



Presentation to North Carolina State Ports Authority Board of Directors Meeting

April 26, 2012

Overview of State Logistics Initiatives



- **Statewide Logistics Efforts: Roberto Canales, Secretary's Coordinator of Strategic Initiatives**
 - Governor's Logistics Task Force
 - Seven Portals Study
- **North Carolina Maritime Strategy: Rachel Vandenberg, AECOM**
- **The Future of Logistics: Tom Bradshaw, Statewide Logistics Director**



Statewide Logistics Efforts

Roberto Canales, P.E.

Secretary's Coordinator of Strategic Initiatives



STATEWIDE LOGISTICS PLAN FOR N.C.

Top Location Selection Factors

- 1) **Transportation Infrastructure**
- 2) **Existing work force skills**
- 3) **State & local tax scheme**
- 4) **Utility infrastructure**
- 5) **Land/building prices & supply**
- 6) **Ease of permitting and regulatory procedures**
- 7) **Flexibility of incentives programs**
- 8) **Access to higher education resources**
- 9) **Availability of incentives**
- 10) **State economic development strategy**





STATEWIDE LOGISTICS PLAN FOR N.C.



House Bill 1005

Session Law 2007-551

Instructed the North Carolina Office Of State Budget and Management to *Develop a statewide logistics plan that addresses the State's long-term economic, mobility, and Infrastructure needs.*



STATEWIDE LOGISTICS PLAN FOR N.C.

House Bill-1355

Sponsor – Rep. McComas

Bill proposed a study of a comprehensive transportation infrastructure plan to be called the **North Carolina Global Economic Initiative**.

The results of the study proposed to **combine operations and Governing Authority of the GTP, NCSPA and NCRR to create one entity to oversee air, rail and sea transportation and to establish Class I Rail Service by more than one RR to both the NCSP's and GTP.**



STATEWIDE LOGISTICS PLAN FOR N.C.

SB-900 – passed in 2010

This bill assigned the Task Force responsibility to study:

Combine Operations & Governing Authority of the GTP, NCSPA and NCRR to create One Entity & Governing Board to Oversee Air, Rail and Sea Transportation

Establish Class I Rail Service by more than one RR to both the NCSP's & GTP.

***The same general objectives as HB-1355**



STATEWIDE LOGISTICS PLAN FOR N.C.

Governor's Logistics Task Force

- Established by Executive Order 32 (Dec 2009)
- Extended by Executive Order 111 to March 31, 2012

The mission of the task force is to *strategically create jobs and recruit industry* by developing an efficient and cost effective vision plan for the seamless movement of *people, goods and information* throughout the state of North Carolina.



STATEWIDE LOGISTICS PLAN FOR N.C.

Governor's Logistics Task Force Reports

- August 2010 Report to Governor
- January 2011 Report to the General Assembly
- February 2011 Report to the Governor
- November 2011 Report to the Governor—Request for an extension of the Task Force until March 31, 2012
- Final Report to the Governor

<http://www.ncdot.gov/business/committees/statewidelogistics/>



STATEWIDE LOGISTICS PLAN FOR N.C.

Seven Portals Study

Idea:

Assess possible locations for transport-driven logistics portals statewide
Base them on the seven economic regions
Examine modal connections, land availability, economic growth impact
potential, feasibility, benefits, up-fit costs, governance, partnerships
Do not reinvent the wheel

Themes:

From our back yard to your doorstep, worldwide
Easy and affordable access to transportation

Result:

Feasibility assessment (economics, land use, modal connections,
Supporting commercial, educational and cultural activities)

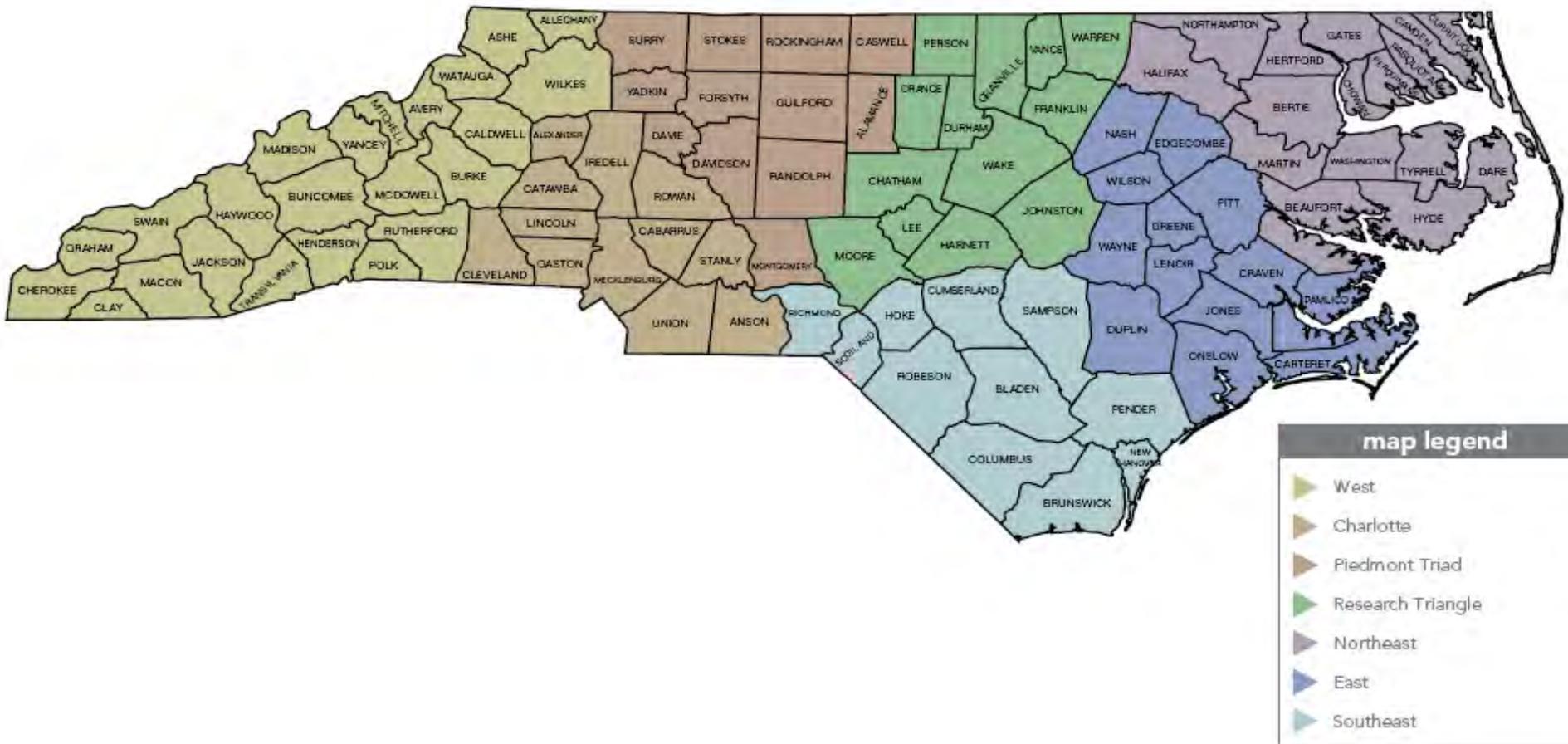
Intended impact:

New knowledge economy-based enterprises (jobs)
Enhanced logistics connectivity
Improved, integrated, statewide transportation support



STATEWIDE LOGISTICS PLAN FOR N.C.

Seven Economic Development Regions





STATEWIDE LOGISTICS PLAN FOR N.C.

What drives each region's economy?

- Agriculture
- Tourism
- Military

Where are the customers?

- International
- National
- Regional

Is the region prepared / cost to prepare?

- Rail
- Highways
- Air
- Maritime
- Utilities (Power / IT / Water-Sewer)

Who will govern / fund it?

- Private
- Public
- Public / Public
- Private / Public





STATEWIDE LOGISTICS PLAN FOR N.C.

Logistics Coordinating Council

- **Created by Executive Order 85: [Signed March 25, 2011]**
- **Membership:**
 - **Secretary of Transportation (Chair)**
 - **Executive Director of the North Carolina Global TransPark**
 - **Chief Executive Director of the North Carolina State Ports Authority**
 - **President of the North Carolina Railroad Company**
 - **Other persons as determined necessary by the Secretary**



STATEWIDE LOGISTICS PLAN FOR N.C.

North Carolina Maritime Strategy Study

- **Common theme across state was the need for a port presence in North Carolina**
- **Need for a third-party assessment**
- **Task Force recommended that NCDOT execute a contract**
- **AECOM, URS, and Eydo**

<http://www.ncmaritimestudy.com/>



STATEWIDE LOGISTICS PLAN FOR N.C.

North Carolina Maritime Strategy Study

“How can NC become a portal to the global economy?”

- **Economic Viability & Benefit**
- **Other State’s Port Status**
- **Shippers**
- **Industry Targets / Niche Markets**
- **Potential Site/s**
- **Water Side / Land Side Cost**
- **State & Local Impacts**
- **Public Outreach & Input**

North Carolina Maritime Strategy

Rachel Vandenberg, P.E.

AECOM

Maritime Strategy Scope

- Evaluate North Carolina's position, opportunities and challenges as a portal for global maritime commerce;
- Examine the role of North Carolina ports in sustaining and strengthening the State's economy;
- Obtain input from freight transportation, economic development, and community interests, and
- Identify specific strategies to optimize benefits received from the State's investments in port and associated transportation infrastructure.

Governor's Executive Order No. 99 Ports and the Local Economy

Identify activities at and uses of the Wilmington and Morehead City ports that are **not incompatible** with the **underlying economic base and existing predominant economic sectors** supported by the **surrounding community**.

Industry and Stakeholder Meetings

■ Industry Workshops

- Agriculture
- Break-Bulk
- Shipping Lines
- Logistics & Special Zones
- Non-Ag Shippers
- Military
- Railroad & Trucking

Effort supported by hands-on Maritime Advisory Council

■ Focused discussions and interviews

- Metropolitan Transportation Organizations
- Economic Development Commissions
- NC Department of Commerce
- NC Department of Transportation
- NC State Ports Authority
- NC Railroad
- UNC Wilmington
- Southport/Oak Island Chamber of Commerce
- US Army Corps of Engineers
- Progress Energy
- No Port Southport
- Save the Cape
- Clean Carteret County Coalition
- Morehead City Port Committee
- YesPort NC

■ Public workshops

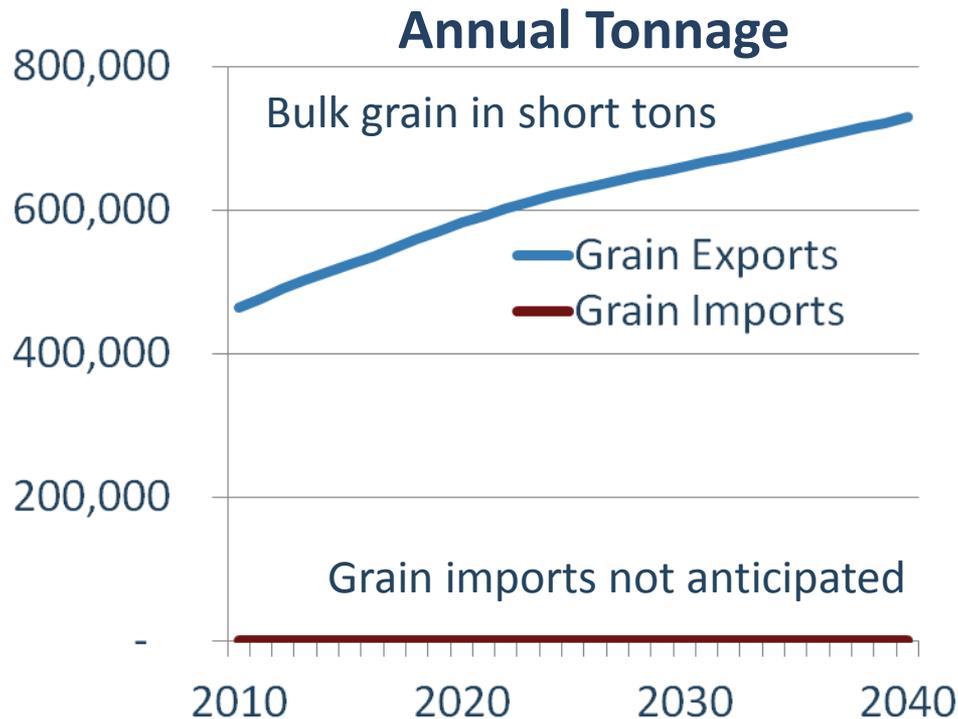
Summary of Stakeholder Input

- Jobs, economic growth, and the environment are top concerns
- Landside costs represent up to half of the total transportation cost of North Carolina exports – trucking cost is key
- Rail freight cannot be competitive within NC without sufficient volumes to support regular rail service
- Containerized trade requires regular service by ocean carriers
- Targeted investments needed to support the State’s major industries: refrigerated storage; roll-on roll-off facilities; bulk handling for grain and wood pellets
- An integrated strategy for NC will include Commerce, Transportation, and the US Military

Market Scenario Framework

Upper Bound	Conservative	Lower Bound (“Do Nothing”)
Advance Market Position	Maintain Market Position	Declining Market Position
Growth Outcome		
<ul style="list-style-type: none"> ▪ Market share capture or decline ▪ New markets 		
Necessary Conditions		
<ul style="list-style-type: none"> ▪ Vessel calls and sizes ▪ Port capacity and equipment ▪ Land and water access ▪ Industry growth 		
Risks and Opportunities		
<ul style="list-style-type: none"> ▪ Investments in other states encourage businesses to relocate near regional ports outside NC ▪ Business costs rise in NC, tempering manufacturing growth ▪ Spending profile of aging NC population shifts away from goods; migration weakens ▪ Key bulk and breakbulk markets falter ▪ Containerization of bulk/breakbulk accelerates 		
Strategies		
<ul style="list-style-type: none"> ▪ Cooperative agreements ▪ Niche markets ▪ Targeted infrastructure investments ▪ Leverage strength in bulk and breakbulk 		

