



Cape Fear Skyway

WMPO TAC Meeting

February 23, 2011

STIP Project No. U-4738

Federal Aid Project No. STP-0017(53)

WBS No. 40114

New Hanover and Brunswick Counties, North Carolina



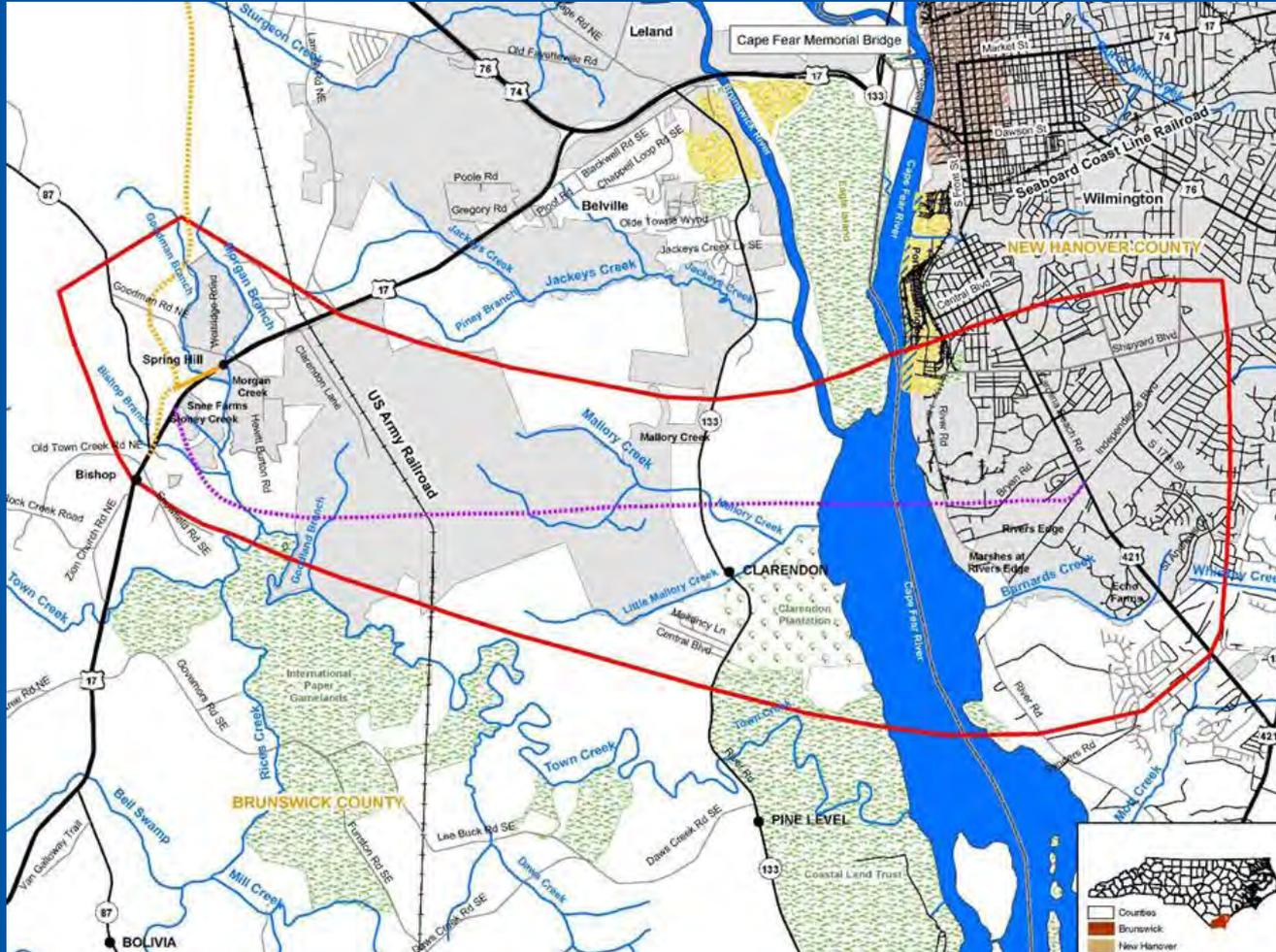


Agenda

- ❖ Project Study Area and Purpose and Need
- ❖ Alternative Concepts
- ❖ Preliminary Results of Alternatives Screening
- ❖ Project Schedule

