

Preliminary Findings Report

**US 70 from New Bern to the
Proposed Havelock Bypass**

Craven and Jones Counties

**Division 2
FS-1202B**



**Feasibility Studies Unit
Program Development Branch
N.C. Department of Transportation**

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Preliminary Findings Report FS-1202B

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I. Introduction and Purpose

The North Carolina Department of Transportation (NCDOT) is conducting a feasibility study to evaluate a new route for US 70 from US 17 Bypass west of New Bern to the proposed US 70 Havelock Bypass. The new route would bypass New Bern and James City and would be approximately 21.5 miles long (see Figure 1 for study area location).

NCDOT's Strategic Highway Corridors Plan recommends that US 70 ultimately function as a freeway between Raleigh and Morehead City. The US 70 Corridor Commission has a long range vision for freeway upgrades to enhance safety, mobility, and economic vitality. US 70 traffic volumes in the study area are highest in James City between the US 17/ NC 55 interchange and the Coastal Carolina Regional Airport. Traffic is expected to nearly double by the year 2035. This area has many intersections, extensive development, and is congested. Recent feasibility studies have considered improving US 70 through James City by replacing key intersections with interchanges to upgrade the segment to freeway standards.

This report describes conceptual costs, traffic conditions, and environmental issues associated with a US 70 Bypass. It also considers the potential for relocating part of the North Carolina Railroad (NCR) corridor around New Bern and parallel to a US 70 Bypass. These improvements will be evaluated in greater detail in the feasibility study for Project FS-1202B after preliminary corridor alignments and traffic analyses are completed. The feasibility study is the initial step in the planning and design process for this project and is not the product of exhaustive environmental or design investigations. Its purpose is to describe the proposed project, including costs, and to identify potential problems that may require consideration in the future planning and design phase.

II. Description of Alternatives

Conceptual corridor alternatives are being developed with highway and railroad components. The highway consists of a four-lane median divided freeway with 12-foot lanes, a 46-foot depressed median, and 10-foot paved shoulders in a 300-foot corridor. Interchanges are proposed for access to most major road crossings. Bridges have been considered over major river, stream, and wetland crossings. A 70 mile per hour (mph) roadway design speed is proposed. The railroad consists of a single track contained within a 100-foot corridor. The proposed railroad track design would allow freight rail operating speeds of 79 mph.

Alternative 1 extends from the US 17 Bypass at existing US 70 west of New Bern to the Havelock Bypass, west of existing US 70. It includes a 21.7-mile highway, 17.7 miles of which is on new location (see Figure 2). It also includes a 23.3 mile railroad on new location that is parallel to the highway corridor.

Alternative 2 extends from the US 17 Bypass at existing US 70 west of New Bern to existing US 70 near Riverdale Road (SR 1108) and continues along US 70 to the Havelock Bypass (see Figure 3). It includes a 21.5-mile highway, 13 miles of which are on new location. It also includes an 18.9-mile railroad on new location that is parallel to the highway corridor.

III. Traffic Operations

Existing average daily traffic (ADT) on US 70 ranges from 16,700 vehicles per day (vpd) west of New Bern to 45,400 vpd in James City. If no improvements are made, future 2035 year traffic is estimated to range from 29,200 vpd west of New Bern to 82,100 vpd in James City. With a US 70 Bypass in place, 2035 year traffic on US 70 would range from 18,800 vpd to 65,800 vpd, and US 70 Bypass traffic would range from 17,300 vpd to 28,200 vpd. Current and future year traffic volumes are shown in Table 1.

Table 1: Average Daily Traffic Volumes

Location	2012 Existing Traffic (vehicles/day)	2035 No Build Traffic (vehicles/day)	2035 Traffic US 70 Bypass Alternative 1 (vehicles/day)	2035 Traffic US 70 Bypass Alternative 2 (vehicles/day)
Existing US 70 Corridor				
US 17 Bypass to US 17/ NC 55	16,700 - 19,000	29,200 - 33,600	18,800 - 21,400	18,800 - 21,400
US 17/ NC 55 to Williams Rd (SR 1167)	40,700 - 45,400	75,200 - 82,100	58,900 - 65,800	58,900 - 65,800
Williams Rd (SR 1167) to Grantham Rd (SR 1124)	33,400 - 38,300	61,500 - 71,300	43,600 - 51,400	43,600 - 51,400
Grantham Rd (SR 1124) to Thurman Rd (SR 1116)	28,400 - 32,600	51,700 - 58,700	34,400 - 41,400	34,400 - 41,400
Thurman Rd (SR 1116) to Riverdale Rd (SR 1108)	26,500 - 27,800	48,600 - 50,800	31,300 - 33,500	31,300 - 50,200
Riverdale Rd (SR1108) to Carolina Pines Blvd (SR 1176)	26,900 - 27,500	49,100 - 50,200	31,700 - 32,900	49,000 - 50,100
US 70 Bypass Corridor				
US 70/ US 17 Bypass to US 17	2,200	3,800	18,600 - 28,200	18,600 - 28,200
US 17 to Island Creek Rd (SR 1004)	N/A	N/A	17,300	17,300
Island Creek Rd (SR 1004) to US 70	N/A	N/A	20,400	20,400
US 70 Havelock Bypass	N/A	21,700	9,000 - 26,400	26,400