Grain and Soybeans

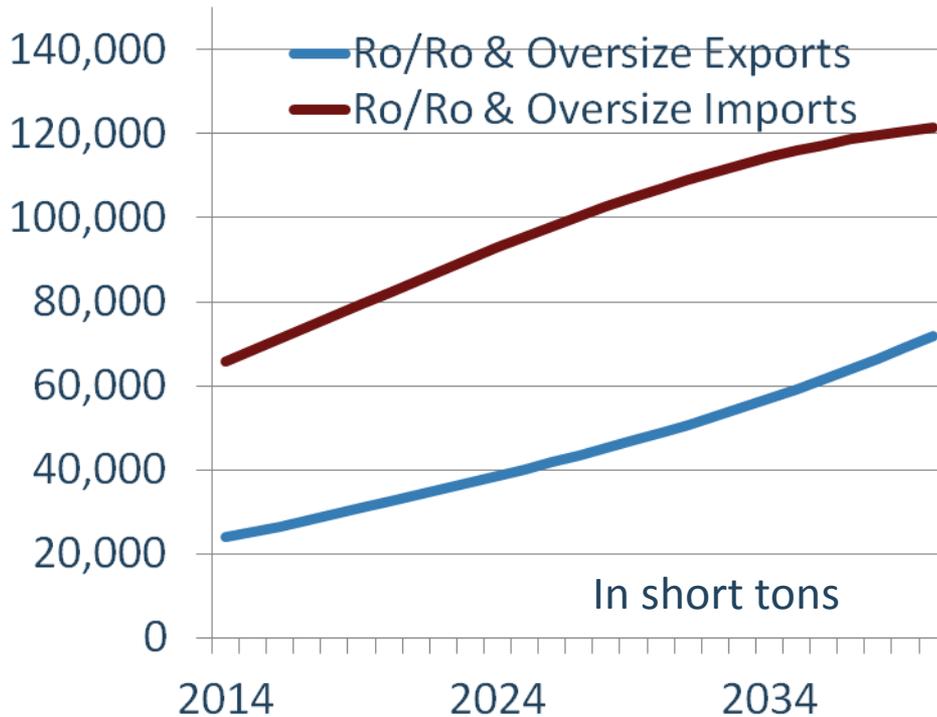


- Market capture forecast reflects stronger projections for soybean exports from NC
- Stakeholder input provided better data on current export volumes
- Market report from soybean association provided additional guidance

Source: AECOM, from IHS Global Insight projected growth and PIERS historical data

Ro/Ro and Oversize Cargo

Annual Tonnage

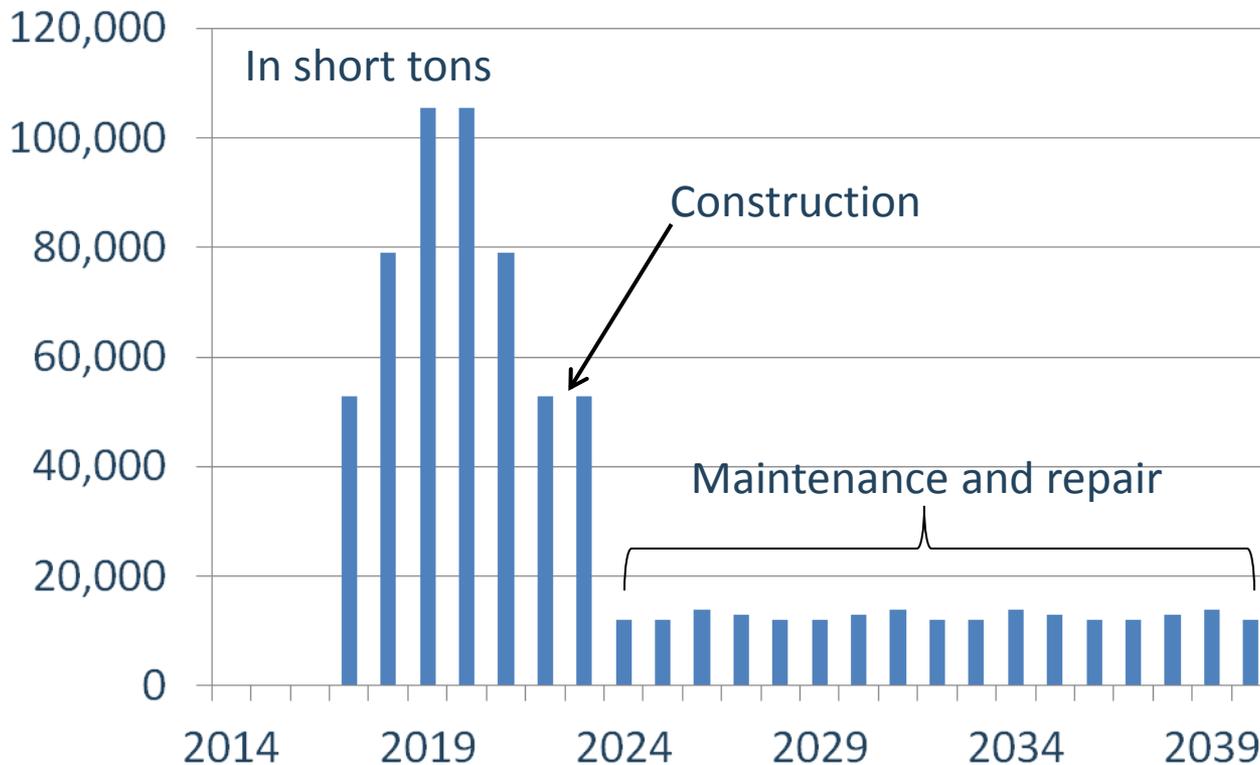


- Updated forecast reflects stronger projection for Ro/Ro and oversize cargo market opportunity
- Better data on current export volumes
- Cost data completed since last projection

Source: AECOM, from IHS Global Insight projected growth and PIERS historical data

Wind Power Cargo

Annual Tonnage

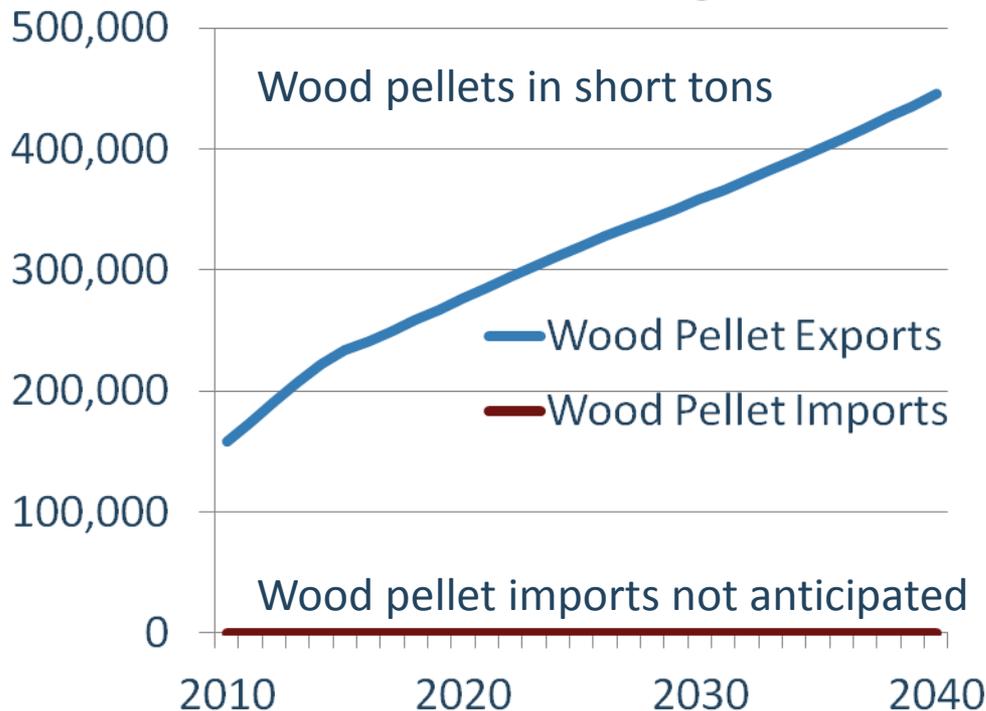


- Illustrative projection of construction and maintenance of offshore wind farm, sized to assume 12.5% of state's retail electricity

Source: AECOM, based on current dimensions of equipment, NC policy and market maturation forecasts

Wood Pellets

Annual Tonnage

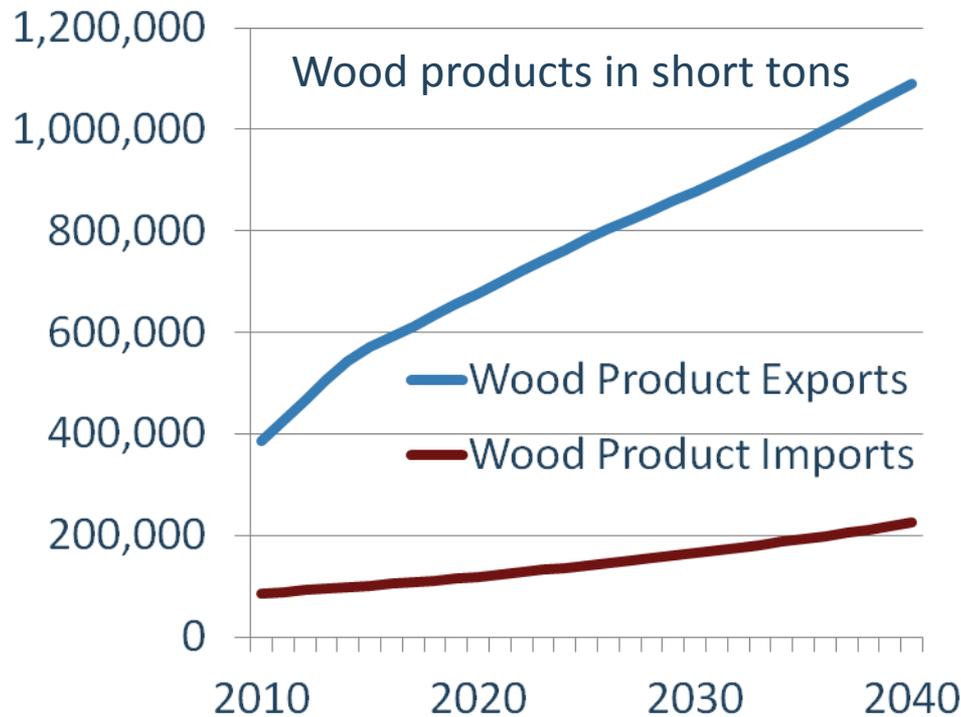


- Assumes two small pellet facilities locate in the state and use in-state ports
- Upside opportunity for greater volumes as some plants have higher volumes, but would need to be supported by inland distribution network

Source: AECOM, from IHS Global Insight projected growth and PIERS historical data

Other Wood Products

Annual Tonnage

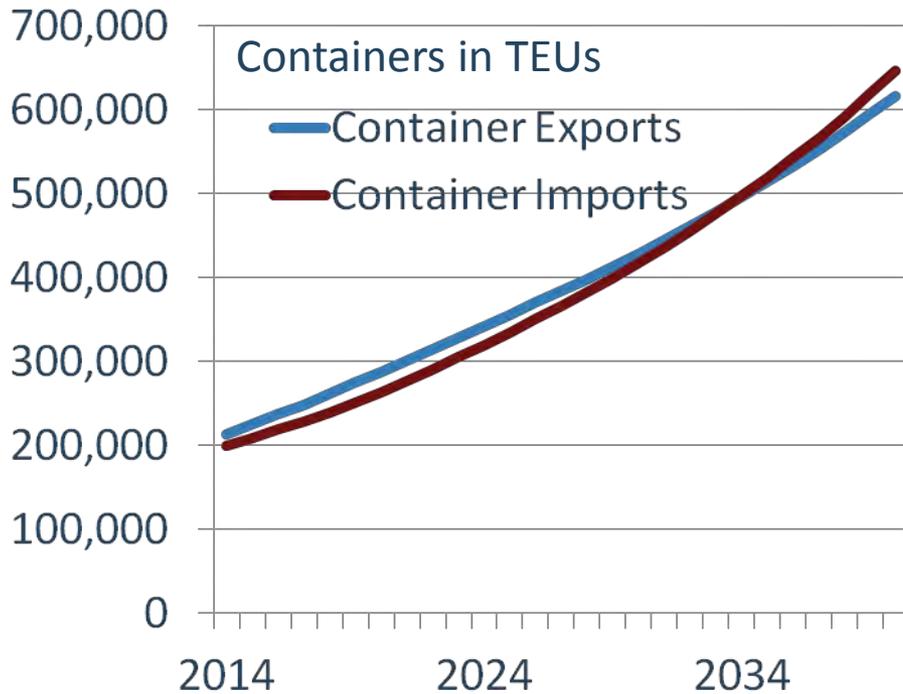


- Updated forecast reflects stronger projection for growth in wood products
- Better industry data on current total NC export volumes
- Cost data completed since last projection

Source: AECOM, from IHS Global Insight projected growth and PIERS historical data

Containers

Annual Volume

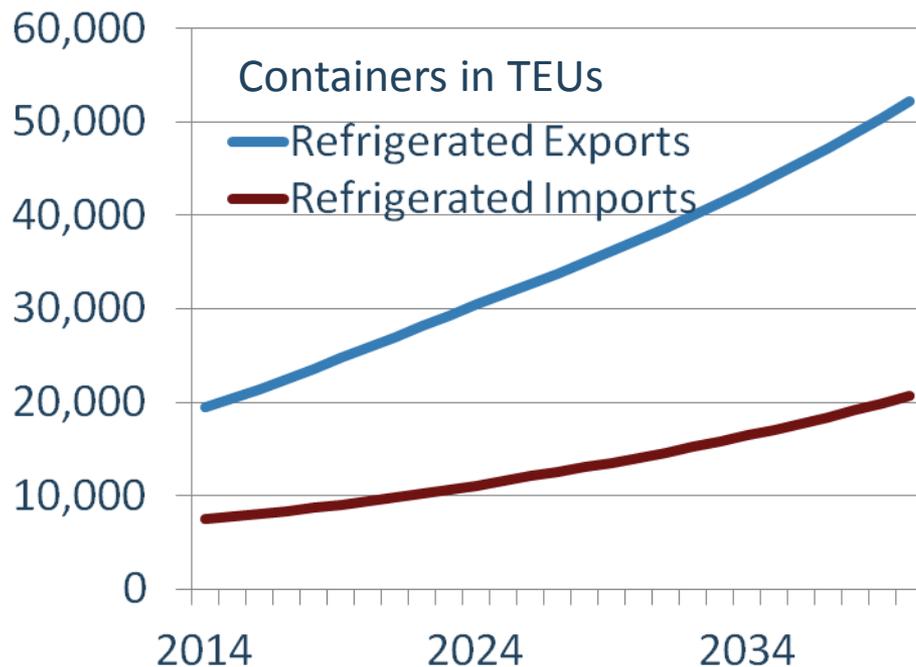


- No significant change from prior forecast
- Good balance of imports and exports

