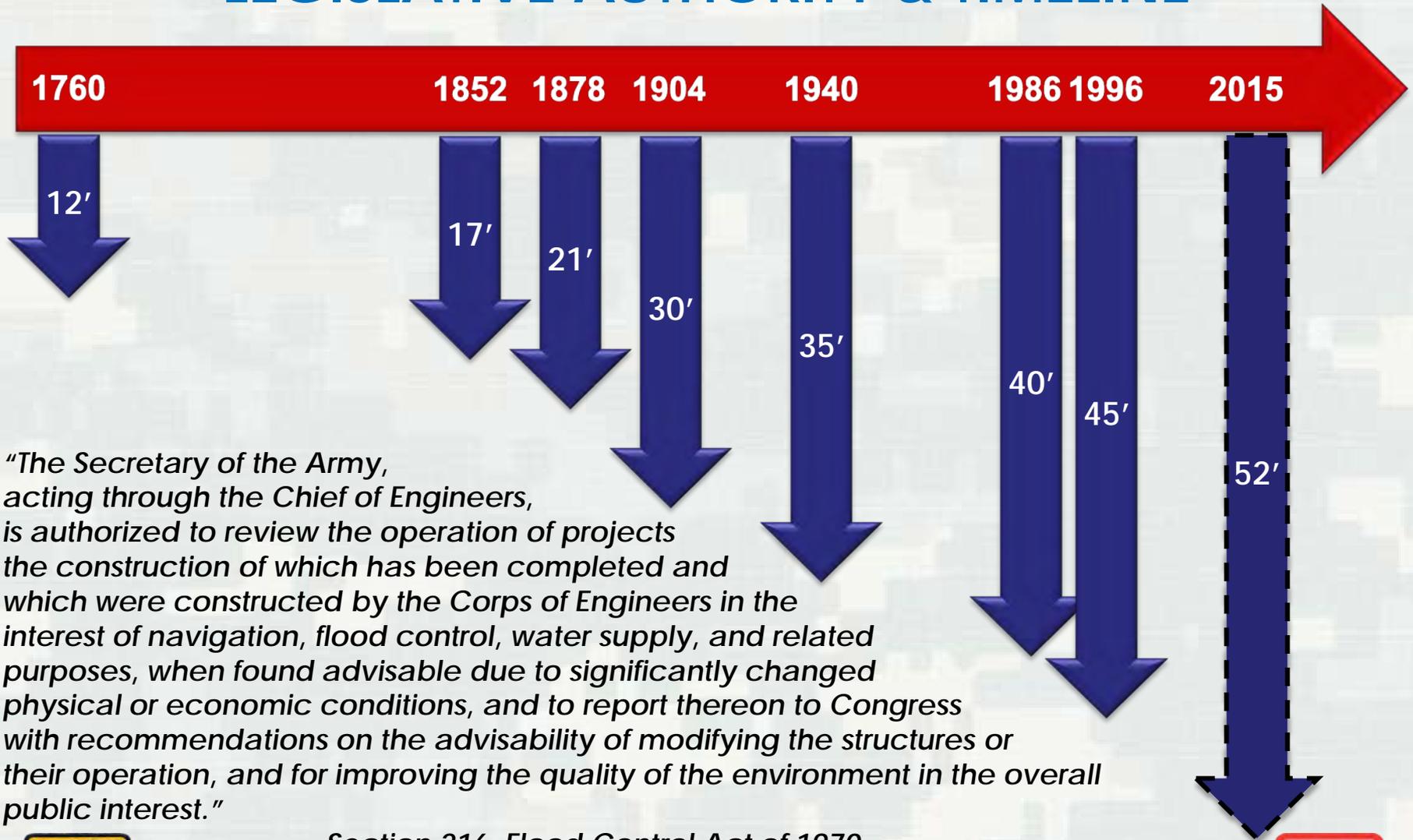
Mercedes-Benz



JOHN DEERE



LEGISLATIVE AUTHORITY & TIMELINE



"The Secretary of the Army, acting through the Chief of Engineers, is authorized to review the operation of projects the construction of which has been completed and which were constructed by the Corps of Engineers in the interest of navigation, flood control, water supply, and related purposes, when found advisable due to significantly changed physical or economic conditions, and to report thereon to Congress with recommendations on the advisability of modifying the structures or their operation, and for improving the quality of the environment in the overall public interest."

– Section 216, Flood Control Act of 1970



BUILDING STRONG®

PROBLEMS

- Inadequate depths
 - Vessel light-loading
 - More frequent trips
 - Use of smaller, less efficient vessels
 - Tidal delays
- Inadequate widths
 - One-way traffic
 - Undersized turning basins
- Currents, winds, bank suction
 - Maneuverability
 - Safety

OPPORTUNITIES

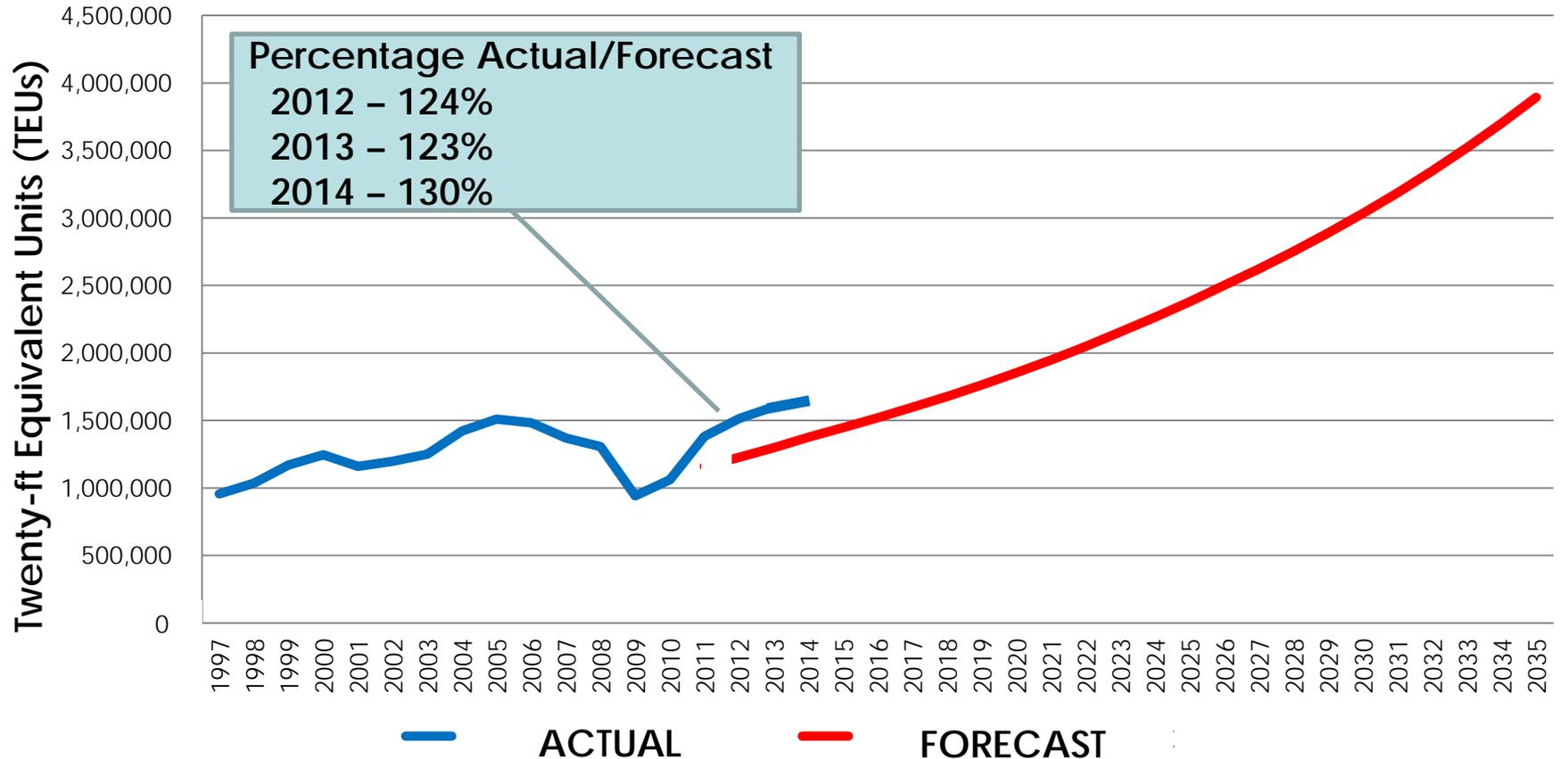
- Reduce transportation costs by bringing the forecasted volume of goods on fewer, larger ships
- Improve navigation safety
- Protect, restore, and create habitat with dredged material