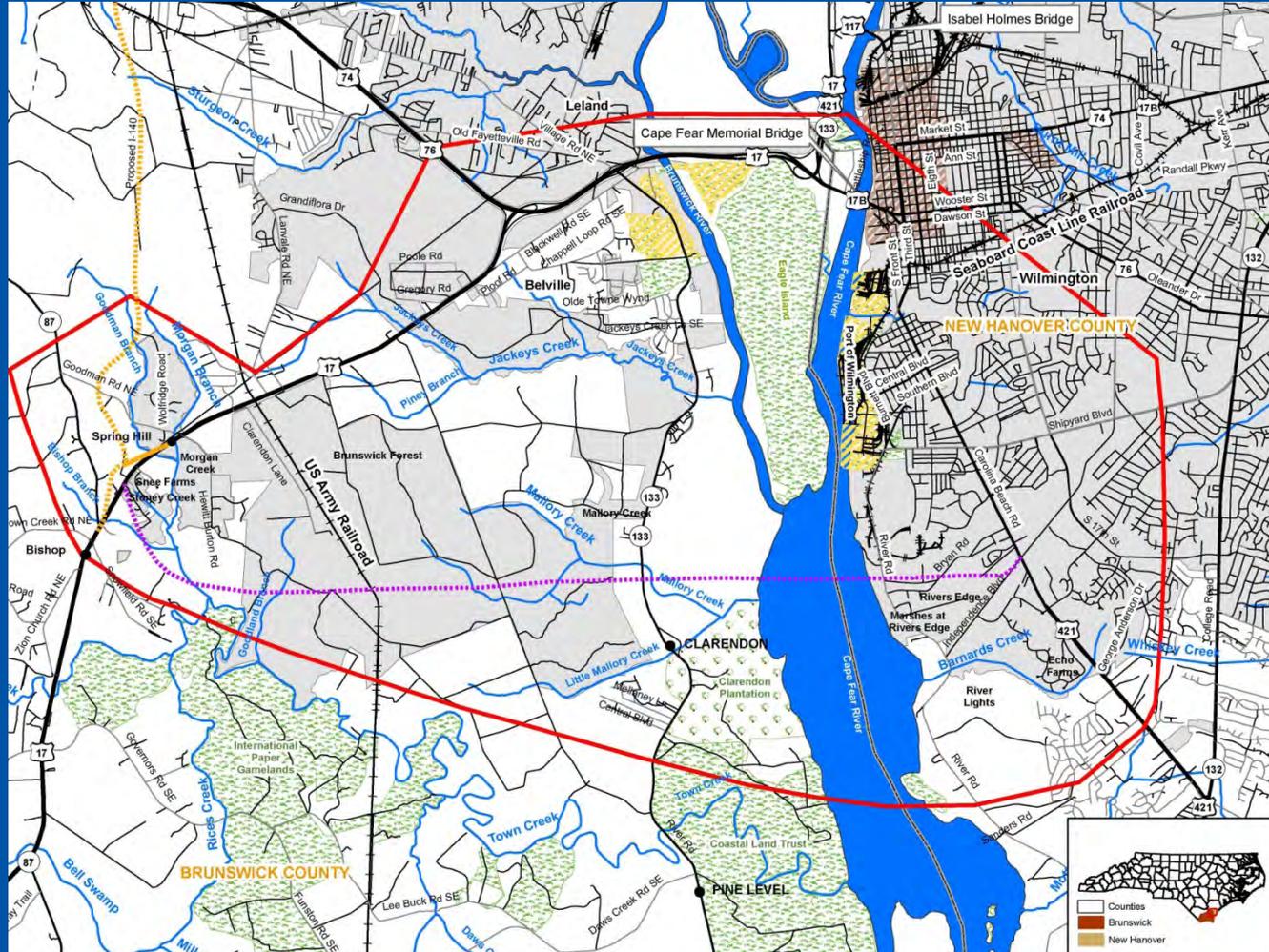


Project Study Area



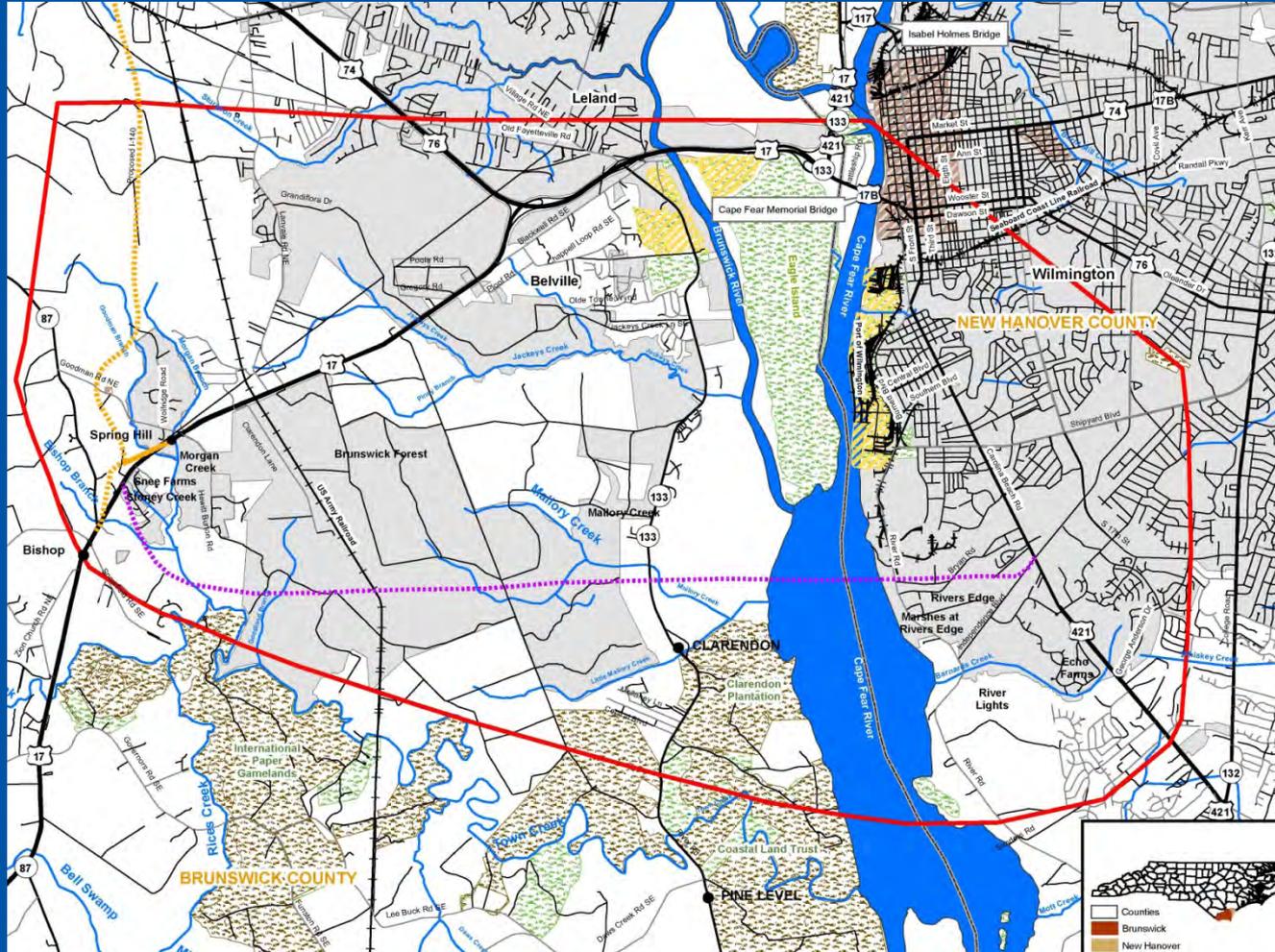


Project Study Area





Project Study Area





Purpose and Need Overview

The needs for the Cape Fear Skyway include:

- ❖ Traffic Capacity Deficiencies
- ❖ Improved Access to Port of Wilmington



Purpose and Need Overview

The purpose of the Cape Fear Skyway is to:

- ❖ Improve traffic flow and enhance freight movements beginning in the vicinity of US 17 and future I-140 in Brunswick County across the Cape Fear River to US 421 near the Port of Wilmington in New Hanover County.

Secondary benefits of the project would be to meet goals of SHC, NC Intrastate System, and WMPO LRTP, and provide reduced hurricane evacuation time.



Alternative Concepts

A range of alternative concepts are being evaluated to identify those that best serve the project's purpose and need, as well as minimize impacts to the human and natural environments. These concepts include:

- ❖ No-Build
- ❖ Mass Transit
- ❖ Multi-Modal
- ❖ Transportation Systems Management (minor improvements such as new signals, turn lanes, speed restrictions, etc.)
- ❖ Travel Demand Management (improves activities that change traveler behavior, such as staggered work hours and ridesharing)
- ❖ Improvements to Existing Roadways
- ❖ New Location Roadways
- ❖ Hybrids of New Location Roadways and Existing Roadway Improvements



Alternatives Screening Process

The alternatives are being evaluated by a multi-step process:

- ❖ Step 1: Qualitative screening to determine if concept meets Purpose and Need (1st screening)
 - Is the alternative able to improve traffic flow and enhance freight movement?
 - Is the alternative able to improve connectivity between US17 and the Port of Wilmington?
 - Is the alternative consistent with the regional transportation vision, including the SHC and NC Intrastate System vision?