There are 18 intersections on US 70 between US 17/ NC 55 and the proposed Havelock Bypass. Four of these are controlled by traffic signals. The most congested conditions are between the Williams Road (SR 1167) and Airport Road (SR 1131) intersections. These intersections currently operate at their traffic carrying capacity during peak hours. Conditions will continue to worsen over time and reach breakdown conditions.

A US 70 Bypass is expected to reduce future year traffic in James City by 20 to 30 percent. This traffic reduction would help alleviate traffic delays on US 70. However, a US 70 Bypass alone would not relieve enough future traffic to enable US 70 to operate at an acceptable level in James City. To meaningfully address congestion in this area, US 70 freeway upgrades and other access management options considered in recent feasibility studies would still be needed. Traffic operations for US 70 Bypass alternatives and for US 70 freeway upgrades will be evaluated in detail in the FS-1202B feasibility study.

IV. Preliminary Evaluation of Alternatives

A preliminary evaluation of alternatives, including costs, potential property effects, and environmental concerns is summarized below and in Table 2.

Alternative 1 includes a highway corridor that is estimated to cost \$249,700,000 for construction, \$900,000 for utility relocation, and \$18,800,000 for right of way acquisition. The total estimated cost is \$269,400,000. It relocates 13 residences but no businesses. It has five interchanges and includes bridges over major roadways, river, and stream crossings. Approximately 80 percent of its length is on new location. The Alternative 1 highway corridor crosses seven rivers or streams, 386 acres of wetlands, and 189 acres of Croatan National Forest lands.

The Alternative 1 railroad corridor is estimated to cost \$130,200,000 for construction, \$500,000 for utility relocation, and \$4,700,000 for right of way acquisition. The total estimated cost is \$135,400,000. It does not relocate any residences or businesses. It joins the existing railroad corridor at each end and includes bridges over major roadways, river, and stream crossings. The Alternative 1 railroad corridor crosses nine rivers or streams, 115 acres of wetlands, and 37 acres of Croatan National Forest lands.

Alternative 2 includes a highway corridor that is estimated to cost \$215,800,000 for construction, \$2,300,000 for utility relocation, and \$31,000,000 for right of way acquisition. The total estimated cost is \$249,100,000. It displaces 37 residences, five businesses, and one church for a total of approximately 43 relocations. It has six interchanges and includes bridges over major roadways, river, and stream crossings. Approximately 60 percent of its length is on new location. The Alternative 2 highway corridor crosses six rivers or streams, 226 acres of wetlands, and 41 acres of Croatan National Forest lands.

The Alternative 2 railroad corridor is estimated to cost \$101,300,000 for construction, \$500,000 for utility relocation, and \$6,000,000 for right of way acquisition. The total estimated cost is \$107,800,000. It displaces nine residences and one business for a total of approximately ten relocations. It joins the existing railroad corridor at each end and includes bridges over major roadways, river, and stream crossings. The Alternative 2 railroad corridor crosses six rivers or streams, 82 acres of wetlands, and 11 acres of Croatan National Forest lands.

Table 2: Comparison of Alternatives

	Alternative 1		Alternative 2	
	Highway	Railroad	Highway	Railroad
Length (miles)	21.7	23.3	21.5	18.9
Speed Limit (miles per hour)	65 - 70	79	65 - 70	79
Construction Cost	\$249,700,000	\$130,200,000	\$215,800,000	\$101,300,000
Right of Way/ Utility Relocation Cost	\$19,700,000	\$5,200,000	\$33,300,000	\$6,500,000
Total Estimated Cost	\$269,400,000	\$135,400,000	\$249,100,000	\$107,800,000
Relocated Businesses (#)	0	0	5	1
Relocated Residences (#)	13	0	37	9
Other Relocations (#)	0	0	1	0
Total Relocations (#)	13	0	43	10
Number of Interchanges or Access Locations	5	2	6	2
Major River/ Stream Crossings (#)	7	9	6	6
Area within Wetlands (acres)	386	115	226	82
Area within Croatan National Forest (acres)	189	37	41	11

V. Environmental Issues

Based on a review of Geographic Information System (GIS) data, the following issues may require further evaluation in the feasibility study. Environmental features are shown on Figures 2 and 3.