BUILDING STRONG®

ECONOMICS

CHARLESTON COMMODITY FORECAST VS. ACTUAL



ENGINEERING

■ NAVIGATION

- Insufficient channel dimensions
- One-way traffic
- Congestion
- Strong and unpredictable currents & winds
- Bank suction
- Restrictive turning basins

■ DISPOSAL SITES

- Upland sites
- Ocean Dredged Material Disposal Site (ODMDS)

■ OPERATION & MAINTENANCE

- O&M: once per year (in one or more shoaling locations)
- Advance maintenance in portions of the channel



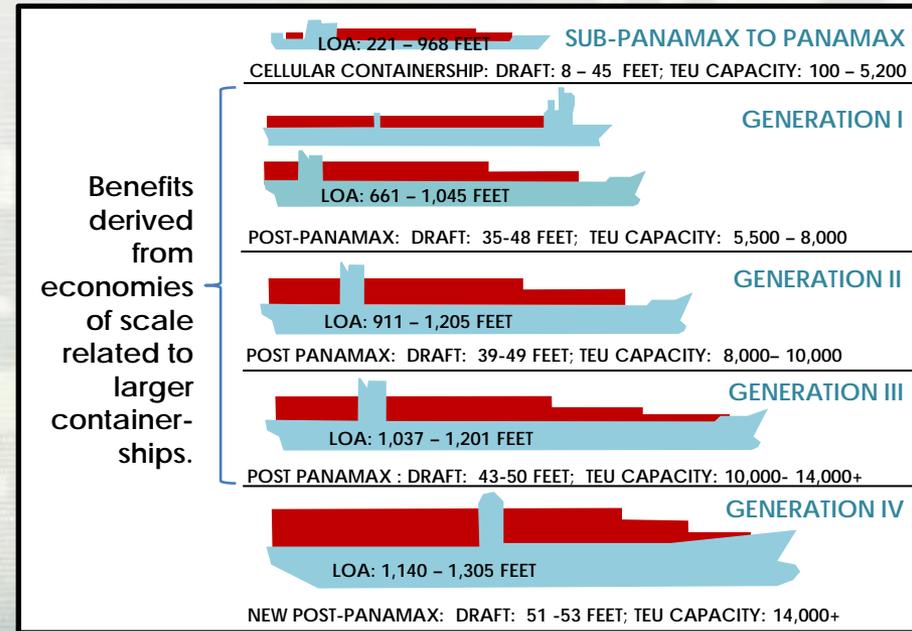
ENVIRONMENTAL CONCERNS

- Dissolved oxygen TMDL
- Salinity
- Wetlands
- Hardbottom habitat
- Shoreline erosion
- Threatened & Endangered species
 - Right whale
 - Sturgeon
 - Sea turtles



FORECASTS & ASSUMPTIONS: WITHOUT-PROJECT CONDITION

- Forecasted cargo volumes are independent of channel modifications
 - Forecasts based on 2008-2011 data
 - Both imports & exports increase
 - Port reaches capacity in 2037
- Calls by Panamax and Post-Panamax Generation I – III vessels (5.2K to 14K TEU)
- Fleet changes will exacerbate depth problems
 - Vessel traffic concentrated at high tides
 - More vessel calls
- Sea level rise



OBJECTIVES

- Reduce transportation costs and contribute to the NED
- Improve navigation safety
- Reduce operating restrictions including one-way traffic in some reaches
- Develop an environmentally acceptable and sustainable alternative

CONSTRAINTS

- Compliance with maritime safety requirements
- Avoid unacceptable impacts to:
 - Natural resources
 - Cultural and historical resources
 - Infrastructure