First Screening Results

Alternative	Improve Traffic Flow and Enhance Freight Movement	Improve Connectivity between US 17 and the Port of Wilmington	Provide Facility Consistent with Vision of the SHC and NC Intrastate System
No-Build	✗	✗	✗
Transportation Demand Management	✗	✗	✗
Transportation System Management	✗	✗	✗
Mass Transit/Multi-Modal	✗	✗	✗
Improve Existing US 17 (Widening Arterial) (Freeway)	✓	✓	✗
	✓	✓	✓
New Location Highway	✓	✓	✓
New Location/Improve Existing Roadway Hybrids	✓	✓	✓



Alternatives Screening Process

❖ Step 2: Quantitative Second Screening

- Develop GIS map of environmental features
- Develop preliminary segments/corridors utilizing GIS features
- Develop environmental screening criteria to evaluate potential corridors



Alternatives Screening Process

❖ Environmental Screening Criteria

- Cost: length of alternative, minor road crossings, number of interchanges
- Human environment: displacements, cemeteries, churches, schools, archaeological sites, historic properties, low-income and minority populations, public trust access areas, noise receptors
- Natural environment: CAMA AECs, 303(d) waters, floodplains, wetlands & streams, protected species, conservation areas

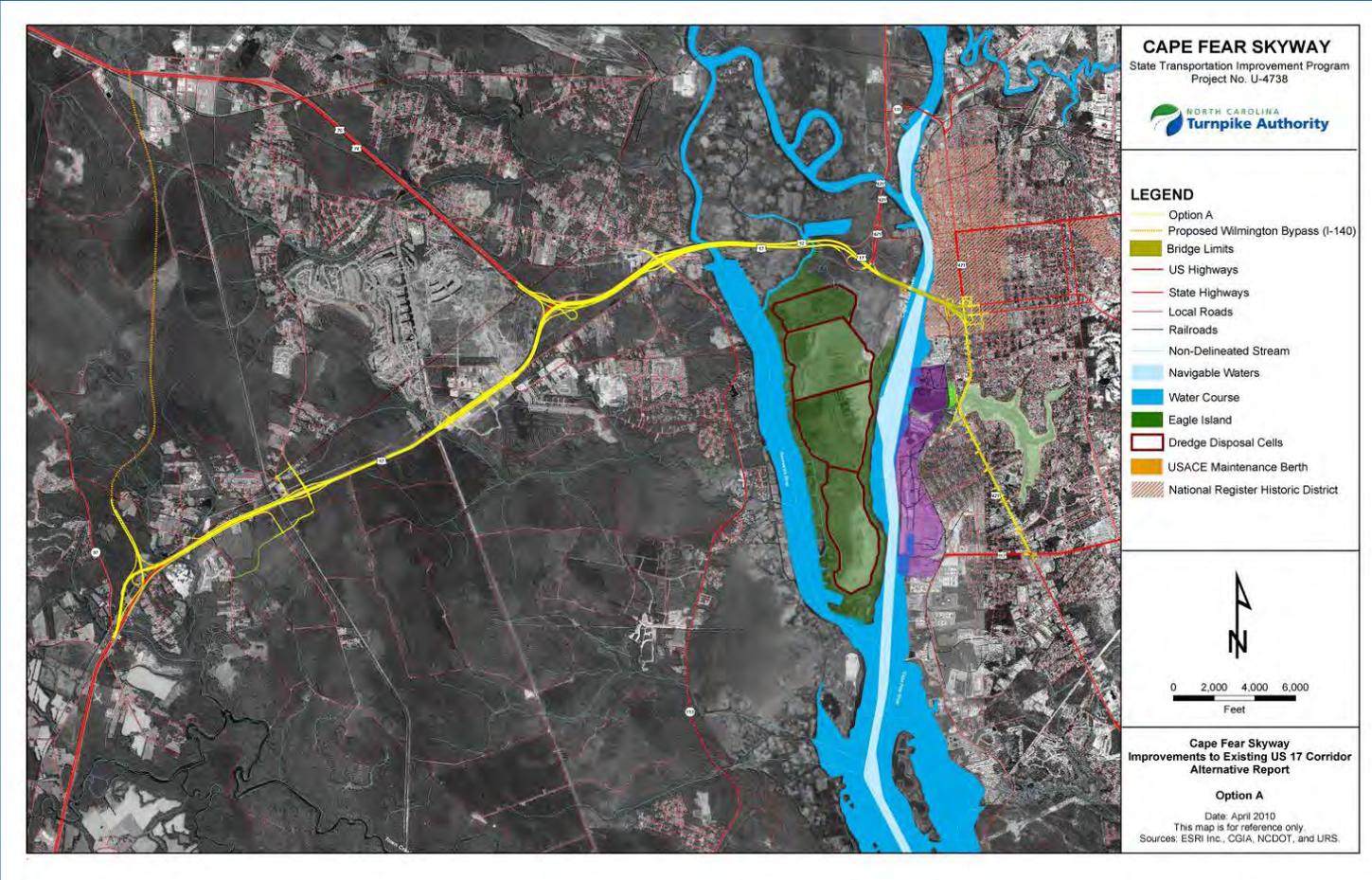


Alternatives Screening Process

- ❖ Quantitative process (Step 2 continued)
 - Combine segments into corridors
 - Eliminate corridors/segments



