



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

JAMES B. HUNT JR.  
GOVERNOR

P.O. BOX 25201, RALEIGH, N.C. 27611-5201

E. NORRIS TOLSON  
SECRETARY

May 25, 1999

MEMORANDUM TO: Mr. M. Durwood Stephenson, Member, Board of Transportation  
Mr. D. R. Dupree, Division Engineer, Division 4  
Mr. David D. King  
Mr. W. H. Webb, P.E.  
Mr. J. M. Lynch, P.E. (6)  
Mr. J. B. Williamson  
Mr. Bill Gilmore, P.E.  
Mr. R. L. Hill, P.E.  
Mr. G. T. Shearin, P.E.  
Mr. M. R. Poole, P.E.  
Mr. A. L. Avant (2)  
Mr. J. D. Lane  
Mr. T. A. Peoples, P.E.  
Mr. David Smith, P.E.

FROM: David G. Modlin, Ph.D., P.E. *David*  
Head of Feasibility Studies

SUBJECT: Feasibility Study # U-3611 (Revised), Goldsboro, SR 1003  
(New Hope Road) from SR 1556 (Wayne Memorial Drive) to  
SR 1713 (Miller's Chapel Road), Wayne County.

Our staff has completed a feasibility study for the subject proposed project. This brief analysis suggests improvements that would be logical if the project were to be funded. A copy of our report is attached for your information.

DGM/joa

Attachment

cc: Mr. David W. Conner, Sr., P.E.



Feasibility Study

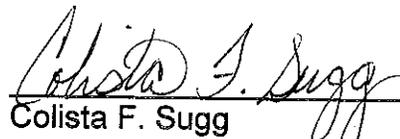
Goldsboro

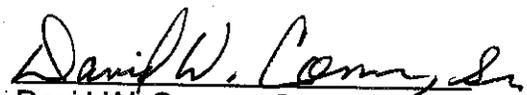
SR 1003 (New Hope Road)  
From SR 1556 (Wayne Memorial Drive)  
To SR 1713 (Miller's Chapel Road)  
Wayne County

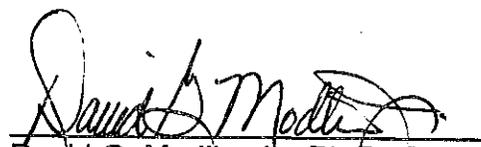
Division 4

U-3611  
(Revised)

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

  
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5/7/99  
Date

U-3611

Goldsboro  
SR 1003 (New Hope Road)  
From SR 1556 (Wayne Memorial Drive)  
To SR 1713 (Miller's Chapel Road)  
Wayne County

**I. GENERAL DESCRIPTION**

A feasibility study for U-3611 was originally completed on February 21, 1997. SR 1003 (New Hope Road) was studied from SR 1556 (Wayne Memorial Drive) to SR 1709 (Central Heights Road). The purpose of this revised study of SR 1003 is to extend the study area from SR 1709 to SR 1713 (Miller's Chapel Road).

This preliminary study describes the proposed widening of SR 1003 (New Hope Road) from SR 1556 (Wayne Memorial Drive) to SR 1713 (Miller's Chapel Road) in Goldsboro, Wayne County. The total project length is approximately 5.1 miles (8.2 km). The project location is shown on Figure 1.

From the western project terminus to a point approximately 0.2 miles (0.3 km) west of SR 1567, the proposed cross-section is a 5-lane shoulder section, with 12-foot (3.7-m) wide travel lanes and 4-foot (1.2-m) wide paved shoulders, on a 120-foot (36.6-m) wide right-of-way. For the remainder of the project, the proposed cross-section is a 5-lane curb-and-gutter section, 68 feet (20.7 m) wide from face-to-face of curbs, with 10-foot (3.0-m) wide berms, on a 100-foot (30.5-m) wide right-of-way. These cross-sections will accommodate bicycle traffic generated by schools in the corridor.