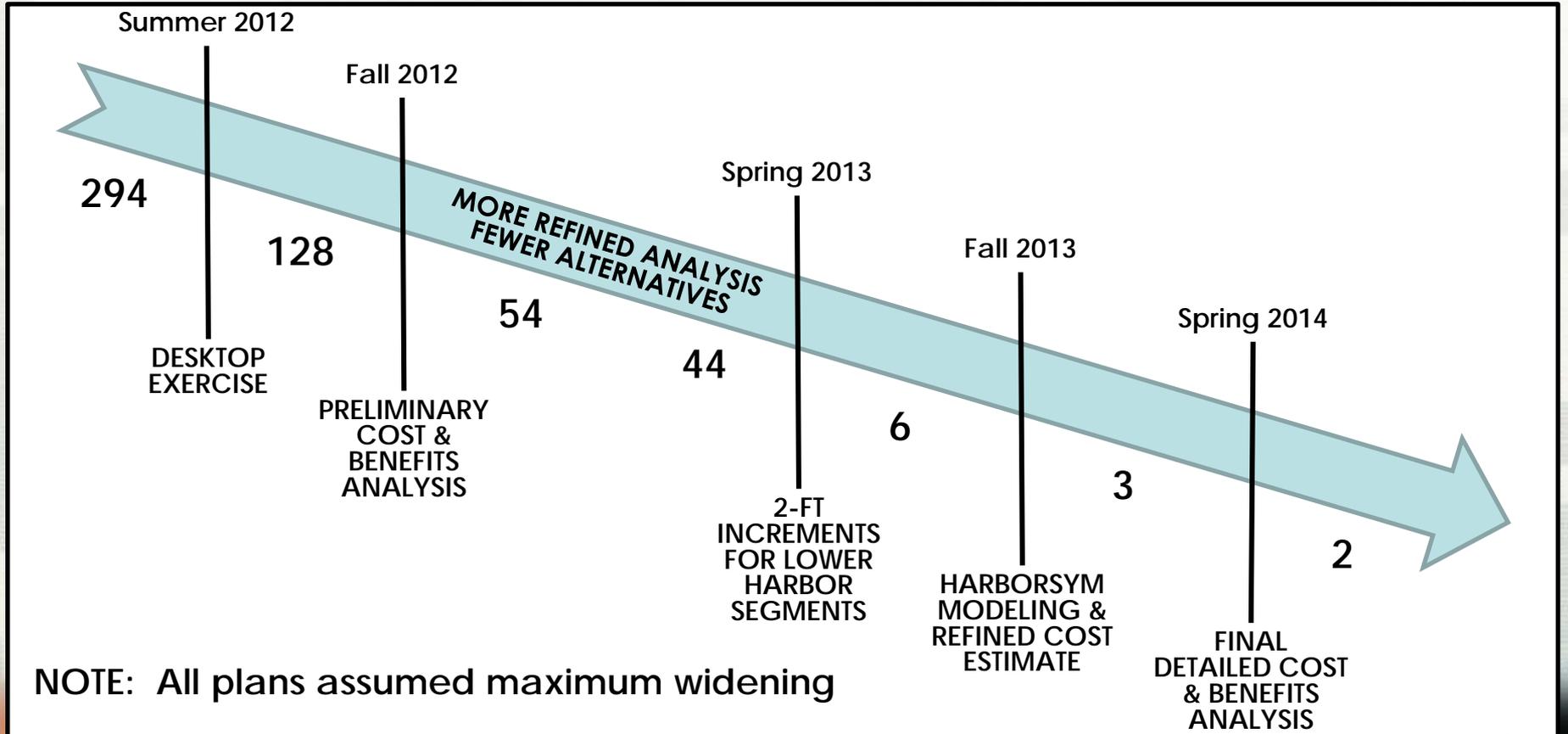
PLAN FORMULATION OVERVIEW

- Segment 1 – Entrance Channel to the Wando Terminal
- Segment 2 – Intersection of Wando & Cooper Rivers to the New Navy Terminal
- Segment 3 – New Navy Terminal to the North Charleston Terminal
 - Air draft restriction

- Entrance channel
- Entrance channel extension
- Segment 1
- Segment 2
- Segment 3
- Widening areas



ACTION ALTERNATIVES SCREENING



ENVIRONMENTAL & ENGINEERING COMPARISON NED PLAN TO LPP

Significant Considerations	NED 50/48	LPP 52/48
Freshwater Wetland Impacts	232 acres	324 acres
Total Mitigation	476 acres	665 acres
Wetland Mitigation Cost	\$2.2 M	\$3.0 M
Dredge Quantity	29,012,000 cy	40,010,000 cy
Operations & Maintenance	\$3.5 M / year	\$3.7 M / year



COST & BENEFIT COMPARISON NED AND LPP

FY15 Discount Rate 3.375% & Oct 2014 Price Level as of 13 Apr 2015

Item	NED (50/48)	LPP (52/48)	Incremental Differences (LPP minus NED)	
General Navigation Features Cost	\$449,000,000	\$493,300,000	\$0	
First Cost	\$449,000,000	\$493,300,000	\$0	
Project Costs	\$476,000,000	\$521,000,000	\$45,000,000	
Average Annual Costs	\$25,700,000	\$28,000,000	\$2,300,000	
Average Annual Benefits	\$103,100,000	\$108,900,000	\$5,800,000	
Net Benefits	\$77,400,000	\$80,900,000	\$3,500,000	
Benefit-Cost Ratio	3.375%	4.0	3.9	-0.1
	7%	2.0	1.9	-0.1