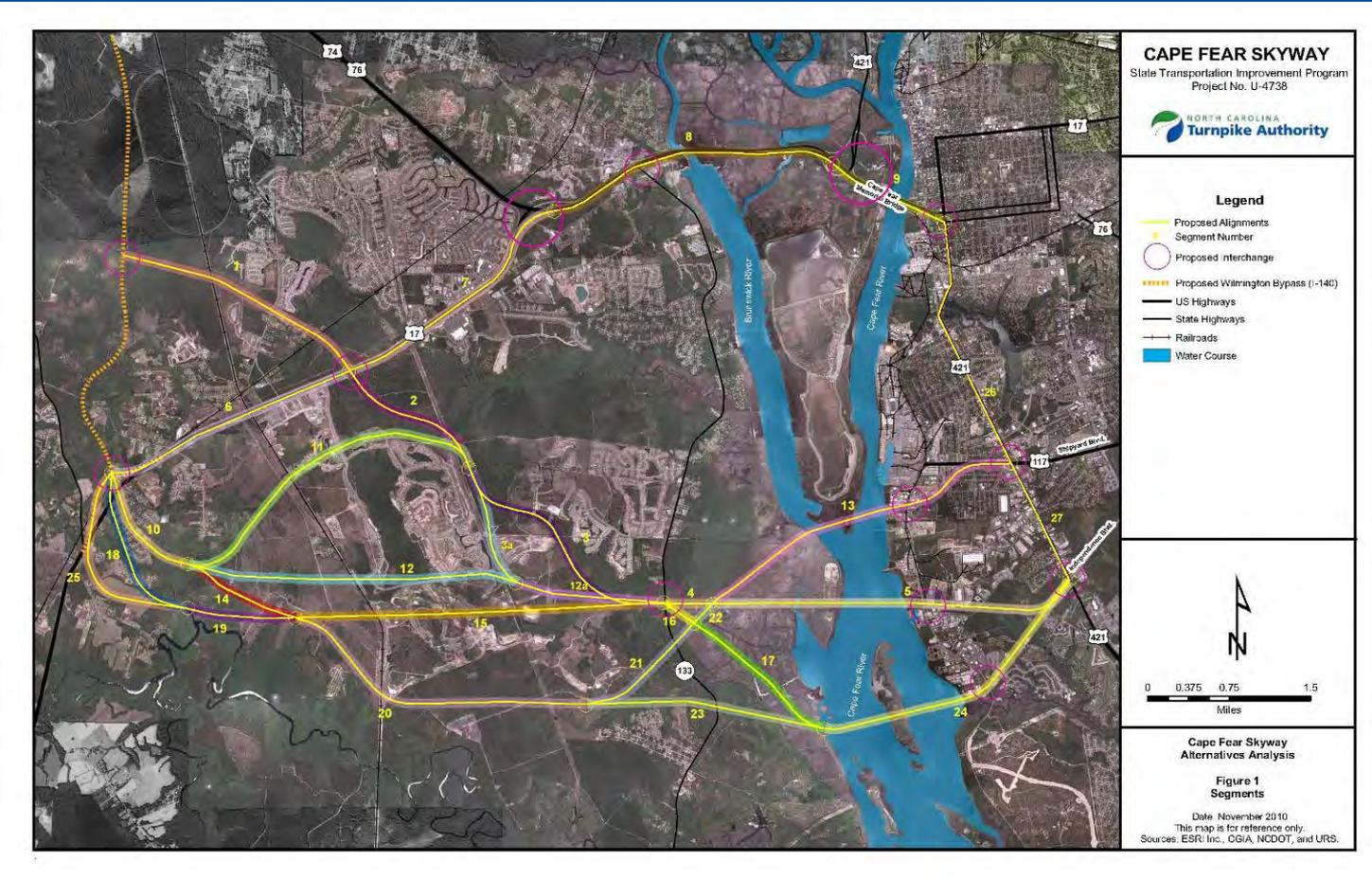
Alternative Concepts



--- Upgrade Existing Alternative (US 17/future I-140 interchange to US 421 in New Hanover County)