- Rivers and Streams** – Major streams within the study area include Rocky Run, Trent River, Muddy Cove, Island Creek, Reedy Branch, Brice Creek, East Prong Brice Creek, and West Prong Brice Creek. All streams have a water quality classification of C Sw NSW. They are swamp and nutrient sensitive waters with uses that include secondary recreation, fishing, aquatic life, and agriculture. The Trent River has a water quality classification of SB Sw NSW. It is a tidal salt water swamp and nutrient sensitive water that includes primary recreational activities. None of these are designated as High Quality Waters, Outstanding Resource Waters, or water supply watersheds.

- *Wetlands* – Potential wetland areas have been identified using the Coastal Region Evaluation of Wetland Significance (CREWS) mapping from the NC Division of Coastal Management. Alternatives 1 and 3 cross sizable potential wetland areas.
- *Croatan National Forest* –The lands contained within the boundaries of the Croatan National Forest are subject to its Land and Resource Management Plan. A US 70 Bypass of New Bern has not been considered in the Land and Resource Management Plan nor has it been addressed with the US Forest Service to assess potential impacts on wildlife habitat and recreational uses. Encroachments within Croatan National Forest land would require a special use permit. Alternative 1 crosses a substantially larger portion of forest land than Alternative 2.
- *Croatan Wetland Mitigation Bank* - The Croatan Wetland Mitigation Bank is located on the southwest side of the study area between Catfish Lake Road (SR 1100) and the Havelock Bypass. Alternatives 1 and 2 avoid the property.

Other environmental issues to be evaluated during later planning and design stages include the following.

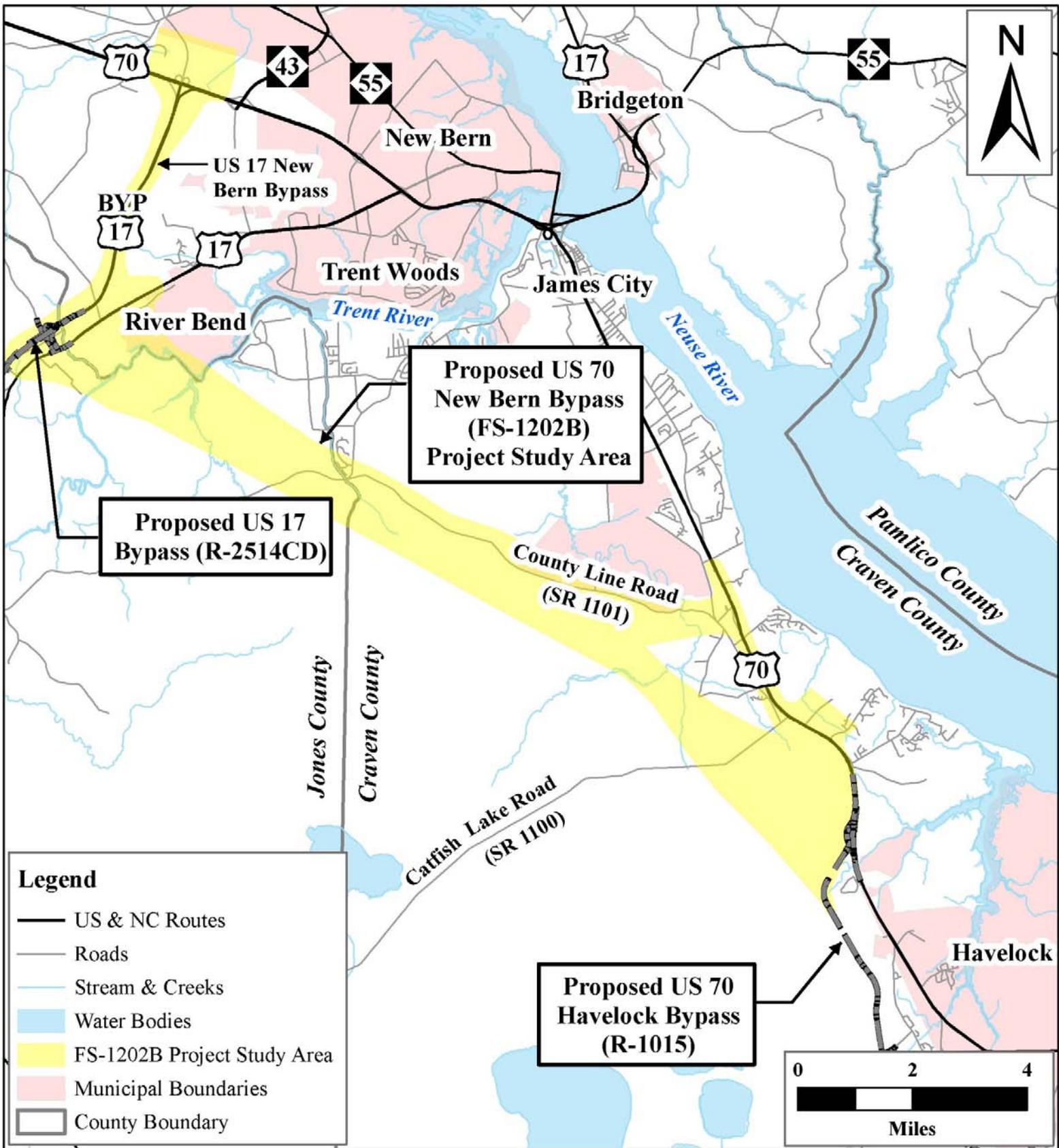
- *Coastal Area Management Act (CAMA)*
- *Neuse Riparian Buffer Rules*
- *Federally Protected and Rare Species*
- *Hazardous Materials Sites, Superfund Sites, and Underground Storage Tanks*
- *Cultural Resources and Section 106 of the National Historic Preservation Act of 1966*
- *Public Parks and Recreation Areas*