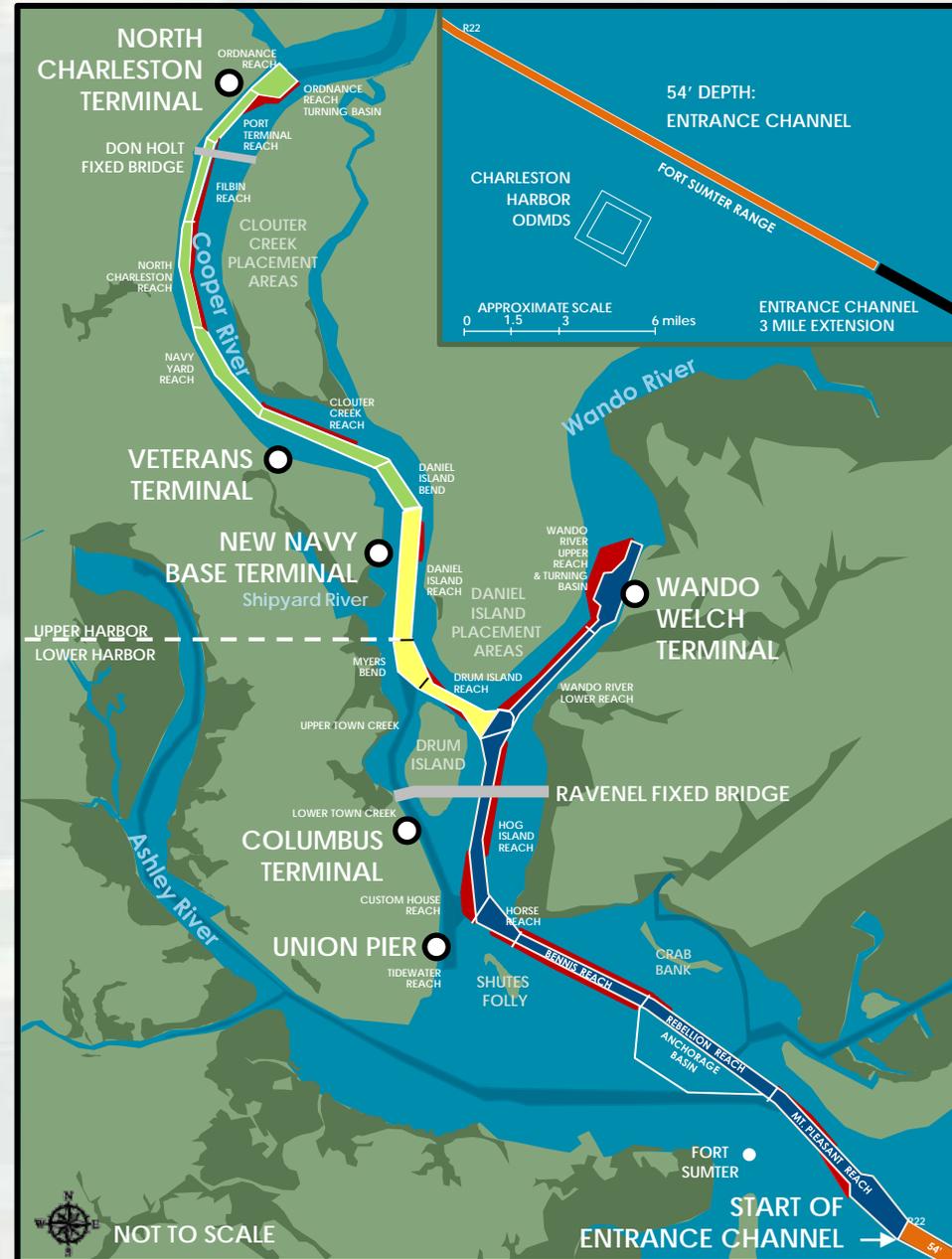


RECOMMENDED PLAN

- Recommended Plan is the Locally Preferred Plan (LPP)

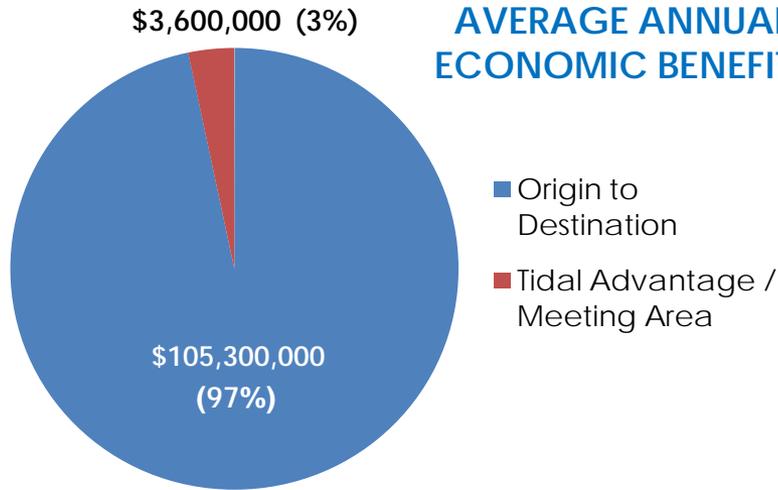
- Entrance channel: 54' depth
- Entrance channel 3-mile extension
- Segment 1: 52' depth
- Segment 2: 52' depth
- Segment 3: 48' depth
- Widening in select areas

- LPP waiver approved by ASA(CW) 1 Oct 2014
- Project Cost: \$521,000,000
- BCR: 3.9 (3.375%); 1.9 (7%)

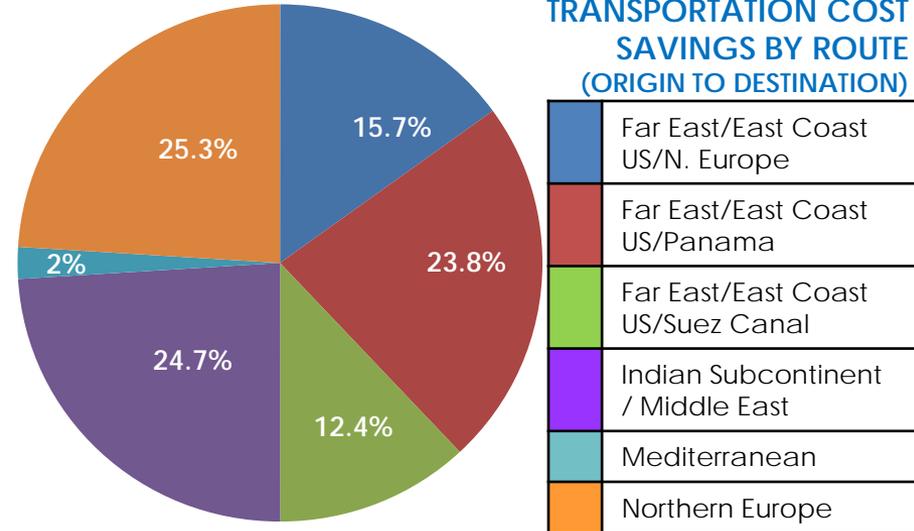


WITH-PROJECT BENEFITS

AVERAGE ANNUAL ECONOMIC BENEFITS

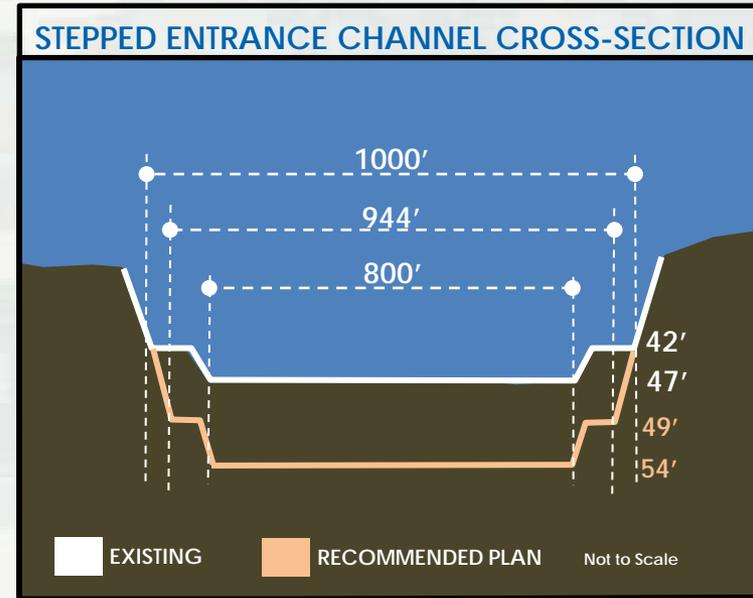


TRANSPORTATION COST SAVINGS BY ROUTE (ORIGIN TO DESTINATION)



ENGINEERING

- Dredging Quantities: 40,000,000 cubic yards
- Adequate Capacity for Dredged Material:
 - Modify the ODMDS
 - Raise dikes at existing disposal areas
- Blasting: Not required
- Advance Maintenance: Verified need to continue as currently approved for existing project
- O&M: Increased cost = \$3,700,000/year
- Project Datum:
 - Mean Lower Low Water (MLLW) in compliance with current regulation (ER 1110-2-8160)
 - Horizontal datum: NAD83