Alternative Concepts



New Location Alternatives (vicinity of US 17/future I-140 interchange to US 421)

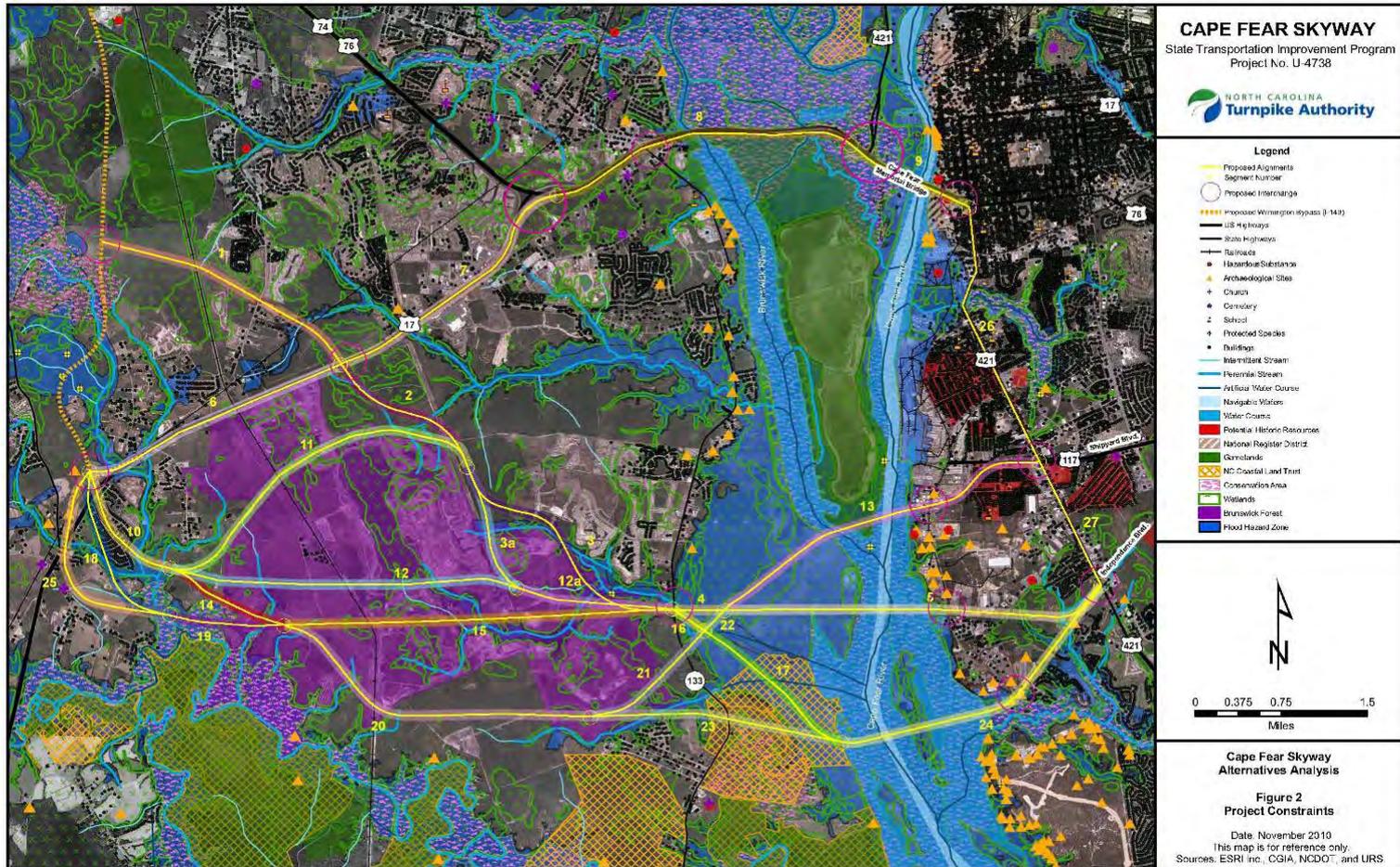


Alternative Concepts

- ❖ Environmental screening criteria used to evaluate each segment/corridor
 - Impacts calculated using GIS features



