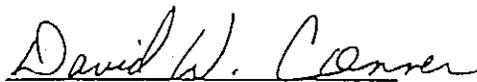


FEASIBILITY STUDY

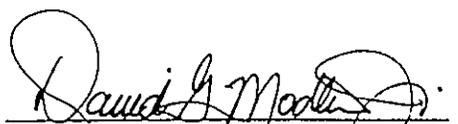
Newport  
New Connector  
From US 70 to NC 101  
Carteret County

R-3437

Prepared by  
Program Development Branch  
Division of Highways  
N. C. Department of Transportation



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Date

R-3437

Newport  
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**I. General Description**

This feasibility study describes construction of a new connector from US 70 near Newport to NC 101 northwest of Beaufort. The total project length is 10.7 miles (17.3 km). The location of the new facility is shown on Figure 1.

The studied alignment includes construction on new location from US 70 to SR 1154, construction along existing SR 1154 from just east of Bridge # 26 to just east of Bridge # 27, and construction on new location from SR 1154 to NC 101.

The studied cross section is a 2-lane roadway with 12-foot (3.6-m) wide travel lanes and 8-foot (2.4-m) wide shoulders. Four feet (1.2-m) of the shoulders would be paved.

The studied right-of-way width is 250 feet (76.2-m) for those sections on new location and 100 feet (30.5 m) along SR 1154. The wide right-of-way would allow widening to multilanes at a later time. The area along SR 1154 is not considered for wide right-of-way because of its present developed nature.

The estimated cost of right-of-way and construction is \$40,350,000 as follows:

Right-of-Way .....	\$ 4,700,000
Construction .....	<u>35,650,000</u>
Total Cost .....	\$40,350,000

It is anticipated that 2 businesses and 15 residences would be relocated as a result of this project.

This study is the initial step in the planning and design process for this project and is not to be considered the product of exhaustive environmental or design investigations. The purpose of this study is to describe the alternative treatments

including costs, and identify potential problem areas that deserve consideration in the planning and design phases.

## II. Existing Conditions

The purpose of this project is to provide a modern east-west route from US 70 at Newport to NC 101 at Beaufort. The new route would allow traffic traveling to the Beaufort area to bypass the congested Morehead City and Beaufort business areas.

The project corridor is bounded by the Croatan National Forest.

At the western project terminal, US 70 is a 4-lane median divided facility with 12-foot (3.6-m) wide travel lanes, 4-foot (1.2-m) wide paved shoulders, and a 44-foot (13.4-m) wide grassy median.

At the eastern project terminal, NC 101 is a 2-lane roadway with pavement widths that vary from 18 feet (5.5 m) to 20 feet (6.1-m) and 8-foot (2.4-m) wide soil shoulders.

SR 1154 is a 2-lane roadway with pavement widths that vary from 16 feet (4.9-m) to 20 feet (6.1-m) with 4-foot (1.2-m) to 6-foot (1.8-m) wide soil shoulders.

Between Newport and the Black Creek bridge (Bridge #27), SR 1154 is heavily developed residentially. Also, this section of roadway includes a prison unit and a baseball field just west of the Deep Creek bridge. The remaining portion of the studied corridor are generally undeveloped woodlands and farmlands with a few residences scattered throughout.

There is one railroad within the project terminals. The Atlantic and East Carolina Railroad runs generally parallel to US 70 and carries 2 trains per day at a speed of approximately 30 miles per hour (48.4 km/h).

There are three structures located along the studied route. The structures are described as follows:

1. Bridge #26 carries SR 1154 over Deep Creek and is located at approximately 5.2 miles (8.4 km) west of SR 1155. The bridge is 53 feet (16.2 m) long and has a clear deck width of 24 feet (7.3 m). It was constructed in 1959 and it has a sufficiency rating of 21.7 out of a possible 100 points.
2. Bridge # 27 carries SR 1154 over Black Creek and is located at approximately 2.8 miles (4.5 km) west of SR 1155. The bridge is 61 feet (18.6 m) long and as a clear deck width of 24 feet (7.3 m). It was constructed in 1964 and it has a sufficiency rating of 8.4 out of a possible 100 points.

3. Structure # 28 is a culvert that carries SR 1154 over Mill Creek and is located at approximately 0.1 miles (0.2 km) west of SR 1155. The culvert consists of two 9-foot (2.7-m) diameter corrugated metal pipes. It was constructed in 1975 and it has a sufficiency rating of 85.9 out of a possible 100 points.