Source: AECOM, from IHS Global Insight projected growth and PIERS historical data

Refrigerated Cargo

Annual Volume

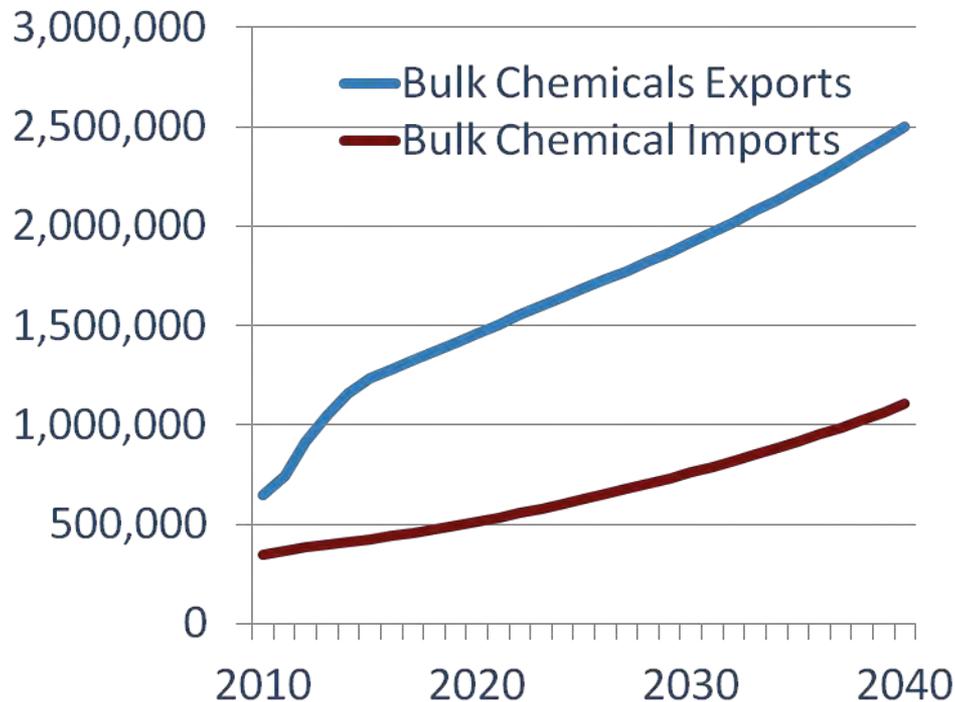


- Updated forecast reflects stronger projection for this market
- Cost data and more detailed export data available

Source: AECOM, from IHS Global Insight projected growth and PIERS historical data

Chemicals and Phosphates

Annual Tonnage



- Organic growth of existing market
- No significant changes from prior forecast

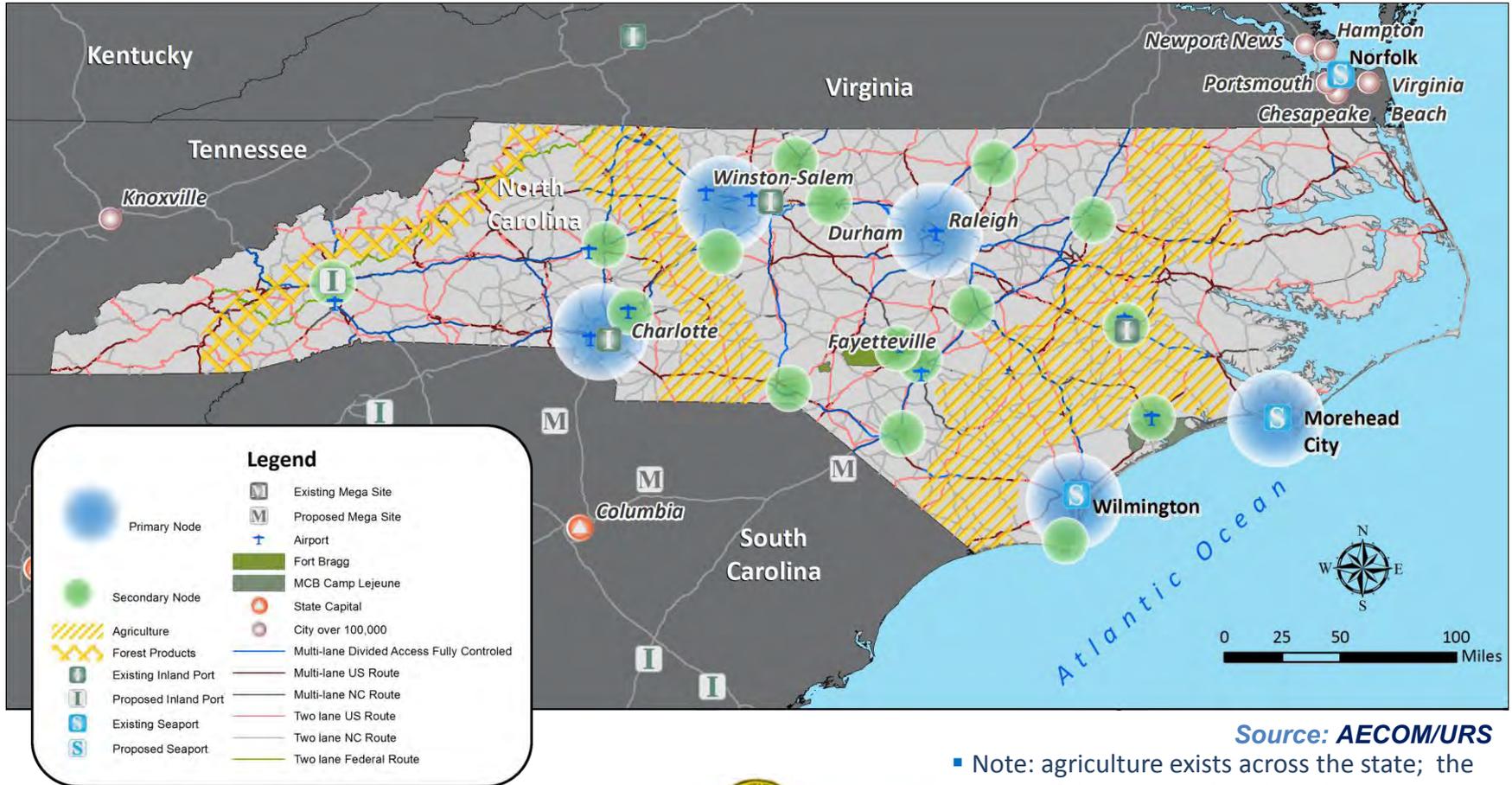
Source: AECOM, from IHS Global Insight projected growth and PIERS historical data

Military Cargo

- Both the Port of Wilmington and the Port of Morehead City are designated as Strategic Seaports, two of just 15 nationwide.
- Infrastructure needs to handle military cargo:
 - 35-ft+ water depth
 - Container cranes and mobile harbor cranes with various grabs
 - Ro-Ro facilities
 - Open area near the wharf that can meet military storage and security needs
 - Truck and rail access that can accommodate heavy loads
- The economic return on investment to preserving the Ports' attractiveness to the military is important. Military facilities support over 416,000 workers, about 8% of total State employment, through military or jobs supported by military installations in the State.



NC Freight Nodes and Facilities



Source: AECOM/URS

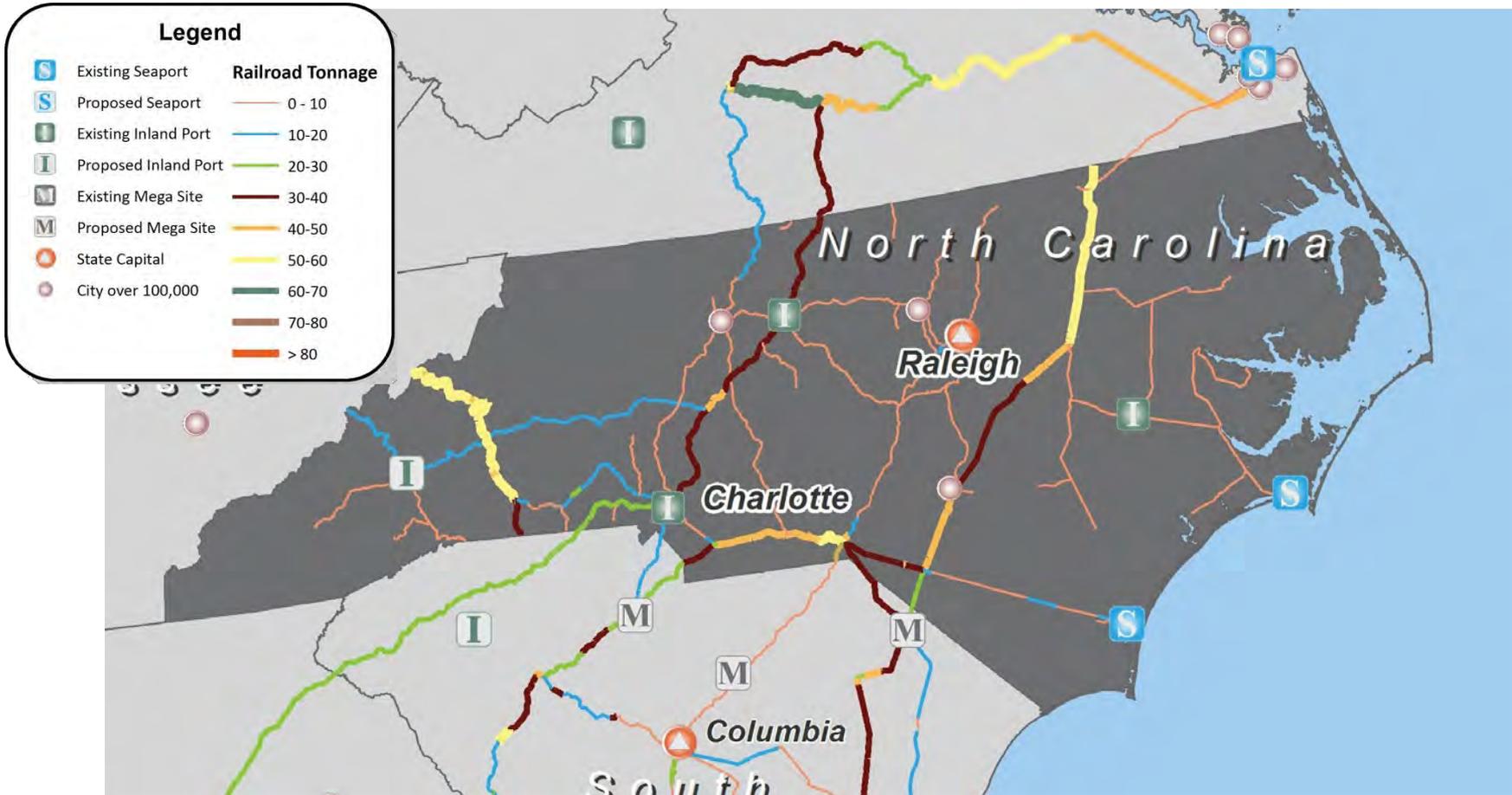
- Note: agriculture exists across the state; the areas of dense agricultural production illustrated are intended to be representative

Evaluation of Highway Network



Source: AECOM/URS compiled from ESRI, NCDOT, and USGS ThematicMapping

Evaluation of Freight Rail Network



Source: AECOM/URS compiled from ESRI, NCDOT, CSX, Norfolk Southern, USGS ThematicMapping world borders dataset

Evaluation of Container Port Sites

Initial Screening

Water Suitability

- Offers ocean access
- Provides adequate protection from wind and wave action

Land Suitability

- Avoids National Parks, Wilderness, and Refuge Areas
- Avoids Military Lands
- Complies with Coastal Barrier Resources Act (COBRA)
- Limits displacement of other uses: vacant lands or existing port use
- Meets minimum port terminal requirements: 200 acres, 3000' berth