VI. Conclusions

US 70 intersections in James City currently operate at their traffic carrying capacity during peak hours and will continue to worsen over time. A US 70 Bypass is expected to reduce future year traffic in James City by as much as 30 percent, but it would not completely solve the traffic congestion along US 70.

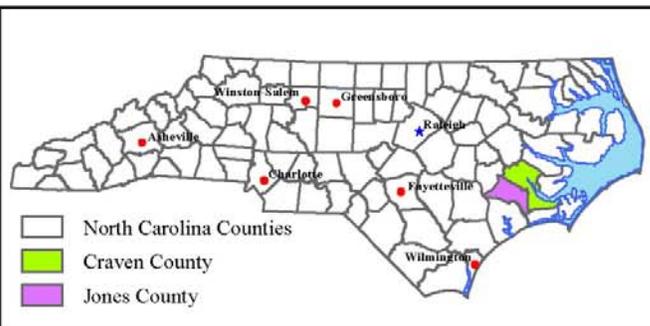
Alternative 2 is shorter, costs less, and upgrades more existing portions of US 70 than Alternative 1. Both alternatives would cross substantial wetland areas, sensitive habitats, and sizable portions of the Croatan National Forest. Alternative 2 would affect fewer environmental resources than Alternative 1. However, Alternative 2 would displace approximately three times as many residential and business properties where upgrades are proposed along US 70. With Alternative 2, the railroad corridor is also shorter, costs less, and would impact fewer environmental resources than Alternative 1.

The FS-1202B feasibility study will provide a more detailed evaluation of preliminary US 70 Bypass corridors and the effects on future US 70 traffic operations in the study area.