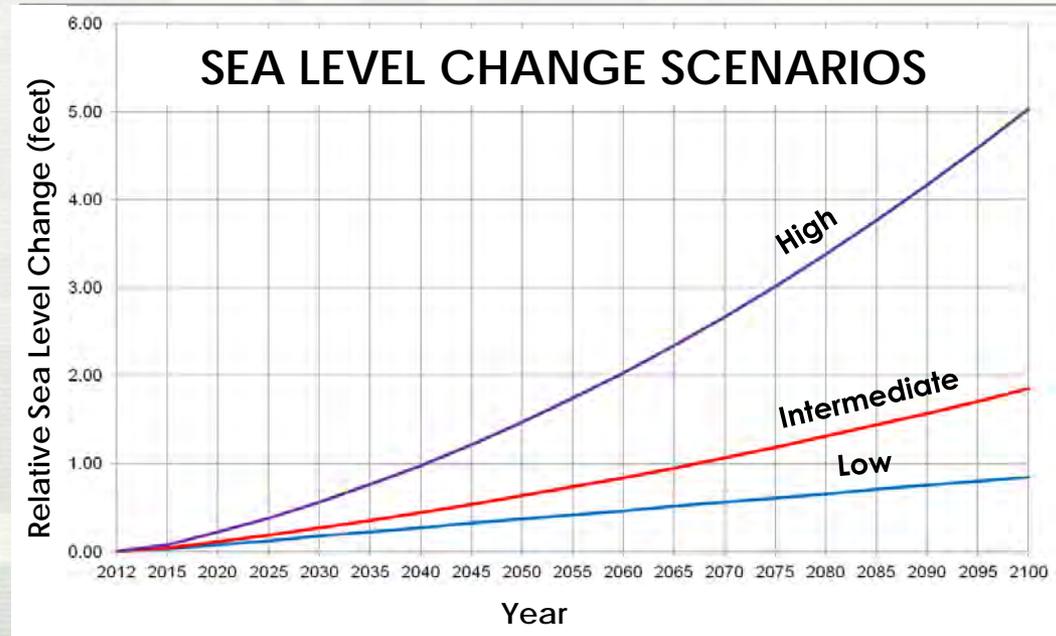


Avoids hardbottom impacts, reduces quantity of dredged material, and reduces overall cost



SEA LEVEL CHANGE

- Used current guidance (ER 1110-2-8162 and ETL 1100-2-1)
- Conclusion for Navigation:
 - No impacts on Federal navigation project or critical infrastructure.
 - Potential impact to jetties
- Conclusion for Salinity:
 - SLC salinity levels will impact freshwater wetlands to some degree
 - Project includes mitigation for project-induced salinity increases



- Results of analysis for the 50-year period, 2022-2071:
 - Low (Historic): 0.57 feet
 - Intermediate: 1.08 feet
 - High: 2.74 feet



ENVIRONMENTAL IMPACTS (1 of 2)

Water Quality: Dissolved Oxygen (DO)

- In compliance with State water quality standard

Wetlands and Salinity

- Project-induced salinity impacts (shift from freshwater to more brackish vegetation)

Shoreline Erosion

- Vessel wake energy on shorelines expected to be less with the Recommended Plan
 - NPS and SHPO concerns about Ft. Sumter
 - Addressed through Programmatic Agreement for monitoring



ENVIRONMENTAL IMPACTS (2 of 2)

Hardbottom Habitat

- Avoided ~20 acres of impacts along margins of entrance channel by maintaining existing side slope with deeper cross-section
- Impacts to ~29 acres within the entrance channel

Fish & Wildlife

- Fish species evaluated through use of Habitat Suitability Index models
- Minor impacts to fish habitat (< 7% reduction)

Threatened & Endangered Species

- USFWS: Formal consultation not required; Concurrence received on 9 Dec 2014
- NMFS: Formal consultation: “Likely to adversely affect” opinion for sea turtles and sturgeon; Biological Opinion received 22 Apr 2015



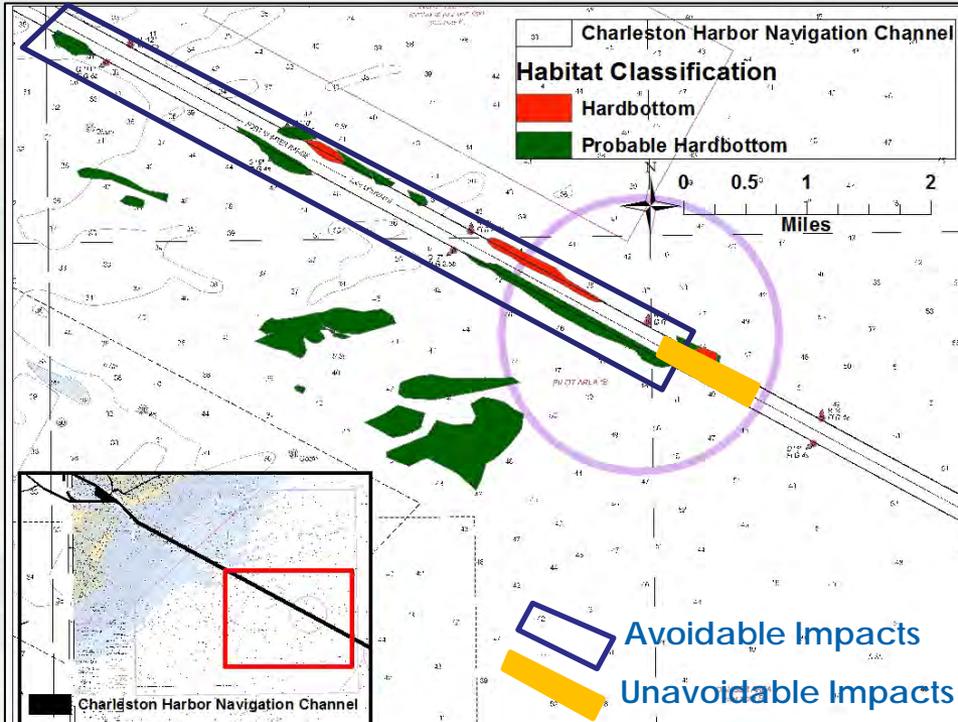
WETLAND IMPACTS & MITIGATION

- Project-induced salinity movement upriver
- Salinity impacts to ~324 acres of freshwater wetland habitat and vegetation
- Mitigation in form of preservation of 665 acres of wetlands (determined by UMAM)
- Preferred parcel (1150 acres) has interagency support
 - Non-Federal Sponsor is paying for the additional land (485 acres)