It is estimated that if the studied project were in place at this time, it would have traffic volumes approaching 5,700 vehicles per day (vpd) and the design year (2020), volumes would reach approximately 12,500 vpd. It is further estimated that the roadway would initially operate at a Level of Service C and would be operating at a Level D in the design year.

### III. Detailed Description

This feasibility study describes construction of a new connector from US 70 near Newport to NC 101 northwest of Beaufort. The total project length is 10.7 miles (17.3 km). The location of the new facility is shown on Figure 1.

The studied cross section is a 2-lane roadway with 12-foot (3.6-m) wide travel lanes and 8-foot (2.4-m) wide shoulders. Four feet (1.2-m) of the shoulders would be paved.

The studied right-of-way width is 250 feet (76.2-m) for those sections on new location and 100 feet (30.5 m) along SR 1154. The wide right-of-way would allow widening to multilanes at a later time. The area along SR 1154 is not considered for wide right-of-way because of its present developed nature.

The studied alignment of the new connector is described as follows:

1. Construction on new location from US 70 to SR 1154 at approximately 0.2 miles (0.3 km) east of Deep Creek Bridge (Bridge #26). This segment would require construction of a new 3,800-foot (1,158.2-m) long bridge over the Newport River and the Atlantic and East Carolina Railroad. The bridge should have a clear deck width of 32 feet (9.8 m).
2. Widen existing SR 1154 from approximately 0.2 miles (0.3 km) east of Deep Creek Bridge to approximately 0.6 miles (1.0 km) east of the Black Creek bridge (Bridge #27). This segment would require replacement of Bridge #27 with a new bridge having a clear deck width of 32 feet (9.8 m).
3. Construction on new location from SR 1154 at approximately 0.6 miles (1.0 km) east of Black Creek Bridge to NC 101 at approximately 1.2 miles (1.9 km) south of SR 1163. This segment would require construction of new bridges over Harlowe Creek and the Intercoastal Waterway. The bridges should have a clear deck width of 32 feet (9.8 m).

All intersections along the studied route should be at grade and stop-sign controlled.

The estimated cost of right-of-way and construction is \$40,350,000 as follows:

Right-of-Way .....	\$ 4,700,000
Construction .....	<u>35,650,000</u>
Total Cost .....	\$40,350,000

It is anticipated that 2 businesses and 15 residences would be relocated as a result of this project.

#### IV. Other Comments

In addition to the project described above, two alternates were also studied.

The first alternate has the same alignment and cross section as the project described above. The difference is that the studied right-of-way width for this alternate is 100 feet (30.5 m) along all roadway segments. The estimated cost for right-of-way and construction for this alternate is \$39,600,000 ( \$3,950,000 for right-of-way and \$35,650,000 for construction). It is estimated that no businesses and 11 residences would be relocated as a result of this alternate.