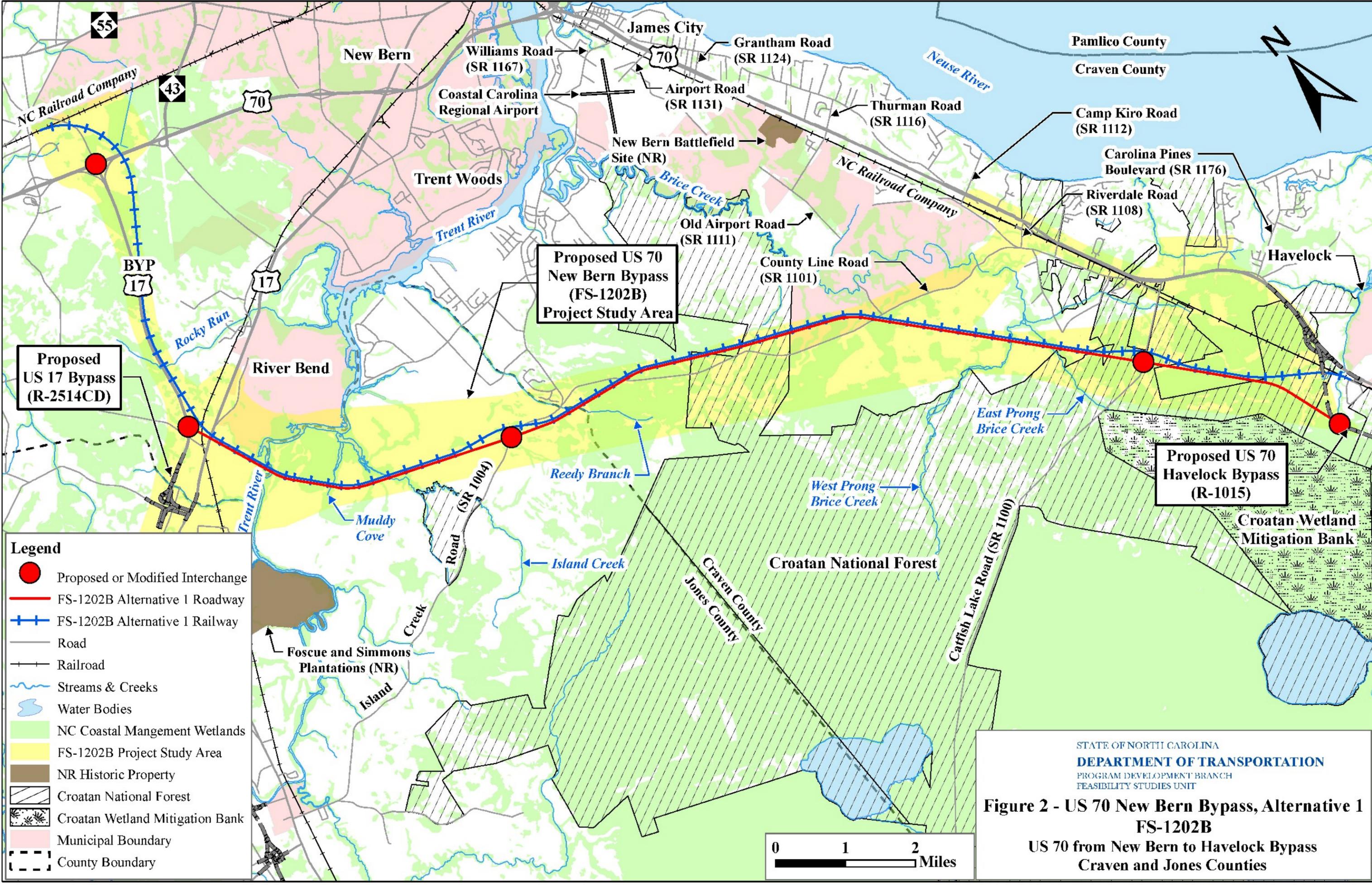
Legend

- US & NC Routes
- Roads
- Stream & Creeks
- Water Bodies
- FS-1202B Project Study Area
- Municipal Boundaries
- County Boundary




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Figure 1 - Project Vicinity Map
FS-1202B
US 70 from New Bern to Havelock Bypass
Craven and Jones Counties