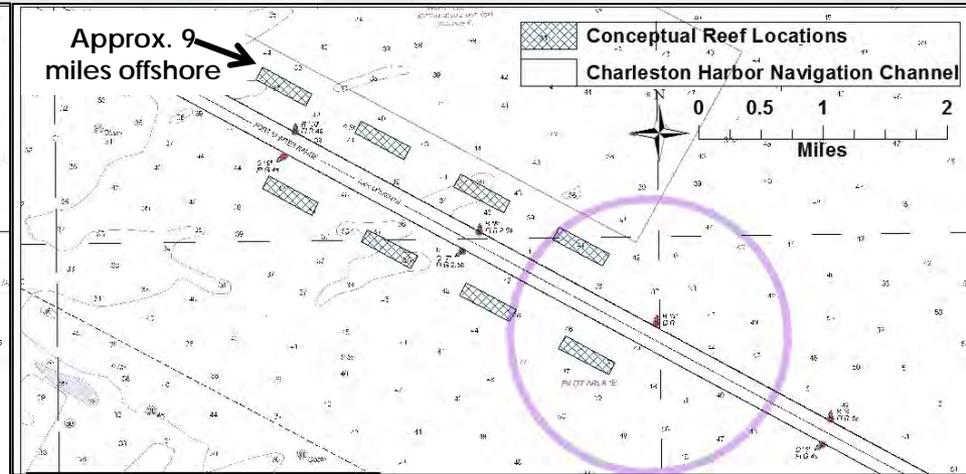


HARDBOTTOM HABITAT

IMPACTS



HABITAT CREATION



- Impacts to ~29 acres
- Avoided ~20 acres of impacts along margins by maintaining existing side slope with deeper cross-section

- Project will create 8 reefs (33 acres each)
 - 2 mitigation reefs (1 required, 1 contingency)
 - 6 additional reefs as least cost disposal
- Also, augmenting SCDNR artificial reef and ODMDS berm as least cost disposal
- Estimated 3.5 years for community structure recovery
- Broad interagency support



MONITORING / ADAPTIVE MANAGEMENT / CORRECTIVE ACTIONS

Type of Monitoring	Timeframe	Remediation (No cost to the Project)
Water quality (DO and salinity)	9yrs	Corrective actions for DO (If necessary)
Wetland vegetation	9yrs	Corrective actions for wetland impacts (UMAM reassessment if necessary)
Hardbottom habitat recovery	5yrs	Adaptive mgmt for hardbottom (Classify additional artificial reefs as mitigation)
Shoreline impact assessment validation	5yrs	Corrective actions for impacts to historical / cultural resources (If necessary)



ENVIRONMENTAL COMPLIANCE

- ✓ DRAFT FR/EIS prepared and coordinated
- ✓ Fish & Wildlife Coordination Act (USFWS/NMFS)
- ✓ Endangered Species Act Coordination (USFWS)
- ✓ Endangered Species Act Coordination (NMFS)
- ✓ Essential Fish Habitat Coordination (NMFS)
- ✓ Marine Protection, Research, & Sanctuaries Act (EPA)
- ✓ Water Quality Certification (SCDHEC)
- ✓ Coastal Zone Consistency (SCDHEC-OCRM)
- ✓ Cultural/Historic Resources Coordination (SCDAH/NPS)



PUBLIC & AGENCY INVOLVEMENT

NEPA Scoping and Public Involvement

- Scoping letters issued: 11 Aug 2011
- Notice of Intent published in Federal Register: 12 Aug 2011
- Public Meetings
 - 13 Dec 2011: NEPA Scoping
 - 30 Apr 2013: Results of interim studies
 - 21 Oct 2014: Draft EIS

Resource Agency Coordination

- Targeted engagement with resource agencies around specific impact areas
- Over 30 Interagency Coordination Team meetings
- Additional focused coordination to discuss specific issues for certain agencies
- Provided 4 Interagency Coordination Team updates throughout the process



ENVIRONMENTAL OPERATING PRINCIPLES

- Foster sustainability
- Proactive consideration of environmental consequences
- Mutually supporting economic and environmentally sustainable solutions
- Accountability for activities which may impact human and natural environments
- Collaborative leveraging of scientific, economic, and social knowledge to understand environmental context
- Consideration of environment and risk management in context of project and program lifecycle
- Open, transparent process respecting views of individuals and groups interested in Corps activities



REVIEWS COMPLETED

- ☑ ASA(CW) Approval of LPP Recommendation: 1 Oct 2014
- ☑ Tentatively Selected Plan Milestone: 1 Oct 2014
- ☑ DQC/Legal Certification of Draft Report: 2-14 Oct 2014
- ☑ Concurrent Public/ATR/IEPR/MSC/HQ review: Oct 2014 – Feb 2015
- ☑ Agency Decision Milestone: 23 Feb 2015
- ☑ DQC/ATR/MSC review Legal Cert of Final Report: 15 May 2015
- ☑ District Engineer's Transmittal: 18 May 2015
- ☑ Division Engineer's Transmittal: 20 May 2015



SIGNIFICANT COMMENTS

ATR/IEPR/POLICY/AGENCY/PUBLIC

- Deferral of ship simulation/incremental analysis for maximum widening measures
- Deferral of beneficial use of dredged material to the design phase and need for regional sediment management analysis
- Use of UMAM for impacts and mitigation analysis / level of detail for mitigation / mitigation plan
- Vessel wake analysis and impacts to shorelines, specifically Ft. Sumter
- Endangered species



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AGENCY TECHNICAL REVIEW (ATR)

- **Draft FR/EIS**
 - Total of 107 comments submitted related to engineering, environmental, economic, real estate, cost, and plan formulation fields.
 - One comment (Incremental justification of widening) required resolution in the Revised Draft FR/EIS

- **Revised Draft FR/EIS**
 - No significant comments

- All comments resolved



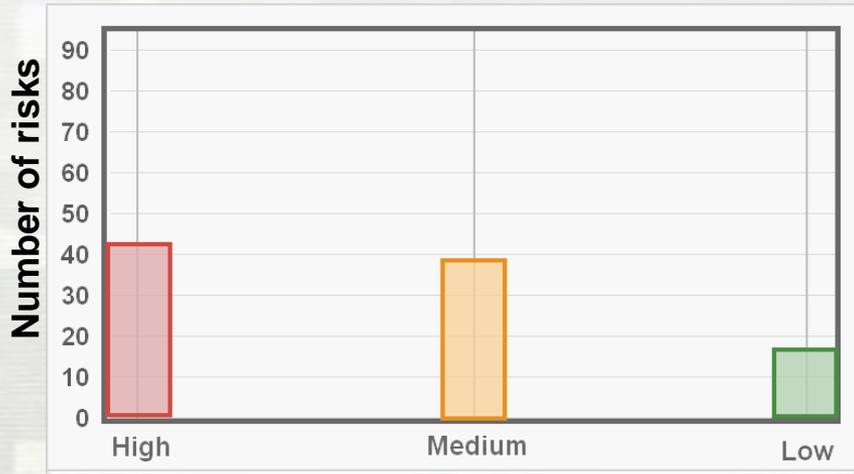
IEPR, HQ, MSC REVIEWS

INDEPENDENT EXTERNAL PEER REVIEW (IEPR)	HQUSACE POLICY REVIEW	MAJOR SUBORDINATE COMMAND (MSC) REVIEW
<ul style="list-style-type: none">▪ 18 total comments▪ All comments resolved.	<ul style="list-style-type: none">▪ 60 total comments▪ All comments resolved	<ul style="list-style-type: none">▪ 61 total comments▪ All comments resolved