Second Screening Results





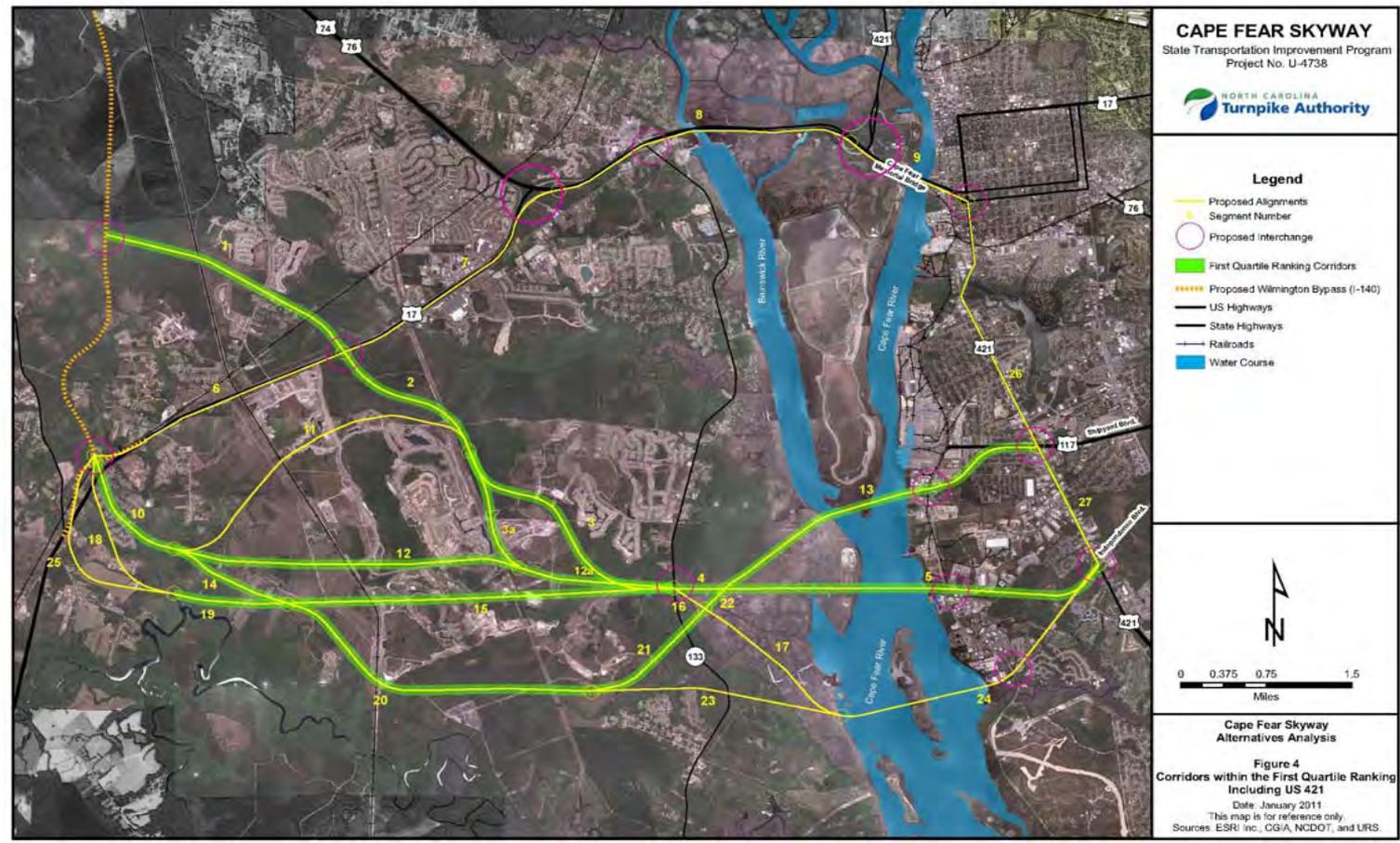
Second Screening Results



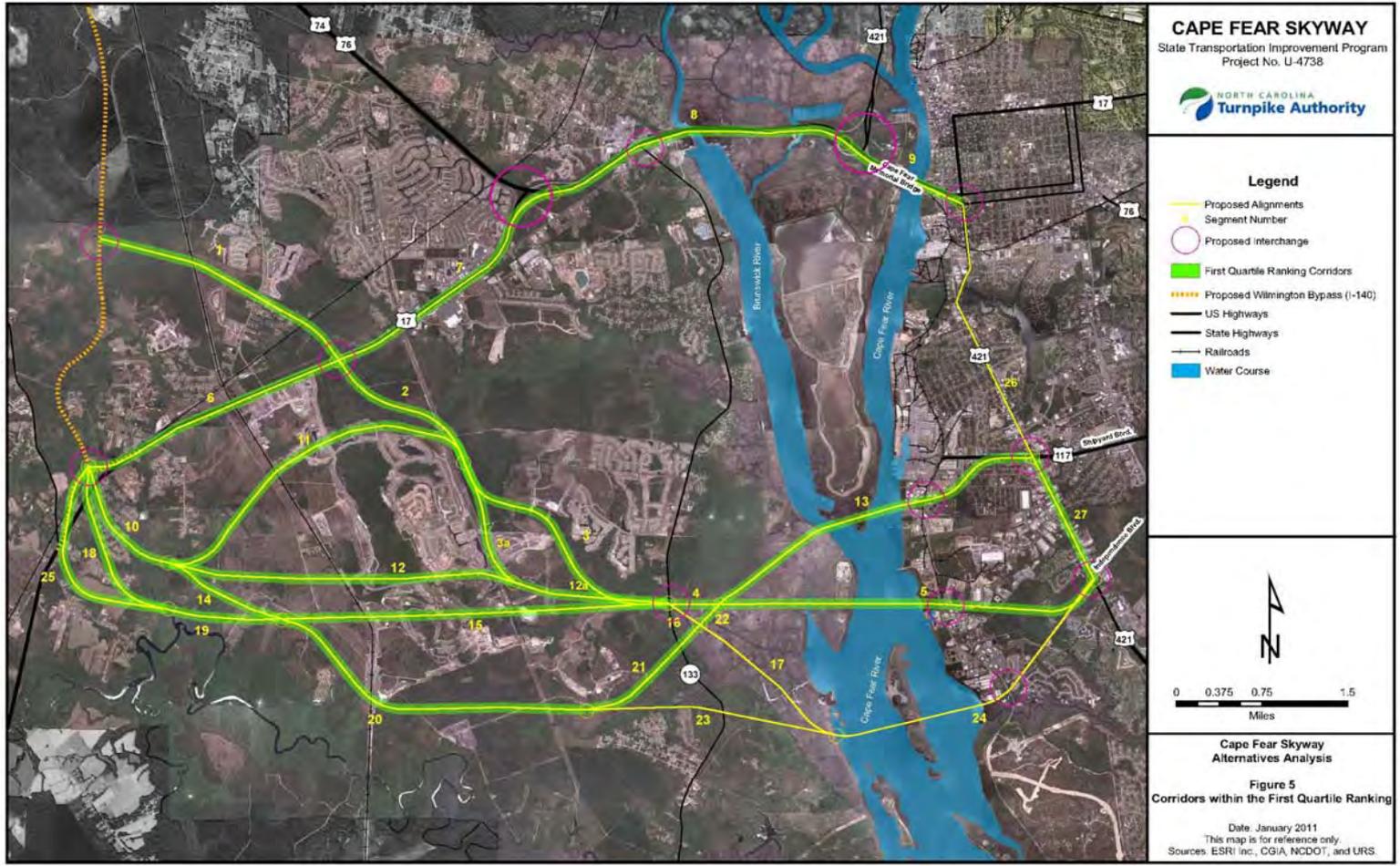
Corridors within First Quartile Ranking not including US 421



Second Screening Results



Corridors within First Quartile Ranking including US 421



Corridors within First Quartile Ranking



Segments Eliminated from Further Screening



Ten (10) Corridors Retained for Further Screening



Alternatives Screening Process

❖ Step 3: Conduct 3rd Screening

- Develop conceptual designs to determine anticipated area of impact for each preliminary corridor
- Calculate impacts for each conceptual design
- Analyze each preliminary corridor using performance measures such as travel times and V/C analysis

❖ Step 4: Determine Detailed Study Alternatives (DSAs)



Project Costs – New Location (Northern Alignment)

- ❖ \$1.04 Billion
- ❖ This option features a four-lane controlled access facility from I-140 in Brunswick County to the Independence Blvd./US 421 intersection in New Hanover County.
- ❖ Interchanges are located at I-140, US 17, NC 133, River Rd, and Independence Blvd.



Project Costs – Replace Existing Bridge

- ❖ \$475 Million
- ❖ This option features replacing the existing Cape Fear Memorial Bridge with a eight-lane bridge.
- ❖ The current interchange at Front St. would be moved to Third St.



Project Costs – Replace Existing Bridge & Upgrade US 17

- ❖ \$860 Million
- ❖ This option features replacing the existing Cape Fear Memorial Bridge with a eight-lane bridge and also adding HOT lanes to US 17 from the bridge to the future US 17 & I-140 interchange.



Current Project Schedule

- ❖ 1st Quarter 2013 – Draft EIS
- ❖ 3rd Quarter 2013 – Final EIS
- ❖ 4th Quarter 2013 – ROD
- ❖ 2013 – Complete environmental planning with final alignment and design details
- ❖ 2013 – Complete Financial Feasibility



Wrap-Up/Next Steps

- ❖ Hold public workshops in March to solicit comments on Purpose and Need and Alternatives
- ❖ Meet with environmental agency partners
- ❖ Determine alternatives for detailed study



Questions?

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