Site Analysis

Comparative Cost and Impact

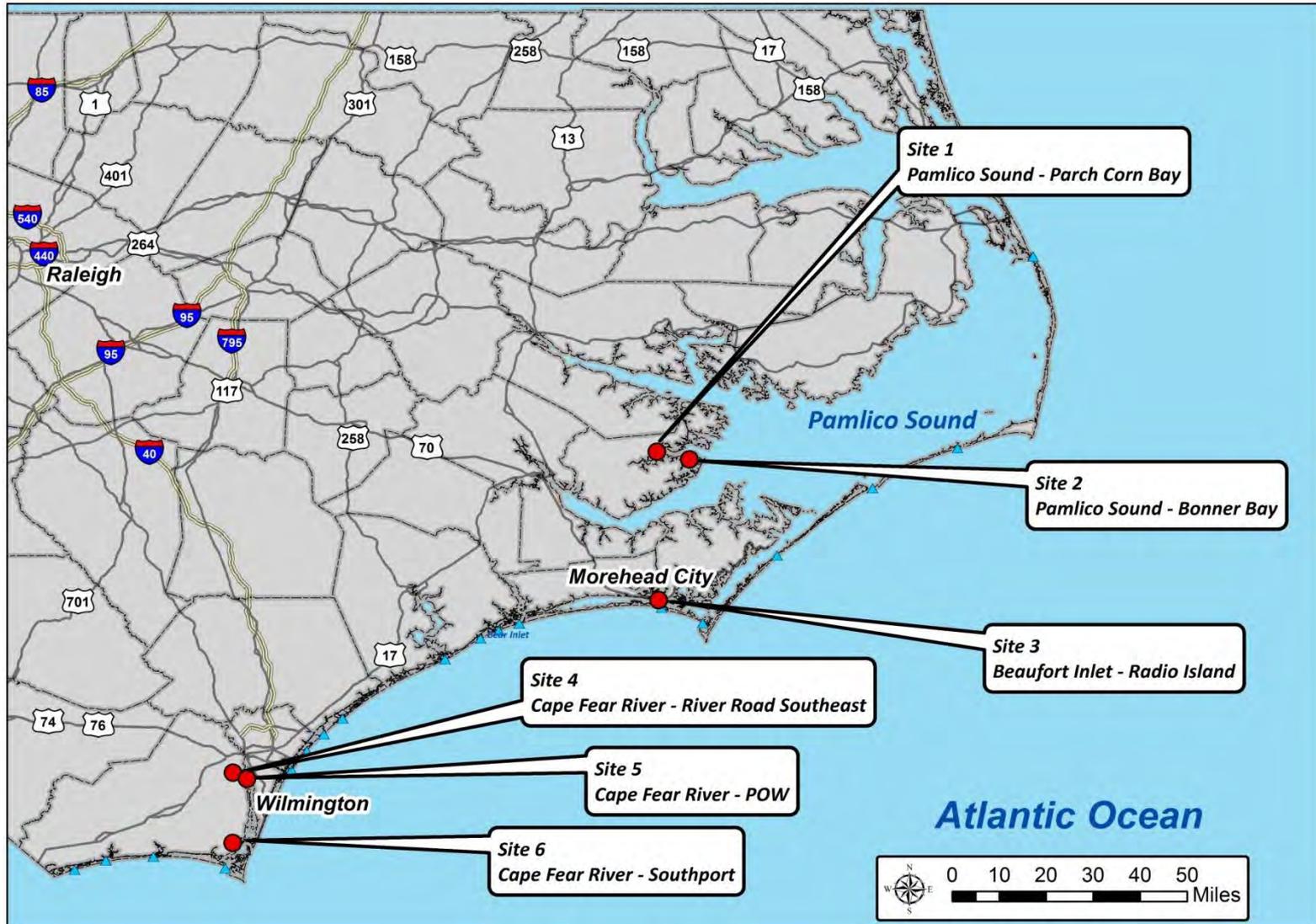
- Limits extent and cost of dredging as compared to alternatives
- Offers opportunity for cost-efficient container terminal operation
- Offers opportunity for cost-effective land access
- Limits environmental impacts as compared to alternatives*

Comparative Benefit

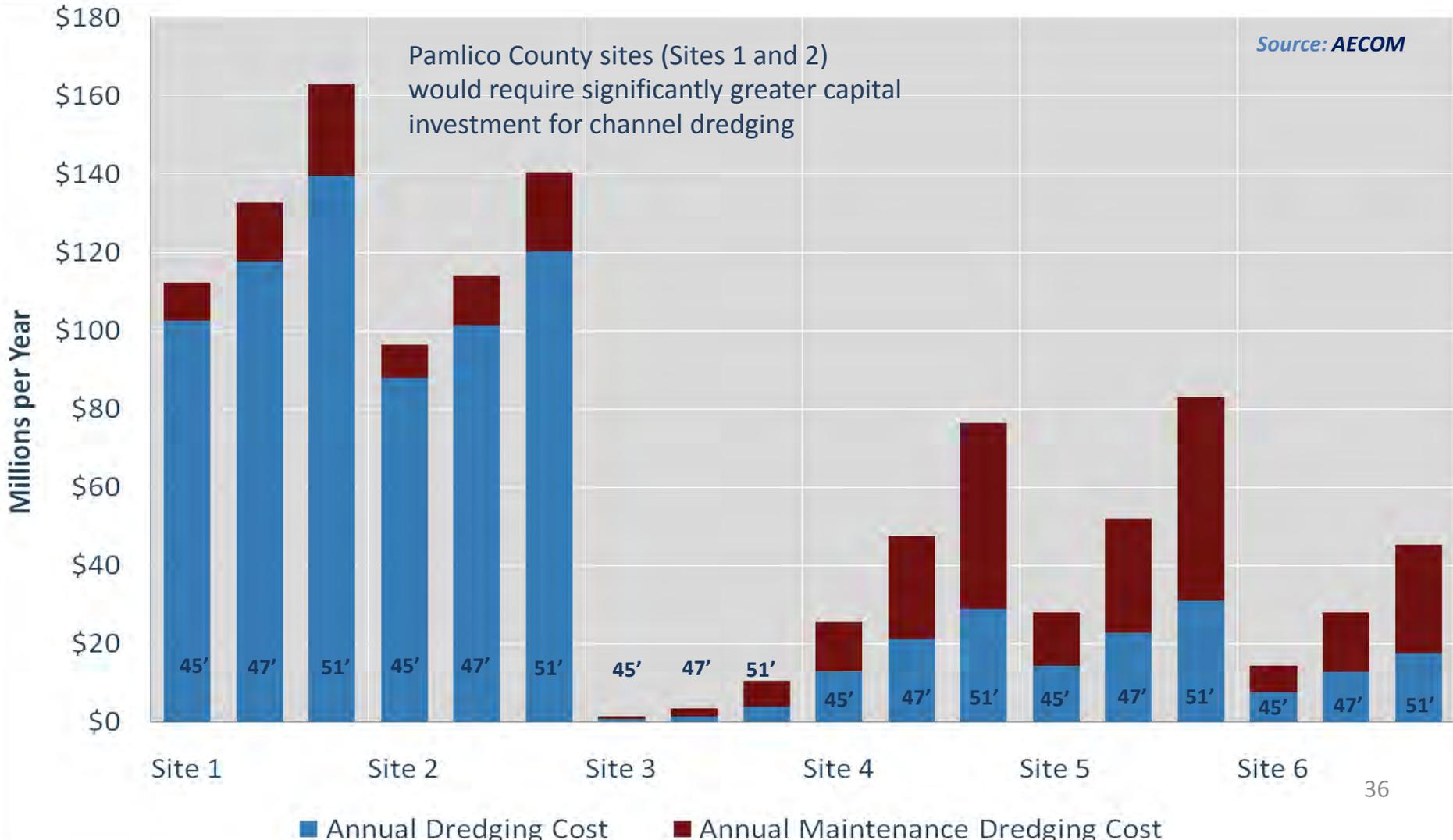
- Proposed terminal size and expansion capability are well-matched to projected market demand