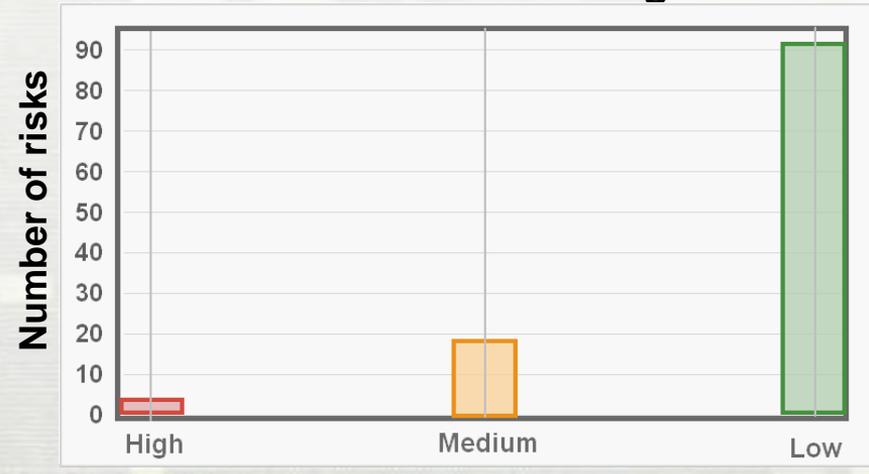


RISK REGISTER HIGHLIGHTS

August 2012 Risk Ratings



June 2015 Risk Ratings



Key Risk Reduction Examples

Risk Rating	Aug 2012	Jun 2015
Limited geotechnical studies	High	Medium
Full air dispersion modeling required	High	Low
Assume no contaminated dredged material	High	Low
Dredged material placement capacity	High	Low
Water Quality/Potential DO mitigation	High	Low



RESIDUAL RISK

Primary Residual Risks	2012 Rating	Current Rating
Availability of dredging equipment	High	High
Fuel price volatility	High	High
Funding in accordance with construction schedule	High	High
Overall Assessment: <ul style="list-style-type: none">▪ No residual risks present unacceptable risk related to selection of the Recommended Plan or the ability to construct it.▪ The relatively low level of residual risk is reflected in the 18% contingency developed through the Cost and Schedule Risk Assessment.		



PROJECT IMPLEMENTATION

- Civil Works Review Board: 25 Jun 2015
- Final Chief's Report: Sep 2015
- Administration Review
- ASA(CW) Process Report & Transmittal to Congress
- Preconstruction Engineering & Design (PED) Phase
- Authorization & Appropriation for Construction
- Construction Phase



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SAD DIVISION COMMANDER

BLUF: Approve final report, release for State & Agency review, complete Chief's Report, and submit for authorization.

Strategic Value:

- Serves multiple military facilities throughout Charleston Harbor
- In 2013, 7th in U.S. for value of cargo, 9th in U.S. for container traffic
- Federal Investment of \$180,000,000 returns over \$80,000,000 in average annual net benefits
- Economic benefit (BCR: 3.9 – reduces transportation costs, improves efficiency, supports economic growth for the region and nation
- Study received extensive support and participation by local community, State, and Federal agencies

Feasibility Report is legally and policy compliant:

- Two ATRs conducted by DDNPCX, all comments resolved, and ATR certified
- IEPR completed. IEPR Panel and Corps reached concurrence on all Corps responses.
- Cost MCX certified/VE completed/HarborSym used for Economic modeling / Environmental UMAM Model Certified for use.

Quality Assurance:

- Extensive vertical team engagement with federal resource agencies to resolve problems / issues
- Frequent In-Progress Reviews with the Vertical Team

A team effort..... thanks to the entire team (internal/external, horizontal/vertical)



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USACE National Deep Draft Navigation Planning Center of Expertise

Charleston Harbor Feasibility Study
Economic Analysis Performed
Agency Technical Review
Independent External Peer Review

Todd Nettles
Technical Director
Deep Draft Navigation Planning Center of Expertise
South Atlantic Division



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National Deep Draft PCX Review Verifications

- ✓ Economic Analysis conducted by NDDNPCX
- ✓ Corps certified model HarborSym was used to calculate economic benefits. Model certified by HQUSACE Model Certification panel – June 2012
- ✓ Draft Report Agency Technical Review – 22 Dec 14
- ✓ Final Report Agency Technical Review – 8 May 15
- ✓ Independent External Peer Review – 14 May 15



Economic Analysis Production

- Inputs to economic analysis based on historical data collected from 2008 to 2011
- New data after 2011 was not applied to commodity/vessel fleet forecasts
 - ▶ Sensitivity Analysis performed to document risk
 - High Growth/Low Growth Scenarios
 - Based on actual 2014 TEU throughput
 - No growth beyond base year (2022)
- Evaluation based on transportation cost by trade lane
 - ▶ 24 trade routes grouped into 10 trade lanes based on world regions
- Benefits based on reduction in transportation cost savings
 - ▶ Vessels loaded more efficiently, less congestion in harbor, less tide reliance
- HarborSym Model ATR conducted by certified Economist
- Multiport Analysis
 - ▶ Analysis assumes no shift in traffic based on deeper channel depth



Agency Technical Review Draft Report

- ATR of Draft Report completed 22 December 2014
 - ▶ 107 total comments received mostly in the area of Cost, Environmental, Plan Formulation, and Geotechnical
 - ▶ Key comments:
 - Economic Analysis
 - Cost Engineering Review
 - Providing additional detail on study methodologies, assumptions, and conclusions
 - Ocean Dredged Material Disposal Site
 - Engineering Analyses
- All comments closed and no outstanding issues



Agency Technical Review Final Report

- ATR of the Final Report completed 8 May 2015
 - ▶ 56 comments posted during final review
 - Environmental, Economics, and Plan Formulation comments related to the need to add additional information for document clarity
 - Cultural Resources comment related to documentation of consultation efforts
 - Hydraulics & Hydrology, Real Estate, Geotechnical, and Operations confirmed that issues in draft report had been addressed
 - ▶ All comments closed and no outstanding issues



Independent External Peer Review

- Draft Report
 - ▶ 18 Final Panel Comments
 - 1 High Significance
 - ▷ ODMDS Modification
 - 17 Medium Significance
 - ▷ 6 Medium/High Significance
 - ▷ 7 Medium
 - ▷ 4 Medium/Low
 - ▶ 0 Non-concurs



National Deep Draft Navigation Planning Center of Expertise

The NDDNPCX recommends the release of the
draft Chief's Report



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Independent External Peer Review (IEPR) Charleston Harbor Post 45, Charleston, South Carolina, Draft Integrated Feasibility Report and Environmental Impact Statement

Presented to the USACE CWRB on June 25, 2015

Karen Johnson-Young, PMP
Program Manager

Corey Wisneski
Project Manager



IEPR - Panel and Schedule

Charleston Harbor Panel Members	Panel Discipline
Cheryl Ulrich, P.E. (Panel Lead)	Plan Formulation
Michael Kabling, P.E., Ph.D.	Hydraulic Engineering
Kris Thoemke, Ph.D.	Environmental
Harry Shoudy	Economics
Greg Hartman, P.E.	Geotechnical Engineering

Charleston Harbor IEPR was conducted in October 2014-April 2015

- The Panel reviewed the October 2014 version of the documents.