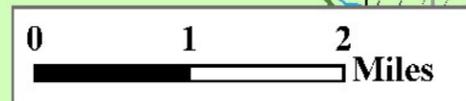


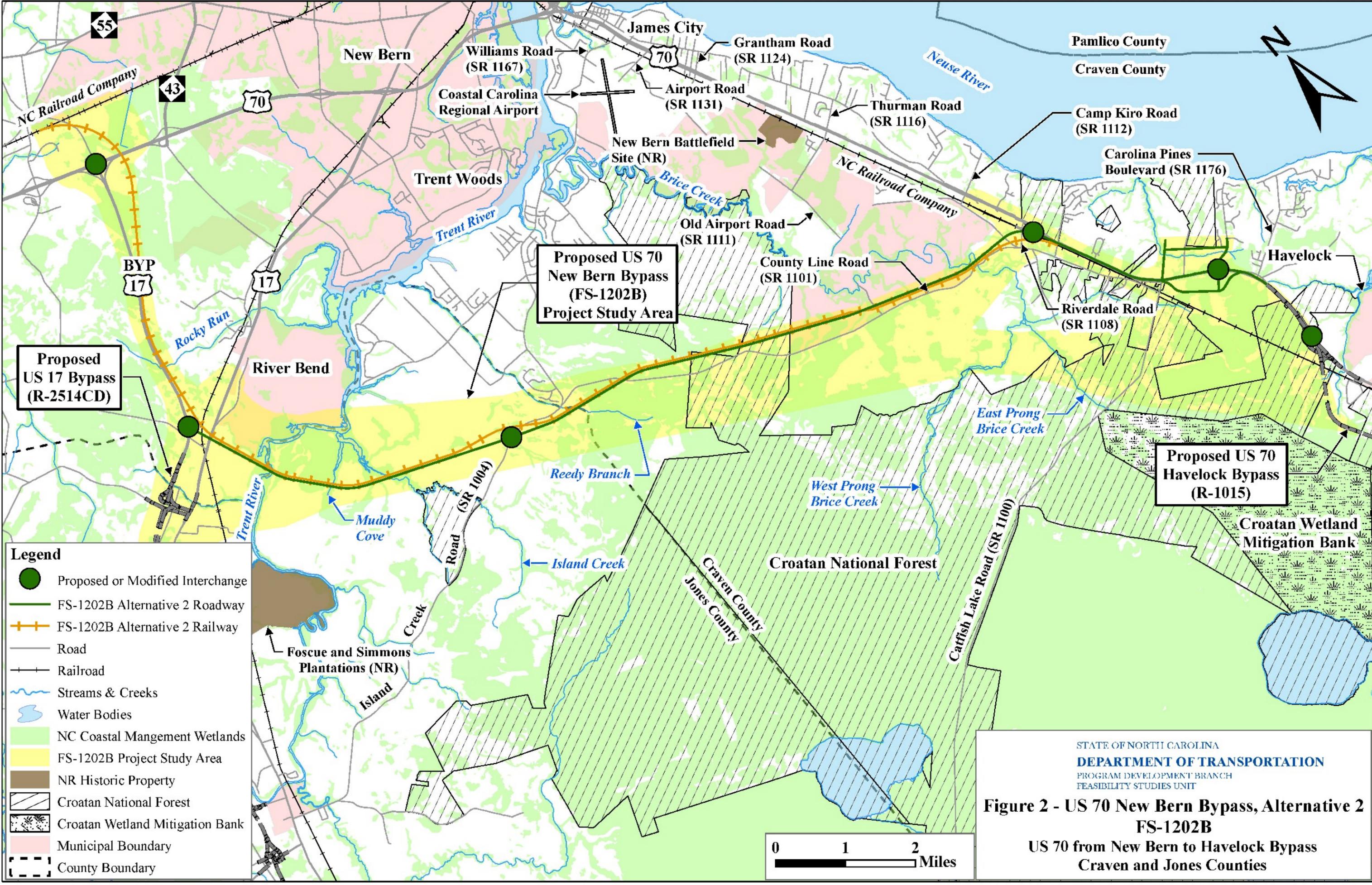
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- Proposed or Modified Interchange
- FS-1202B Alternative 1 Roadway
- + + FS-1202B Alternative 1 Railway
- Road
- Railroad
- ~ Streams & Creeks
- Water Bodies
- NC Coastal Mangement Wetlands
- FS-1202B Project Study Area
- NR Historic Property
- Croatan National Forest
- Croatan Wetland Mitigation Bank
- Municipal Boundary
- County Boundary

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**Figure 2 - US 70 New Bern Bypass, Alternative 1
 FS-1202B**
 US 70 from New Bern to Havelock Bypass
 Craven and Jones Counties





Proposed US 17 Bypass (R-2514CD)

Proposed US 70 New Bern Bypass (FS-1202B) Project Study Area

Proposed US 70 Havelock Bypass (R-1015)

- Legend**
- Proposed or Modified Interchange
 - FS-1202B Alternative 2 Roadway
 - FS-1202B Alternative 2 Railway
 - Road
 - Railroad
 - Streams & Creeks
 - Water Bodies
 - NC Coastal Mangement Wetlands
 - FS-1202B Project Study Area
 - NR Historic Property
 - Croatan National Forest
 - Croatan Wetland Mitigation Bank
 - Municipal Boundary
 - County Boundary



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**Figure 2 - US 70 New Bern Bypass, Alternative 2
 FS-1202B**
 US 70 from New Bern to Havelock Bypass
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