* Environmental screening does not include full environmental impact analysis

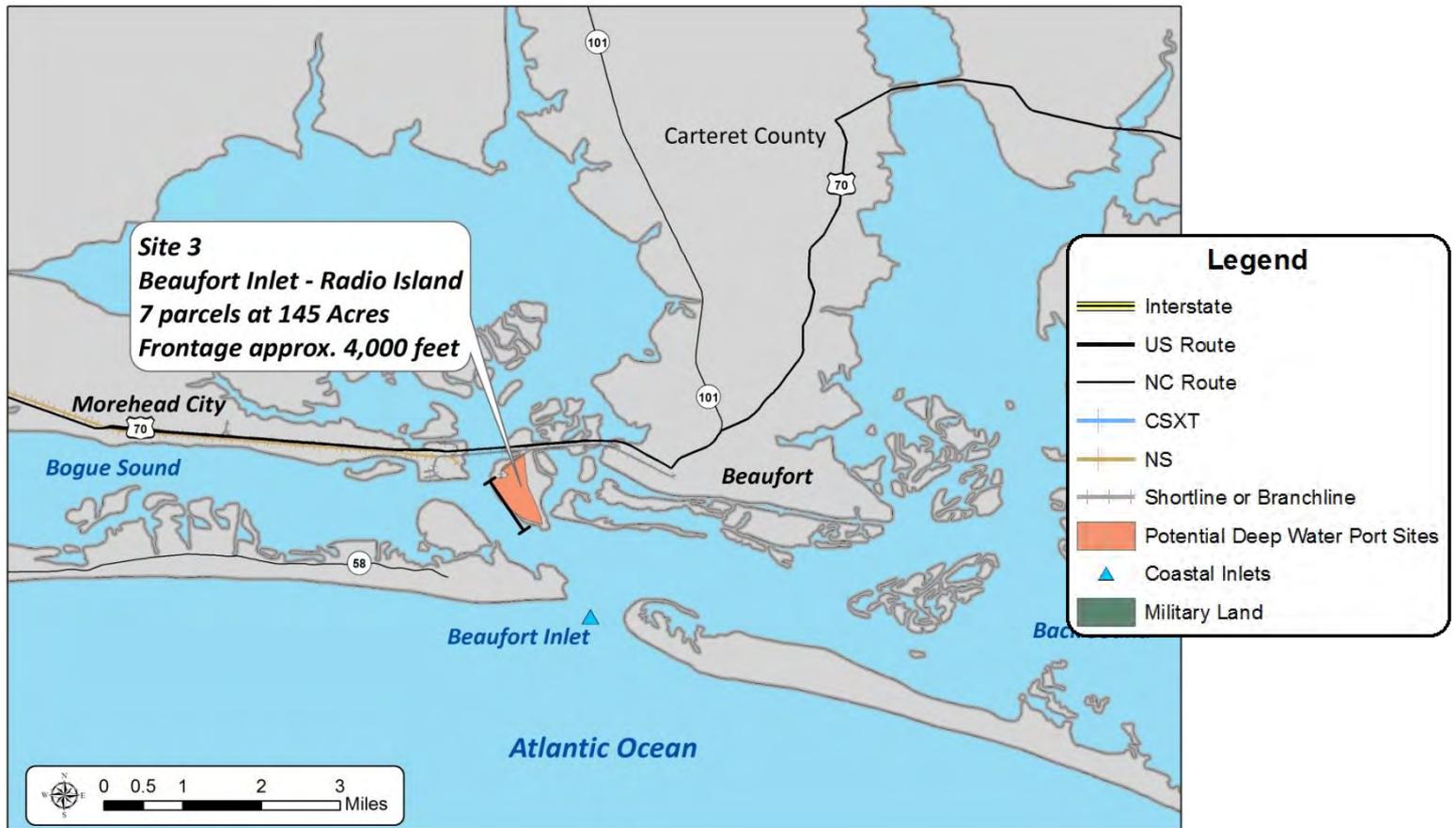
Candidate Container Port Sites



Annualized Dredging Costs for Alternative Container Port Sites

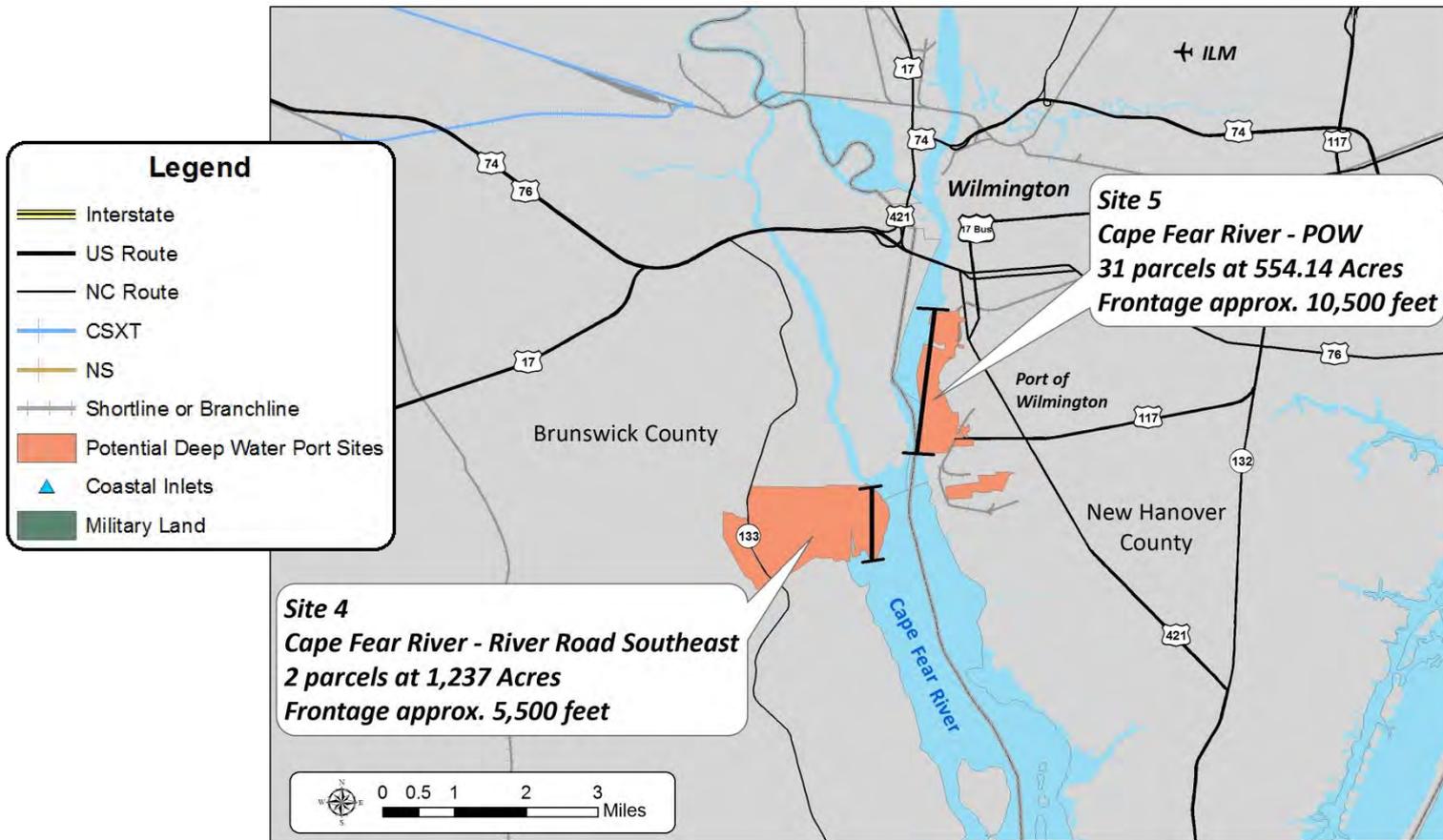


Container Port Site 3



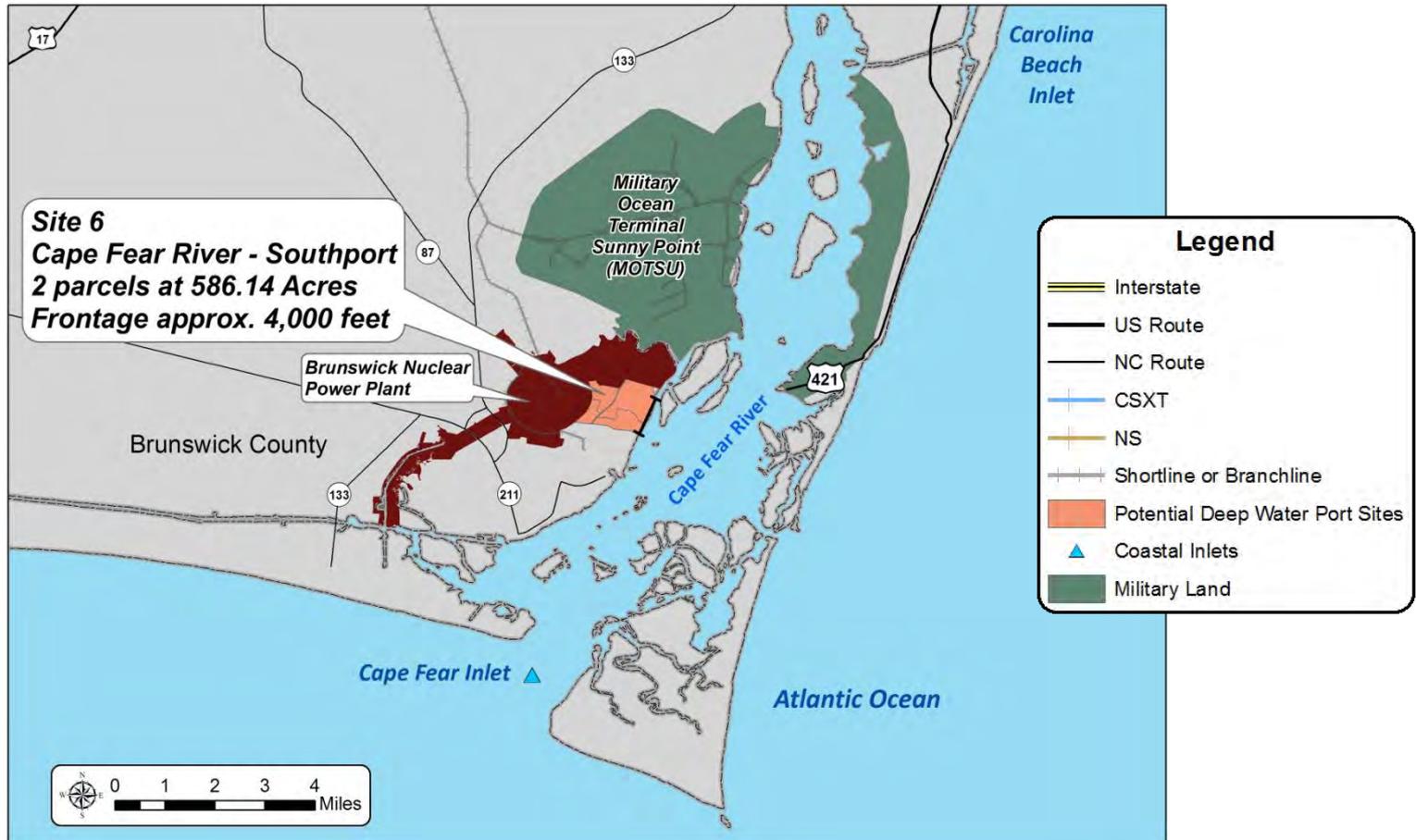
Source: AECOM/URS compiled from ESRI, NCDOT, USDOT
 Freight Analysis Framework v3.1,
 USGS ThematicMapping world borders dataset, SeaMap
 SA 2001, and Moser and Taylor 1995

Container Port Sites 4 & 5



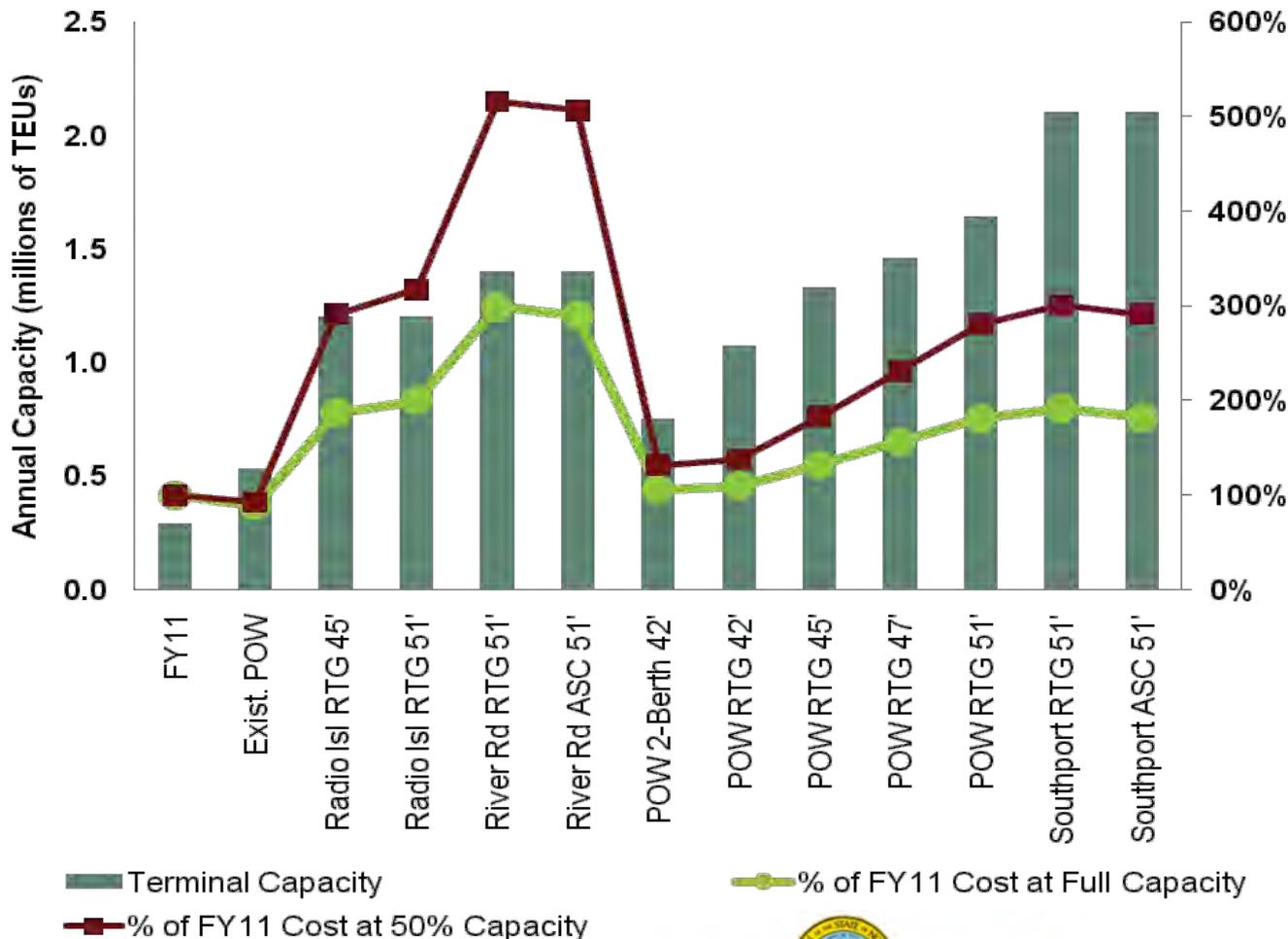
Source: AECOM/URS compiled from ESRI, NCDOT, Brunswick County, New Hanover County, USGS ThematicMapping world borders dataset, SeaMap SA 2001, and Moser and Taylor 1995

Container Port Site 6



Source: AECOM/URS compiled from ESRI, NCDOT, Brunswick County, New Hanover County, USGS ThematicMapping world borders dataset, SeaMap SA 2001, and Moser and Taylor 1995

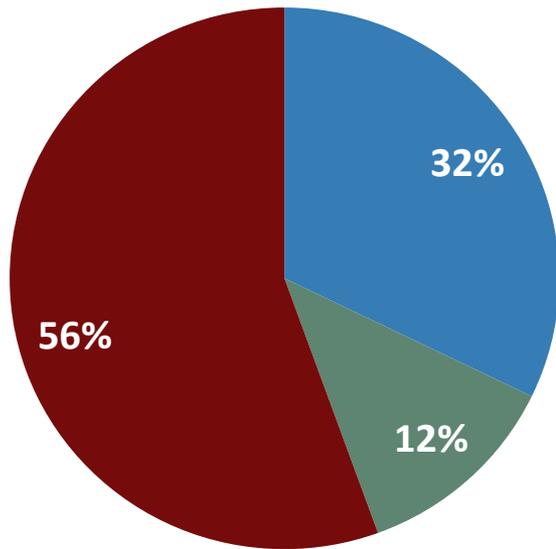
Terminal Capacity vs. Cost per Move



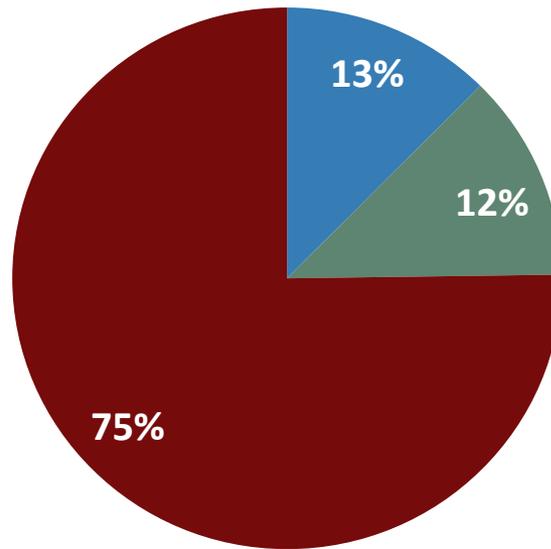
Includes incremental capital costs for terminal development, dredging, and landside access annualized over 30 years plus annual stevedoring and terminal costs without regard to cost responsibility

Infrastructure Influence on Delivered Costs

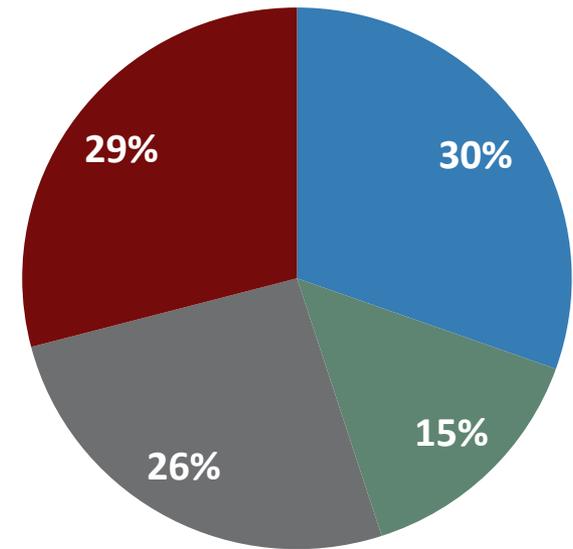
Sample Split of Containerized Transport Costs, from Wilmington (2040)