IEPR Bottom Line Up Front

The Panel agreed with the actions presented by the PDT to address the Final Panel Comments.

IEPR - Results

Final IEPR Report submitted on January 7, 2015

Results:

- 18 Final Panel Comments
 - 1 high significance
 - 17 medium

Post-Final Panel Comments/Response Results documented on April 28, 2015

Results:

- PDT Evaluator Responses to Final Panel Comments
 - 5 concurs, 13 non-concurs
- Panel BackCheck Responses to the PDT Responses
 - 18 concurs

IEPR - Notable Findings

1. The Feasibility Report/Environmental Impact Statement (FR/EIS) did not describe a contingency plan if the Ocean Dredged Material Disposal Site (ODMDS) expansion is not approved. (High)
2. The use of the 1995 Section 401 Water Quality certification for disposal of dredged material effluent from the existing disposal areas in the project area may not have been appropriate. (Medium/High)
3. The alternative formulation process, which reduced the early alternatives from 294 to 6, was not sufficiently described. (Medium/High)
4. The proposed wetland mitigation plan included a high degree of uncertainty and did not provide enough information to determine whether the plan is appropriate and/or can be successfully completed. (Medium/High)
5. The Charleston Harbor Post 45 FR/EIS did not evaluate the effect of storm surge on the TSP. (Medium/High)

HQUSACE REVIEW CONCERNS

Civil Works Review Board

Charleston Harbor, SC Post 45 Navigation Study

Jeremy LaDart

Office of Water Project Review

Planning and Policy Division

Washington, DC – 25 June 2015



U.S. ARMY



®



HQUSACE ENGAGEMENTS & REVIEWS:

- Charette June 2012
- Tentatively Selected Plan Meeting October 2014
- Draft Report Review October 2014
- Agency Decision Milestone 23 February 2015
- Final Feasibility Report/EIS* 18 May 2015

*The review of the final report is now complete.

HQUSACE TEAM MEMBERS:

Jeff Lin

Lee Ware

Jeff Trulick

Scott Murphy

John Cline

Anne Sturm

Mayely Boyce

Jerry Webb

POLICY ISSUES FROM DRAFT AND FINAL REPORT REVIEWS

- ❑ Period of Analysis, Base Year
- ❑ Price Level and Discount Rate
- ❑ **Base Disposal Plan Identification**
- ❑ Screening of Alternatives
- ❑ Vertical Datum
- ❑ **Ship Simulation**
- ❑ Shoaling Rates
- ❑ **Economic Forecast Assumptions**
- ❑ **Incremental Analysis of Channel Widening**
- ❑ UMAM Modeling
- ❑ Salinity Impacts
- ❑ Sponsor Letter of Intent
- ❑ Sponsor Financial Certification
- ❑ Items of Local Cooperation
- ❑ Cost Presentation & Terminology
- ❑ Cost Inconsistencies
- ❑ **Cost Sharing for Mitigation Lands**

BASE DISPOSAL PLAN IDENTIFICATION

CONCERN: The draft report did not clearly demonstrate that the recommended plan for dredged material placement/disposal was the base plan. Further, there were questions about the availability of the Ocean Dredged Material Disposal Site (ODMDS) modification.

BASIS: The Federal Standard, or base plan, is the least costly plan consistent with sound engineering practices, and meeting environmental standards (33 CFR 335.7/ER 1105-2-100). Disposal at greater cost than the base plan must be separately justified and cost shared accordingly with the non-federal sponsor.

RESOLUTION: The district confirmed the disposal recommendation was the base plan, and a letter from the U.S. EPA was received with respect to the ODMDS modification. The report was revised accordingly.

RESOLUTION IMPACT: Concern is resolved.

SHIP SIMULATION

CONCERN: The report did not clearly describe why the vertical team agreed to conduct computer ship simulation during PED rather than feasibility.

BASIS: The draft report cited the Charette for rationale to defer the computer ship simulation to PED, but did not include specific reasons supporting the decision.

RESOLUTION: The report was revised to document the rationale for doing a desk top ship simulation/with Pilot input.

RESOLUTION IMPACT: Concern is resolved.

ECONOMIC FORECAST ASSUMPTIONS

CONCERN: The draft report did not fully document the forecast assumptions used in the economic analysis, including uncertainties.

BASIS: Economic forecasts, such as those for commodity and fleet, have come under increased scrutiny in recent studies. Clear documentation and validation of assumptions, including uncertainty, is a significant issue.

RESOLUTION: The report and economic appendix were revised to (1) better describe how forecasts were developed, (2) explain the uncertainty in those forecasts, and (3) ensure proper sensitivity analyses are documented and communicated.

RESOLUTION IMPACT: Concern is resolved.

INCREMENTAL ANALYSIS OF CHANNEL WIDENING

CONCERN: The recommended plan included channel widening in numerous locations. Safety factors were used for justification, rather than economics. However, in some areas the widening was supporting two-way traffic and it was unclear whether safety requirements or efficient vessel movement was the driving need.

BASIS: Safety is a legitimate rationale for widening when looking at minimum width for a particular vessel to traverse the channel. However, if a widening feature cannot demonstrate clear safety justification (e.g. two-way traffic), then it must be incrementally justified based on transportation cost savings (ER 1105-2-100).

RESOLUTION: The report was revised to more clearly document whether widening was required for safety or for economic efficiency.

RESOLUTION IMPACT: Concern is resolved.

COST SHARING FOR MITIGATION LANDS

CONCERN: The draft report depicted the costs for lands, easements, rights of way, and relocations (LERR) as 100 percent non-federal.

BASIS: For harbor navigation projects, LERR are 100 percent non-federal except for those LERR needed for mitigation. LERR needed for mitigation requirements are to be considered as General Navigation Features (GNF) and cost shared as such (CECW-P/CECC-G Memorandum 2006).

RESOLUTION: The report was revised to depict the correct cost share for those LERR needed for mitigation lands.

RESOLUTION IMPACT: Concern is resolved.

HQUSACE POLICY REVIEW TEAM RECOMMENDATION

**Release the Draft Chief's Report and
accompanying Integrated Report and EIS
for State & Agency Review.**



DISCUSSION AND DECISION



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LESSONS LEARNED

- Limited geotechnical investigations vs. cost accuracy and lower contingency
- Single commodity/fleet forecast vs. multiple updates as new data becomes available
- Project decisions (such as assuming maximum widenings) vs. planning policy requirements
- Ship simulation deferment to design vs. streamlined economic/environmental analyses



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