This project will likely require one business relocation and one residential relocation. The total cost, including construction and right-of-way, is estimated to be \$19,900,000.

|                         |                      |
|-------------------------|----------------------|
| Right-of-Way .....      | \$ 8,500,000         |
| Construction .....      | \$ <u>11,400,000</u> |
| <b>Total Cost .....</b> | <b>\$ 19,900,000</b> |

This 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. The purpose of this study is to describe the needs, recommend a treatment including costs, and identify potential problem areas that require consideration in the planning and design phases.

## II. NEED FOR PROJECT

The purpose of this project is to increase the traffic carrying capacity and safety of SR 1003 in Goldsboro. The project was requested by the City of Goldsboro and the Wayne County Board of Commissioners. This project is in an area which is experiencing rapid growth.

SR 1003 is classified as a Minor Arterial in the North Carolina Statewide Functional Classification System, and as a Major Thoroughfare on the Goldsboro Thoroughfare Plan. Land use along the western and eastern ends of the project corridor is mainly farming and low density residential, while the central area of the corridor is characterized by higher density, suburban, single and multi-family residential properties. There is an elementary school, a junior high school, a high school, and a community college within the project corridor. There is some commercial development at the US 13 intersection, as well as at the SR 1709 intersection.

Existing SR 1003 is a 2-lane shoulder section with pavement approximately 24 feet (7.3 m) wide between SR 1556 and SR 1709, and approximately 20 feet (6.1 m) wide from SR 1709 to SR 1713. The approaches at the US 13 and SR 1709 intersections have been widened to provide an exclusive left-turn lane. A 3-lane section exists along SR 1003, beginning approximately 0.1 miles (0.2 km) west of SR 1859 and ending approximately 240 feet (73 m) west of SR 1702. The SR 1556, US 13, and SR 1709 intersections are controlled with traffic signals. The existing right-of-way width appears to be 60 feet (18.3 m) for the entire project corridor.

Estimates of current traffic volumes on SR 1003 range from a high of 9,500 vehicles per day (vpd) near SR 1709 to a low of 5,500 vpd near SR 1713. The design year (2020) estimates range from 14,000 vpd to 9,600 vpd, respectively. Level of Service (LOS) estimates indicate that the roadway is currently operating at or approaching Level D, and it is anticipated that without the recommended improvements, it will reach Level E before the design year. With the recommended improvements, it is estimated that the LOS will initially improve to Level A and will operate at Level A or Level B through the design year.

During the three-year period beginning March 1, 1993, and ending February 29, 1996, there were 98 accidents reported on SR 1003 from SR 1556 to SR 1709. This resulted in a total accident rate of 499 accidents per 100 million vehicle miles (ACC/100MVM).

During the three-year period beginning April 1, 1995, and ending March 31, 1998, there were 88 accidents reported on SR 1003 between SR 1709 and SR 1713. This resulted in a total accident rate of 876 ACC/100MVM. The statewide averages for 1994 and 1997 are 348 ACC/100MVM and 270 ACC/100MVM, respectively, for all urban secondary routes in North Carolina.

For the section of SR 1003 from SR 1556 to SR 1709, there was 1 fatal accident reported, and 46 accidents resulted in 83 persons sustaining non-fatal injuries. For the remainder of the corridor, there were no fatal accidents reported, and 46 accidents resulted in 80 persons sustaining non-fatal injuries. The most prevalent type accidents

for the first section were Rearend (32.6%), Left-turn (27.5%), and Ran-off-road (17.4%). The most prevalent type accidents for the remainder of the corridor were Rearend (56.8%), Left-turn (12.5%), and Angle (12.5%). The proposed wider cross-section with a center turn lane will reduce the potential for these types of accidents along the entire project corridor.

### III. RECOMMENDATIONS

It is recommended to widen SR 1003 (New Hope Road) from SR 1556 (Wayne Memorial Drive) to SR 1713 (Miller's Chapel Road) in Goldsboro, Wayne County. The total project length is approximately 5.1 miles (8.2 km). The project location is shown on Figure 1.