\$635 per TEU
To Greensboro intermodal terminal via truck



\$630 per TEU
To existing Charlotte terminals via truck

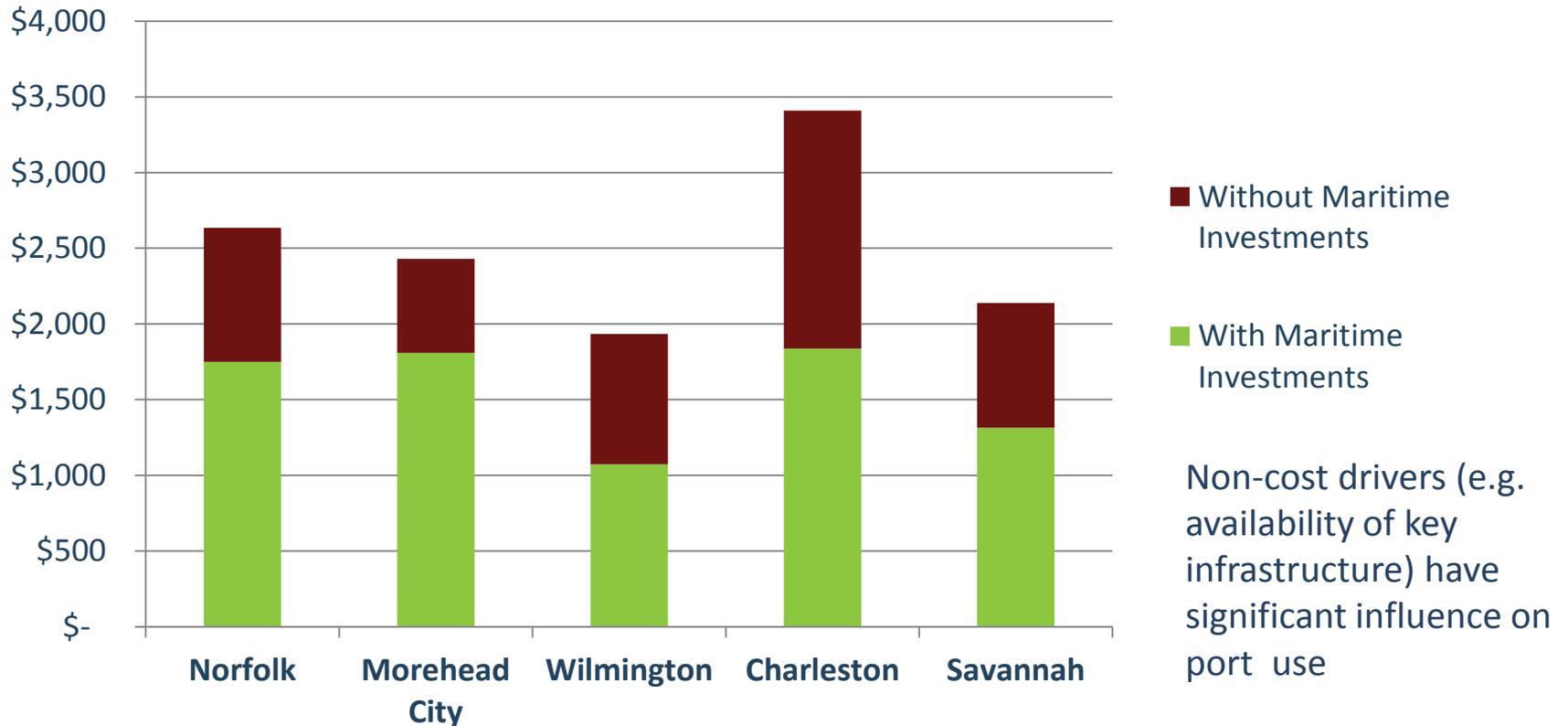


\$535 per TEU
To new east Charlotte intermodal terminal via truck and rail

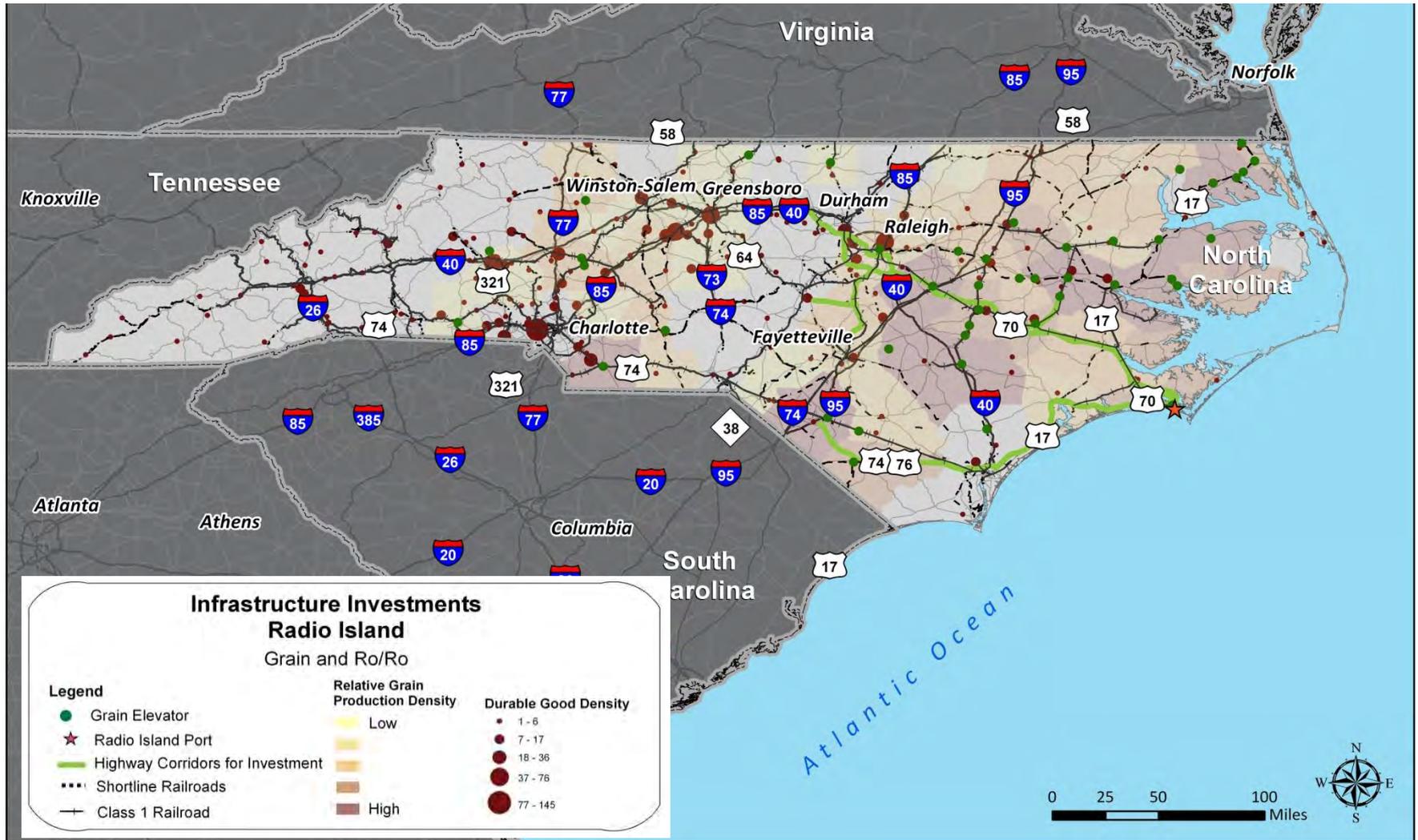


Infrastructure Influence on Delivered Costs

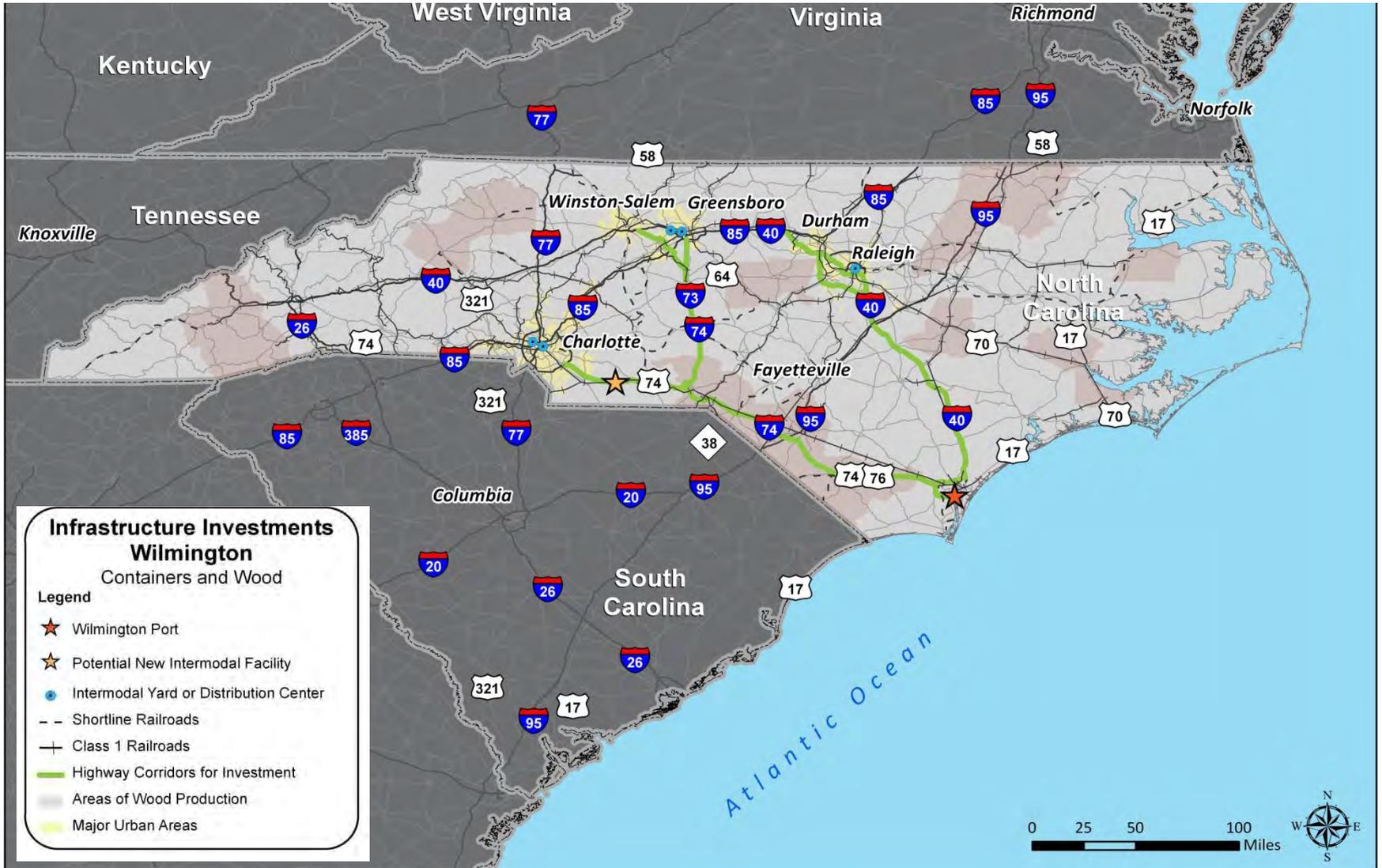
2040 Cost per FEU from Regional Ports to Charlotte intermodal terminal



Targeted Highway Corridors - Radio Island

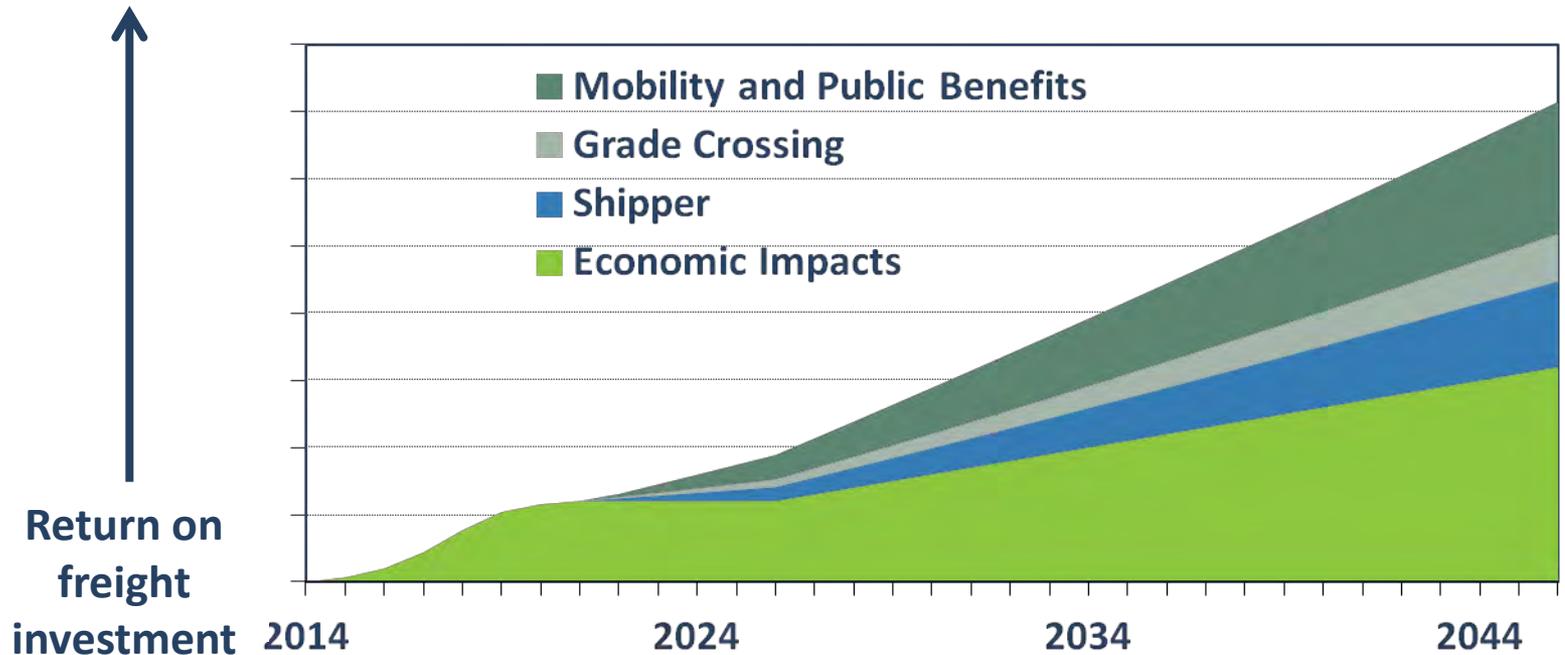


Targeted Highway Corridors -Port of Wilmington



Source: ESRI, NCDOT, USDOT Freight Analysis Framework v3.1, USGS ThematicMapping world borders dataset

Illustrative Timeline of Benefits and Impacts



Economic benefits begin with construction in 2014.

Shipper and grade crossing benefits begin as soon as the project starts operation.

Economic benefits accrue as the market recognizes and responds to opportunities created by the freight investment.

Grain Benefits and Costs

■ Infrastructure Needs:

- New bulk grain terminal facility, including silos, on-terminal truck and rail unloading facilities, and specialized vessel loaders
- Improved highway access to eastern North Carolina's soybean regions

■ Economic Benefits: (based on Radio Island alternative)

- \$ 100 million in shipper savings, including higher export pricing, and associated supply chain benefits
- \$ 2.1 billion in travel time savings to non-freight highway users
- \$ 105 million in public benefits through reduced accidents, emissions and highway maintenance
- 6800 construction jobs (job-years) and 140 permanent jobs
- Profitability of grain production that is essential to retaining food processing industry within the State

Grain Infrastructure

- **POW North Property**
(grain terminal shown at right)

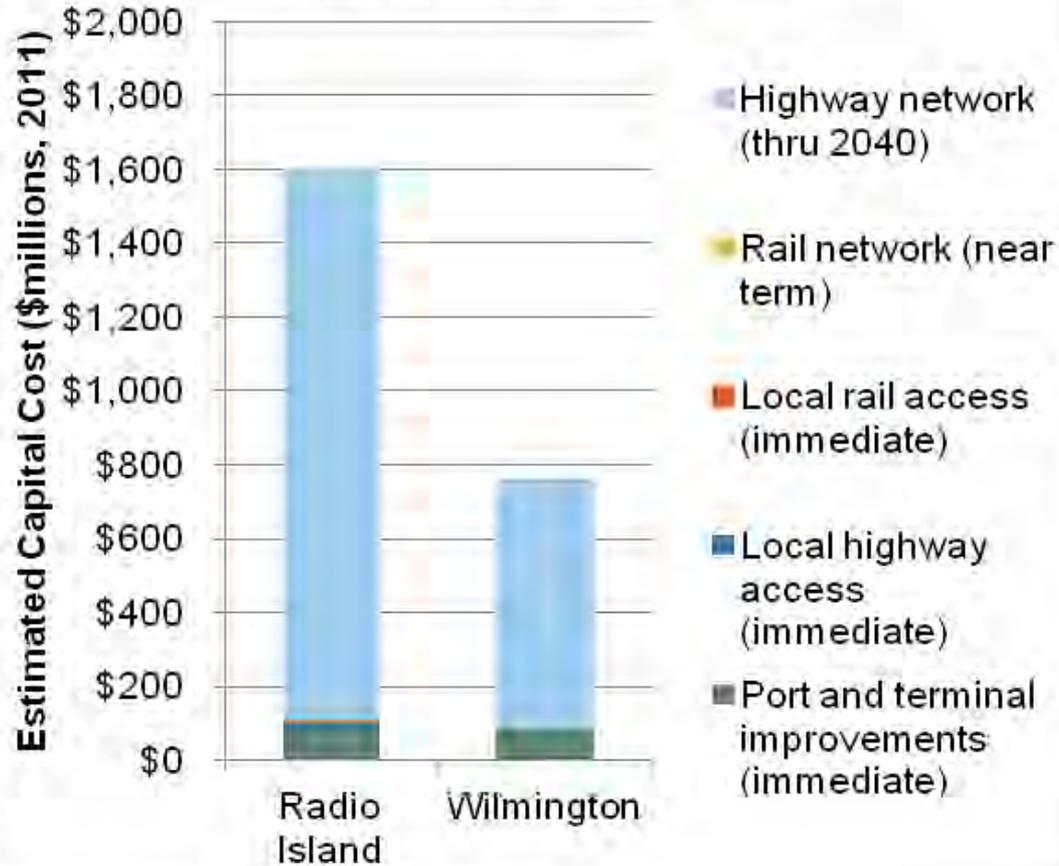


- **Radio Island**
(grain terminal shown at left)