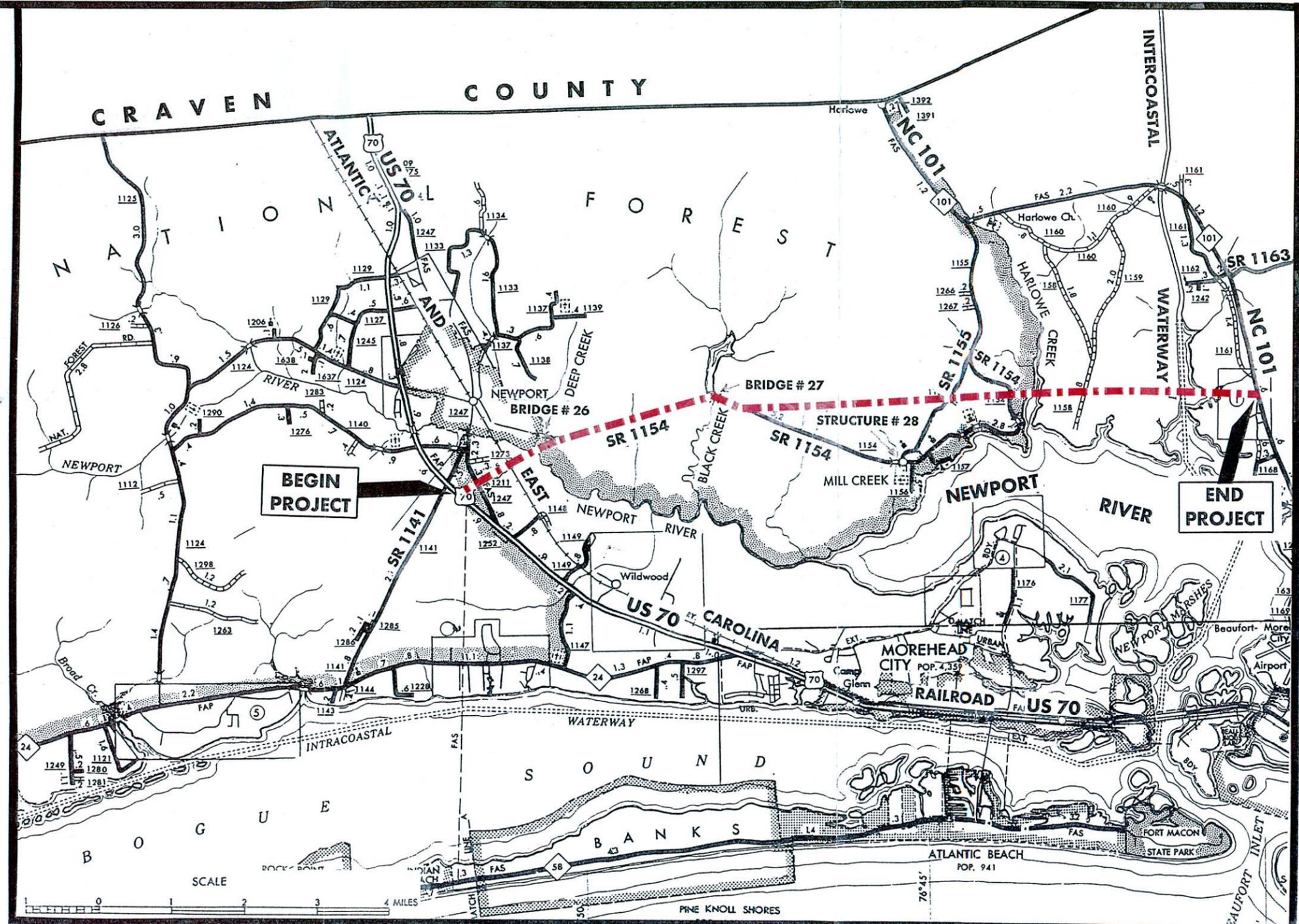
The second alternate generally follows existing roadway alignments, where practical, and is described as follows:

1. Widen existing SR 1141 from US 70 to approximately 0.3 miles (0.5 km) east of US 70.
2. Construction on new location from SR 1141 at approximately 0.3 miles (0.5 km) east of US 70 to SR 1154 at approximately 0.5 miles (0.8 km) west of the Deep Creek bridge (Bridge #26). A new 3,800-foot (1158,2-m) long bridge should be constructed over the Newport River and the Atlantic and East Carolina Railroad and Bridge #26 should be replaced. The bridges should have a clear deck width of 32 feet (9.8 m).
3. Widen existing SR 1154 from approximately 0.5 miles (0.8 km) west of the Deep Creek bridge to approximately 1.6 miles (2.6 km) east of the Black Creek Bridge (Bridge #27). Bridge # 27 should be replaced with a new bridge having a clear deck width of 32 feet (9.8 m).
4. Construction on new location from approximately 1.6 miles (2.6 km) east of the Black Creek bridge to SR 1155 at approximately 0.5 miles (0.8 km) south of SR 1154. A new bridge should be constructed over Mill Creek. The bridge should have a clear deck width of 32 feet (9.8 m).
5. Widen existing SR 1155 from approximately 0.5 miles (0.8 km) south of SR 1154 to approximately 0.3 miles (0.5 km) south NC 101.

6. Construction on new location from approximately 0.3 miles (0.5 km) south of NC 101 to NC 101 at approximately 0.5 miles (0.8 km) east of SR 1155. A new bridge should be constructed over Harlowe Creek. The bridge should have a clear deck width of 32 feet (9.8 m).
7. Widen NC 101 from approximately 0.5 miles (0.8 km) east of SR 1155 to approximately 1.2 miles (1.9 km) south of SR 1163.

The estimated cost for right-of-way and construction for this alternate is \$32,900,000 (\$6,850,000 for right-of-way and \$26,050,000 for construction). It is estimated that 1 business and 19 residences would be relocated as a result of this alternate.

An environmental screening was not conducted for this study; however, due to the potential for construction in the area of the Newport River, Deep Creek, Black Creek, Mill Creek, Harlowe Creek, and the Intercoastal Waterway, Corps of Engineers permits and wetlands mitigation will be required. The costs for wetlands mitigation is not included as a part of the above estimated project costs.



**FEASIBILITY STUDIES UNIT**

**NEWPORT**  
New Connector  
from US 70 to NC 101

**CARTERET COUNTY**

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DIVISION 2    R-3437    FIGURE 1