From the western project terminus to a point approximately 0.2 miles (0.3 km) west of SR 1567, the proposed cross-section is a 5-lane shoulder section, with 12-foot (3.7-m) wide travel lanes and 4-foot (1.2-m) wide paved shoulders, on a 120-foot (36.6 m) wide right-of-way. For the remainder of the project, the proposed cross-section is a 5-lane curb-and-gutter section, 68 feet (20.7 m) wide from face-to-face of curbs, with 10-foot (3.0-m) wide berms, on a 100-foot (30.5-m) wide right-of-way. The project should follow the existing alignment of SR 1003, except for approximately 0.5 miles (0.8 km) which should be built on new location in order to improve the horizontal alignment (See Figure 2). A 300-foot (91-m) extension of SR 1565 will be required to connect with this realigned section of SR 1003 (See Figure 2).

This project will likely require one business relocation and one residential relocation. The total cost, including construction and right-of-way, is estimated to be \$19,900,000.

|                    |                      |
|--------------------|----------------------|
| Right-of-Way ..... | \$ 8,500,000         |
| Construction ..... | \$ <u>11,400,000</u> |
| Total Cost .....   | \$ 19,900,000        |

A transportation benefit analysis was also completed for this project. It is estimated that the total transportation benefits between the current year and design year (2020) for the 5-lane facility are \$30,089,688, which is an average of \$1,308,247 per year. The total benefits include accident cost savings, time cost savings, and operating cost savings.

#### IV. OTHER COMMENTS

An environmental screening was not conducted for this study. No historic properties or endangered species are anticipated; however, some wetlands will likely be encountered.

The City of Goldsboro requested that SR 1003 be widened to a 3-lane cross-section. With the 3-lane cross-section, the Level of Service (LOS) of the section between SR 1556 and SR 1709 is estimated to be Level C (very close to D) in 1996, and Level E in 2020. The LOS of the corridor from SR 1709 to SR 1713 is estimated to be Level D in 1997, and Level E in 2020. The 3-lane cross-section is not recommended because of the estimated poor Level of Service. The total cost, including construction and right-of-way for the 3-lane alternative is estimated to be \$16,500,000 as follows:

|                    |                     |
|--------------------|---------------------|
| Right-of-Way ..... | \$ 8,500,000        |
| Construction ..... | \$ <u>8,000,000</u> |
| Total Cost .....   | \$ 16,500,000       |

The recommended cross-sections will accommodate anticipated bicycle traffic. The Office of Bicycle and Pedestrian Transportation and the City of Goldsboro have recommended bicycle accommodations on this project. Although Goldsboro does not have an adopted bicycle plan, there is an elementary school, a junior high school, a high school, and a community college within the project corridor.



1620

SCALE



RAY OF HOPE  
PENTECOSTAL  
F.W.B. CH.

CASSEDALE DR.

SR 1003

NEW HOPE ROAD

SR 1570

1638

LIMIT

LIMIT

SR 1565

SHELLEY

SAMUEL RD.

CORBIN DR.

1643

1645

1635

TODD DR.

1640

PAKTON PL.

1636

DANIEL DR.

1635

VIOLETA

CEDAR

1612

365

RD.

1637

BRIARWOOD PL.

1611

1610

DR.

1649

RD.

1610

HARDEN

1611

MAYDEE

1593

PARK

1612

ST. DR.

1610

MIMOSA

1611

PINE-HAVEN

1593

CT.

1612

WENMONT CIR.

1621

DARBY

1633

WOOD RD.

1632

DARBY

1646

DARBY

BOYD

LISA

1769

HILL DR.

North Carolina Department of Transportation  
Program Development Branch

**U-3611** (Revised)

SR 1003 Curve Realignment

SR 1003 (New Hope Road  
from SR 1566 (Wayne Memorial Drive)  
to SR 1713 (Miller's Chapel Road)

Goldsboro, Wayne County

Division 4

Figure 2