Source: AECOM

Grain Infrastructure



Wood Pellets Benefits and Costs

■ Infrastructure Needs:

- New wood pellet terminal, including silos, on-terminal truck and rail unloading facilities, and specialized vessel loaders
- Highway network investments to improve delivery of wood pellets to port
- Improved rail connections

■ Economic Benefits: (based on POW alternative)

- \$ 38 million in shipper savings and additional supply chain benefits
- \$ 717 million in travel time savings to non-freight highway users
- \$ 31 million in additional combined savings to State citizens through reduced accidents, emissions and highway maintenance
- 2300 construction jobs (job-years) and 175 permanent jobs

Wood Pellet Infrastructure

- **POW North Property**

(wood pellet terminal shown at right)

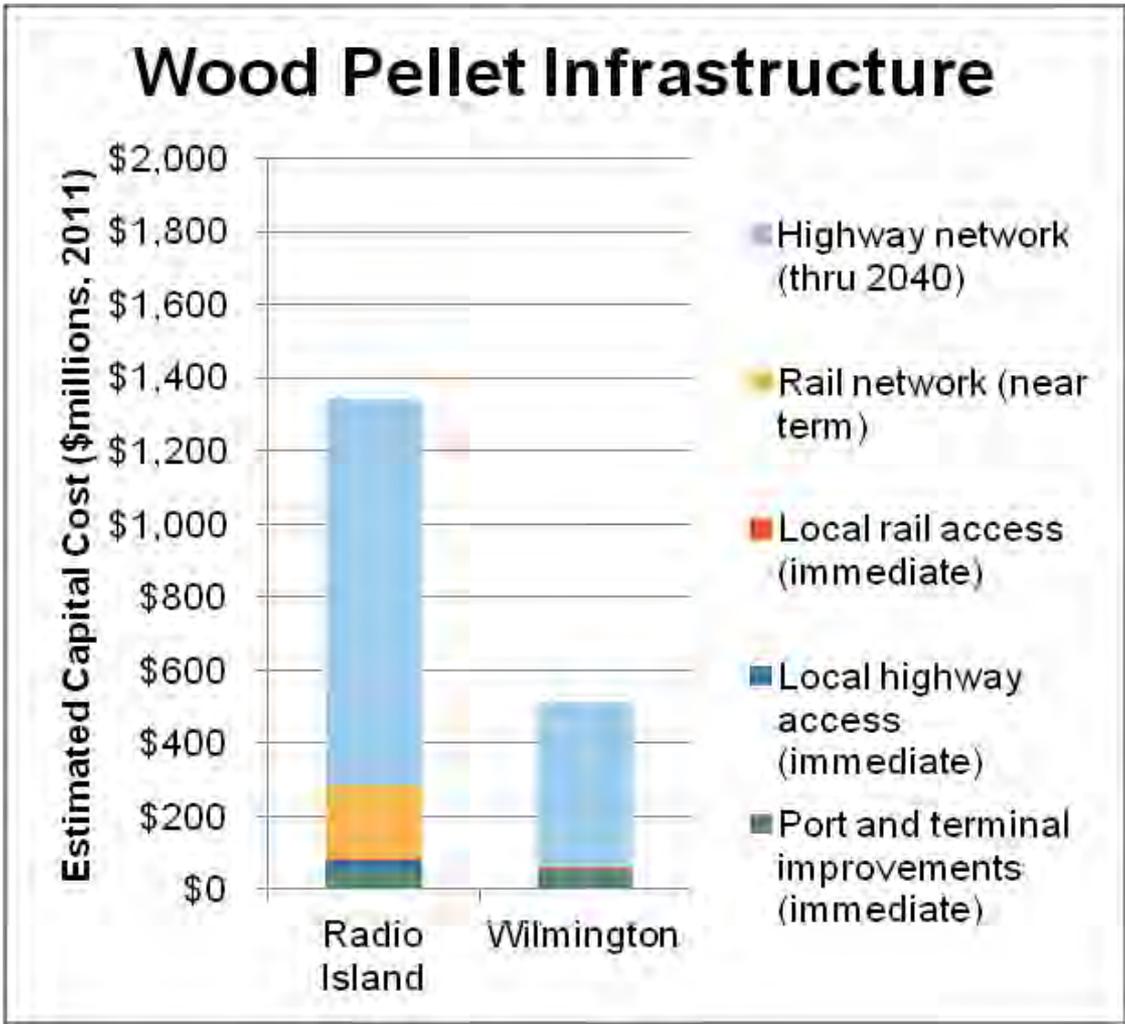


- **Radio Island**

(wood pellet terminal shown at left)



Source: AECOM



Other Wood Products Benefits and Costs

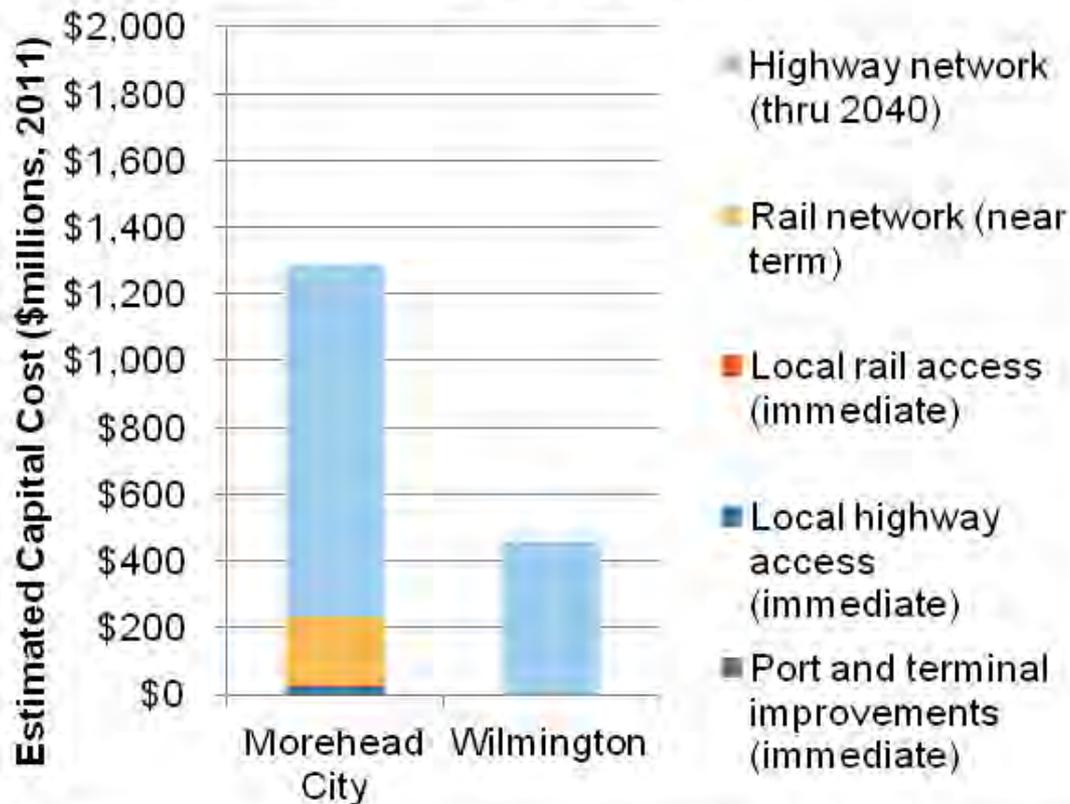
■ Infrastructure Needs:

- Projected demand for wood chips, wood pulp and other bulk and breakbulk wood products can be accommodated within existing port capacity
- Efficient highway and rail connections will enhance exports

■ Economic Benefits: (based on POW alternative)

- \$ 34 million in shipper savings and additional supply chain benefits
- \$ 720 million in travel time savings to non-freight highway users
- \$ 15 million in additional combined savings to State citizens through reduced accidents, emissions and highway maintenance
- 2300 construction jobs (job-years)
- Support for jobs within existing NC wood industry

Other Wood Products Infrastructure



Ro/Ro and Oversize Cargo Benefits and Costs

■ Infrastructure Needs:

- New Ro/Ro and Lo/Lo (lift-on/lift-off) terminal
- Focused investments on oversize highway corridors
- Direct rail connection from manufacturing sites to port

■ Economic Benefits: (based on Radio Island alternative)

- Capital goods manufacturers hire workers directly and also make large purchases of goods and services from the economy
- \$ 46 million in shipper savings and supply chain benefits
- \$ 5.3 billion in travel time savings to non-freight highway users
- \$ 86 million in additional combined savings to State citizens through reduced accidents, emissions and highway maintenance
- 10,000 construction jobs (job-years) and 1600 permanent jobs statewide

Ro/Ro and Oversize Infrastructure

- **POW North Property**

(Ro/Ro and Lo/Lo terminal shown at left)

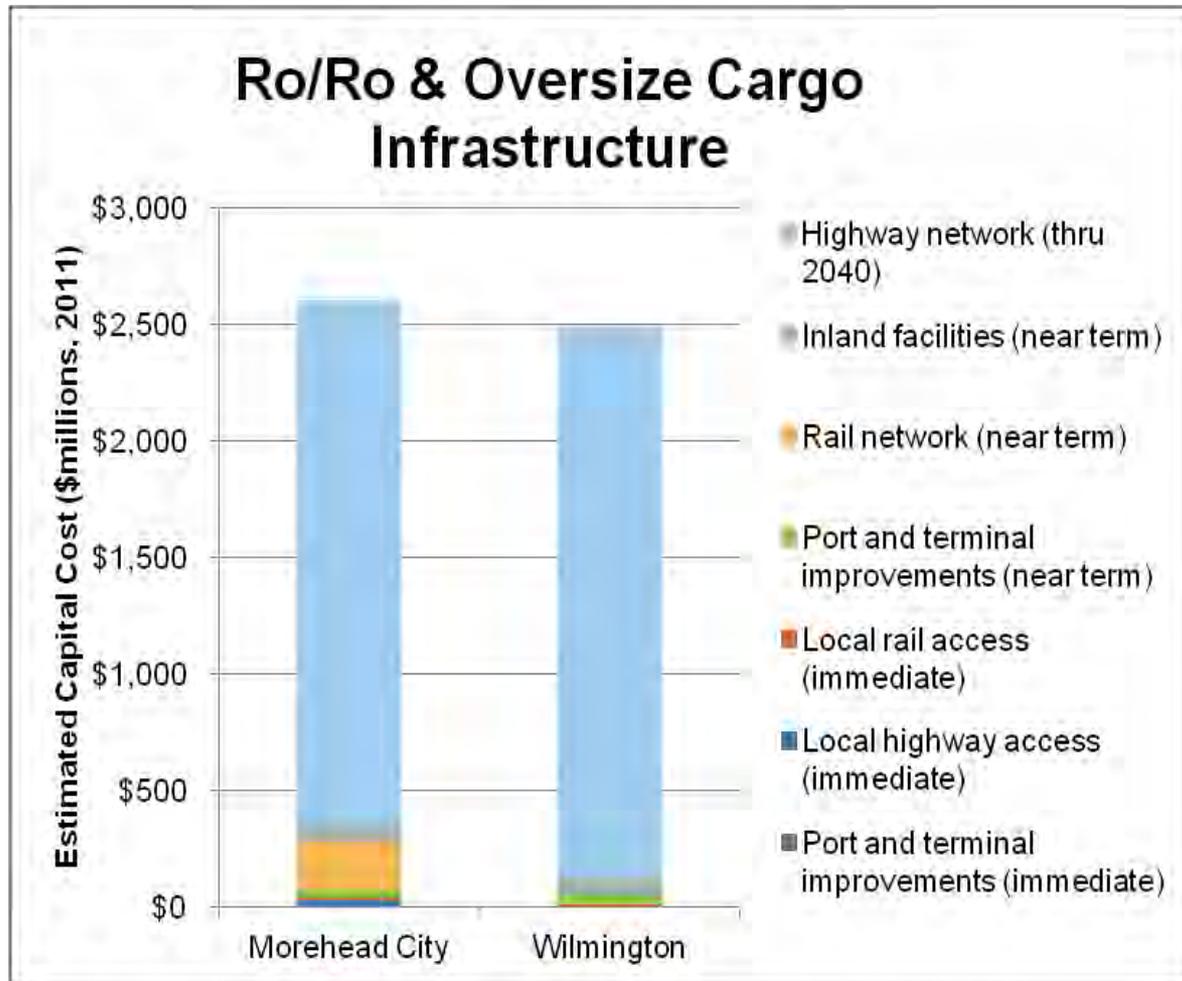


- **Radio Island**

(Ro/Ro and Lo/Lo terminal shown at right)



Source: AECOM



Containerized Cargo Benefits and Costs

■ Infrastructure Needs:

- New or expanded container terminal able to handle projected 1.3 million TEU demand
- Up to 51' deep channel to handle Post Panamax vessels expected to call on US East Coast
- Efficient truck and rail access, incl. new intermodal terminal E. of Charlotte

■ Economic Benefits: (based on POW alternative with 51' depth)

- \$ 1.1 billion shipper savings
- \$ 78 million in additional supply chain benefits
- \$ 3.2 billion in travel time savings to non-freight highway users
- \$ 253 million in additional combined savings to State citizens through reduced accidents, emissions and highway maintenance
- 24,000 construction jobs (job-years) and 2900 permanent jobs statewide

Container Terminal at Radio Island

- New terminal with rubber tire gantry (RTG) operations
- 2 premium berths
- Evaluated at 45' and 51' water depths
- 1.2 million TEU max. capacity



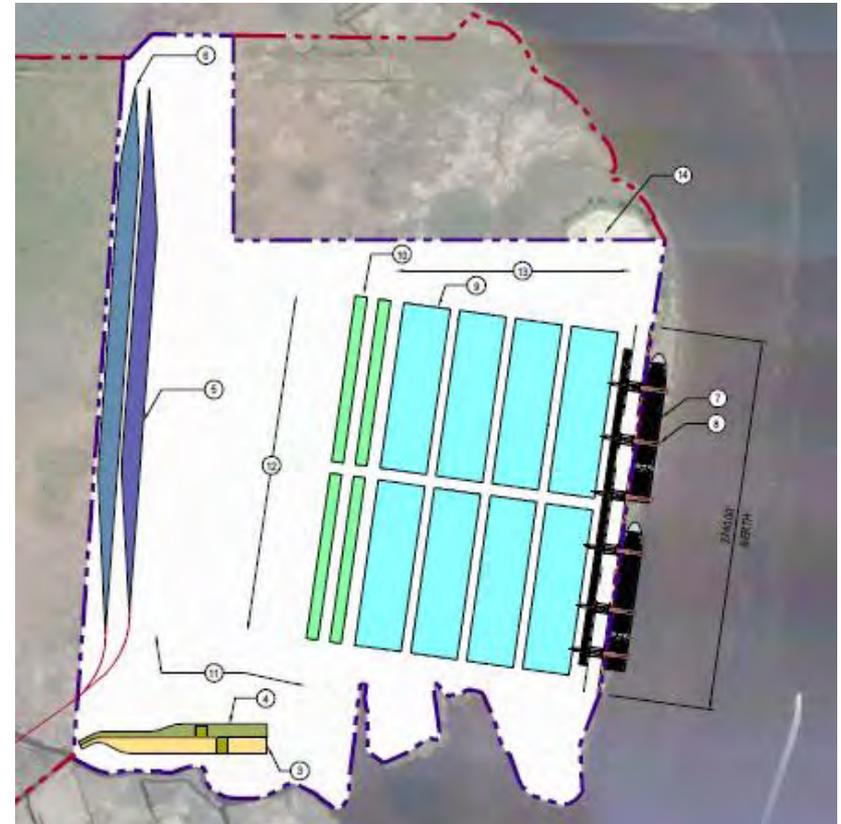
Container Terminal at Port of Wilmington

- Expanded terminal area
 - Relocated gate
 - Reach stacker operations
 - 2 premium berths
 - 42' water depth
 - 750,000 max. TEU capacity
- Expanded terminal area
 - Relocated gate
 - Rubber tire gantry (RTG) operations
 - 2 premium berths
 - 42', 45', 47' or 51' water depth
 - 1.1 million to 1.6 million TEU capacity



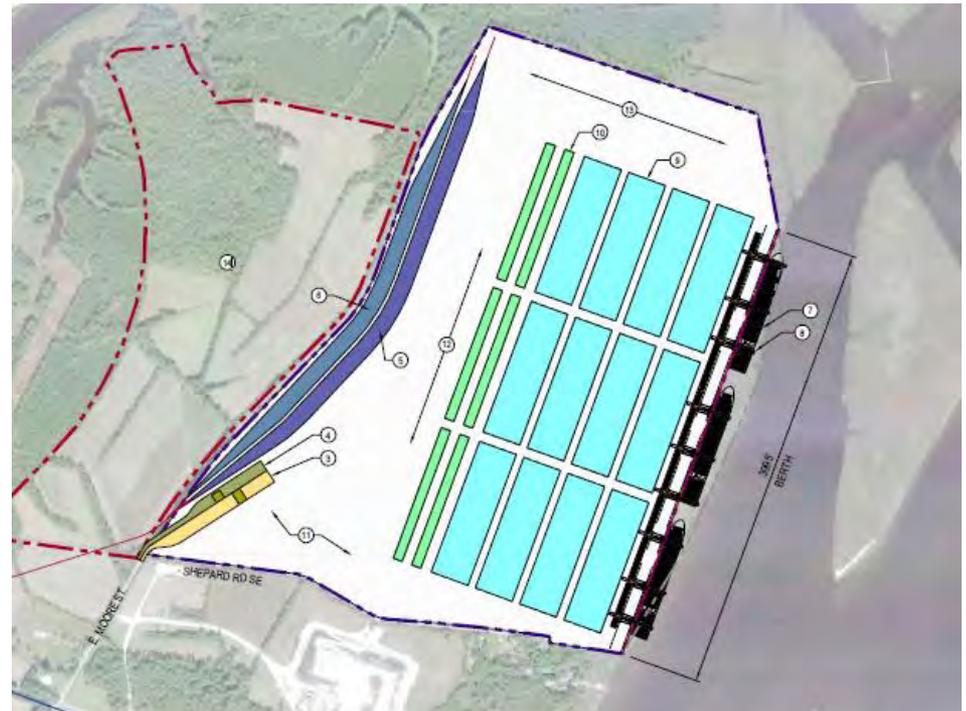
Container Terminal at River Road

- Rubber tired gantry (RTG) or automated stacking crane (ASC) operation
- 2 premium berths
- 51' water depth
- 1.5 million TEU capacity

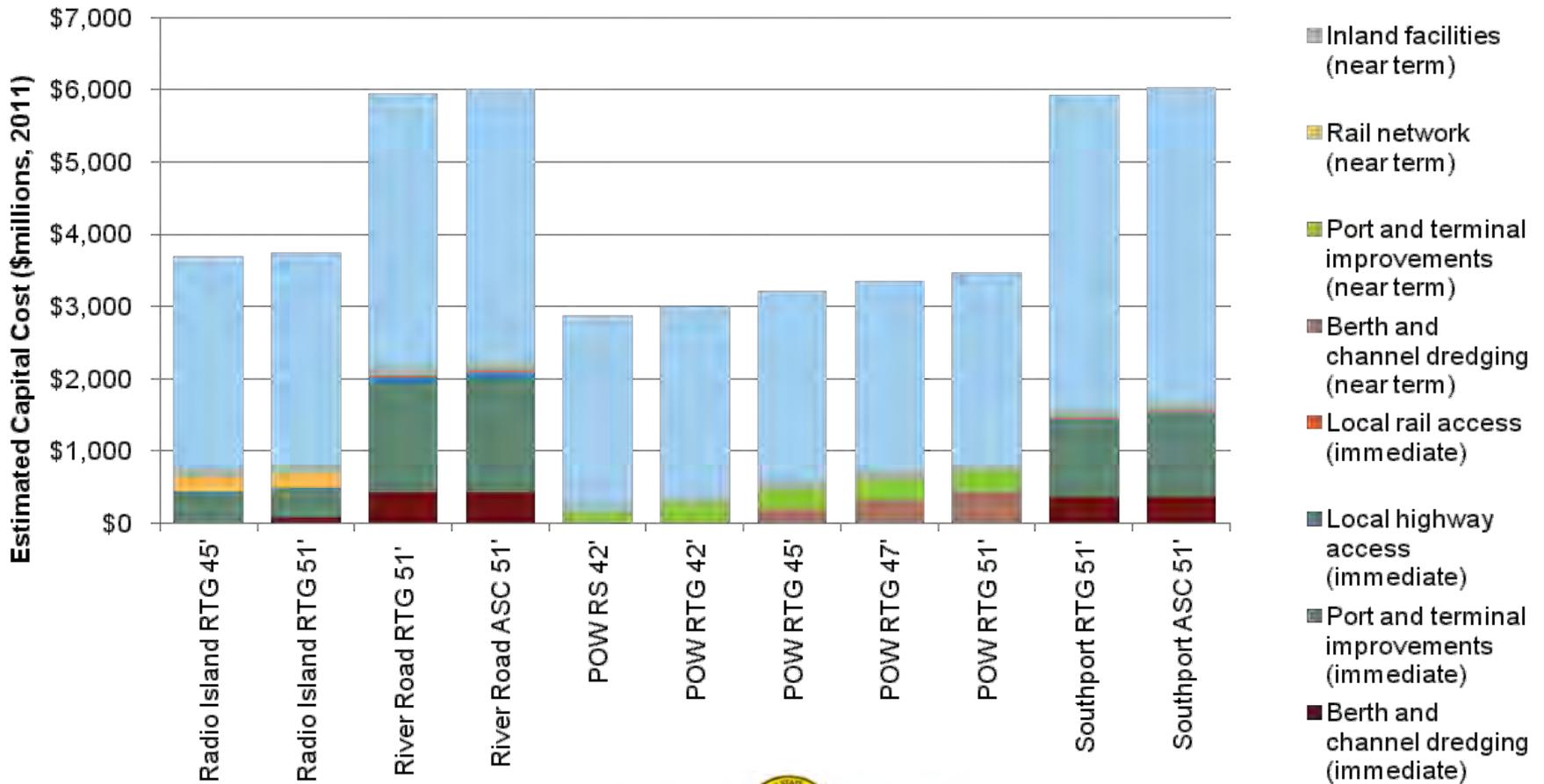


Container Terminal at Southport

- Rubber tired gantry (RTG) or automated stacking crane (ASC) operation
- 3 premium berths
- 51' water depth
- CY development normalized to 2.1 million TEU capacity for comparison purposes



Containerized Cargo Infrastructure



Refrigerated Cargo Benefits and Costs

■ Infrastructure Needs:

- New \$24 million cold storage facility (scalable to meet demand)
- Reefer plug-ins in the container yard

■ Economic Benefits: (based on POW alternative)

- \$ 136 million in shipper savings and related supply chain benefits
- 1,000 permanent jobs statewide



Next Steps

- Align strategies with other North Carolina initiatives.
- Integrate goals of the Maritime Strategy into statewide long-range transportation planning.
- Consider findings of the Maritime Strategy in updated strategic plan and near-term investment strategy for NC Ports.
- Align proposed maritime investments with related State economic and environmental policies and objectives.
- Advance one or more market opportunities in consideration of available funding and statewide priorities.



The Future of Logistics

Tom Bradshaw
Statewide Logistics Director



Topics for Discussion

- Grow the Business
 - Existing Customers
 - New Opportunities
- Examination of Competition
- Develop a coordinated strategic plan
 - DOT, SPA, GTP
 - Resources: Logistics Task Force and Maritime Strategy
- Board Interaction
- Agency Interaction





Grow the Business

- Communication with existing customers/clients, as well as new business opportunities
- Existing Customers
 - International Paper
 - CAT
 - NUCOR
 - ICL
 - TMO/Lucky Wood
 - PCS
- New Opportunities
 - Wood Pellets/Biomass
 - Cold Storage
 - Military Reset--RoRo





Examination of Competition

- Other Ports/Maritime Operations
 - Virginia
 - South Carolina
- Other Companies/Industries
- Implications of the Maritime Strategy study





Strategic Planning

- Efforts to date (Phase I: 24 months):
 - Facilitated employee focus groups in Morehead City and Wilmington
 - Facilitated staff working session
 - DOT/NCSPA Workteams (27)
 - All Hands Meetings—Wilmington and Morehead City
- Plan for future efforts (Phase II):
 - Timeline for process
 - Incorporation of all efforts into one unified plan
 - Partner Interaction
 - Maritime Strategy Advisory Council
 - Logistics Task Force
 - Ports Advisory Council





Strategic Planning—Phase II

May

- Completion of the Maritime Strategy
- Initial meeting of full Logistics Strategic Planning Committee

June

- Development of Strategic Plan Framework

July

- Presentation of DRAFT Strategic Plan Framework to staff team and Logistics Strategic Planning Committee





Strategic Planning—Phase II

August

- Review of Strategic Plan Framework—
Modifications based on Committee comment

September

- Development of Performance Metrics attached
to Strategic Plan

October

- Presentation of Final Strategic Plan
Framework to respective Boards





Strategic Planning

Staff Team

Warren Miller, Fountainworks--Facilitator

Rachel Vandenberg, AECOM--Consultant

- Stephanie Ayers, NCSPA
- Laura Blair, NCSPA
- Tom Bradshaw, NCDOT
- Roberto Canales, NCDOT
- Charlie Diehl, NCDOT/GTP
- Jim Fain, GTP
- Alana King, GTP
- Jed McMillan, NCDOT/Commerce
- Jeff Miles, NCSPA
- Mark Tyler, NCDOT
- Seth Palmer, NCDOT
- Allen Pope, NCDOT
- Jeff Strader, NCSPA
- Darlene Waddell, GTP





Board Interaction

- Regular Board Meetings
- Discussion regarding the development of strategic plans for respective units (SPA and GTP)
- Coordinated integration of unit plans into DOT 10 year Plan
- Subcommittee of 3 boards [12 members]—Logistics Strategic Planning Committee
 - Board of Transportation: Gen. Hugh Overholt—Chair
 - NCSPA: Simon Rich, III—Chair
 - NCGTP: Chair TBD [to be set at May Board meeting]





Logistics Strategic Planning Committee

- Statewide Logistics Director as Executive Chair
- Board of Transportation
 - Gen. Hugh Overholt—Chair
 - Leigh McNairy
 - Mike Alford
 - Gus Tulloss
- NCSPA Board of Directors
 - Simon Rich, III—Chair
 - Jeff Etheridge
 - George Rountree, III
 - Michael Lee
- NCGTP Board of Directors
 - Committee to be set at May Board meeting





Partner Interaction

- Agriculture
 - Ports Liaison to the Department of Agriculture
 - Regular communication regarding projects with an agriculture component (examples: wood pellets and cold storage)
- Commerce
 - Regular communication with economic developers regarding projects with a port or GTP component
 - DOT/Commerce/Ports/Marketing Liaison
- DOT
 - Incorporation of SPA and GTP projects into the TIP process
 - Proposed improvements to facility access





Partner Interaction

- Railroads
 - Discussions with CSX, NCRR, Norfolk Southern and various shortlines about opportunities for improved capabilities
- Stakeholder Outreach
 - Logistics Task Force members
 - Maritime Strategy Advisory Council
 - Ports Advisory Council
 - GTP Foundation
- Seven Portals
 - Meetings with the heads of each of the 7 economic development regions



