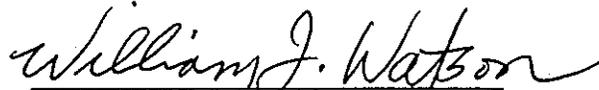
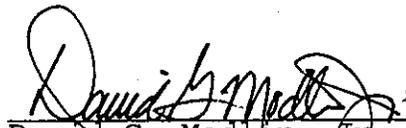


FEASIBILITY STUDY

NC 42
From I-95 To Proposed US 264 Bypass
Wilson County
U-3472

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


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Date

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I. GENERAL DESCRIPTION

This preliminary study describes the proposed widening of NC 42 from I-95 to the proposed US 264 Bypass in Wilson County. The project location is shown on Figure 1. Two alternative cross-sections were studied.

Alternative 1 is a five-lane rural cross-section for the entire project length of 2.4 miles (3.9 km). The required right-of-way width is 150 feet (45.7 m).

Sixteen residential and no business relocations are anticipated due to this project with this cross-section.

The total cost including construction and right-of-way, using the five-lane rural cross-section, is estimated to be \$5,700,000.

Alternative 2 is a 5-lane curb and gutter cross-section. This section is 64 feet (19.5 m) wide from face to face of curbs and requires a 100-foot (30.5-m) wide right-of-way.

No residential or business relocations are anticipated due to this project with this cross-section.

This alternative will require a reduction in the 55 MPH speed limit to 45 MPH.

The total project cost using this cross-section for the total project length is estimated to be \$5,000,000.

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 of NC 42 in Wilson County. The project was requested by the City of Wilson. This area is expected to experience rapid growth in the future due to the proximity of the proposed US 264 Bypass, the James B. Hunt, Jr. High

School, new residential subdivisions, and the widening of NC 42 east of SR 1162 under project R-2532.

NC 42 is classified as a Rural Minor Arterial in the North Carolina Statewide Functional Classification System. Land use along the project corridor is mostly agricultural and rural residential, with a small amount of commercial development.

Existing NC 42 is generally a two-way, two-lane road with pavement approximately 20 feet (6.1 m) wide and grass shoulders approximately 5 feet (1.5 m) wide. The existing right-of-way is not recorded, but appears to be approximately 50 feet (15.2 m) to 60 feet (18.3 m) wide. The speed limit is 55 MPH. Alternative 2 (5-lane curb and gutter cross-section) will require a reduction in the speed limit to 45 MPH.

Traffic volume estimates for NC 42 for the years 1995 and 2020 are 5,200 vehicles per day (vpd) and 13,200 vpd respectively. The Level of Service (LOS) without the proposed improvements is estimated to be Level C in 1995 and Level E in 2020. With the proposed improvements the LOS is estimated to be A in 1995 and B in 2020.

During the three year period beginning March 1, 1992 and ending February 28, 1995, there were 31 accidents reported on NC 42 between I-95 and SR 1162. This resulted in a total accident rate of 158 accidents per 100 million vehicle miles (ACC/100MVM). This compares with the statewide average of 207 ACC/100MVM for all rural NC routes, in North Carolina, for 1994. There were no fatal accidents reported, however, 19 accidents resulted in 28 injured persons. The most prevalent type accidents were Ran-Off-Road (26%), Angle (19%), Rear-End (15%), and Left-Turn (13%). The proposed wider cross-section with a center turn lane will reduce the potential for these type accidents.

III. RECOMMENDATIONS

It is recommended to widen NC 42 from I-95 to the proposed US 264 Bypass in Wilson County, a distance of approximately 2.4 miles (3.9 km). Two alternative cross-sections were studied.

Alternative 1 is a five-lane shoulder section consisting of 4 travel lanes, a center turn lane, and full depth paved shoulders, for a total pavement width of 68 feet (20.7 m). The paved shoulder width on each side will be 4 feet (1.2 m). The total width of shoulders is 10 to 12 feet (3.0 to 3.6 m) including the paved shoulder. The required right-of-way width is 150 feet (45.7 m).

Sixteen residential and no business relocations are anticipated due to this project with this cross-section.

The total cost including construction and right-of-way is estimated to be \$5,700,000 as follows:

Construction.....	\$4,000,000
Right-of-Way.....	<u>1,700,000</u>
Total Cost.....	\$5,700,000

Alternative 2 is a five-lane curb and gutter section 64 feet (19.5 m) wide from face to face of curbs with berms 8 feet (2.4 m) wide. The required right-of-way width is 100 feet (30.5 m).

No residential or business relocations are anticipated due to this project with this cross-section.

This alternative will require a reduction in the 55 MPH speed limit to 45 MPH.

The total cost including construction and right-of-way is estimated to be \$5,000,000 as follows:

Construction.....	\$4,000,000
Right-of-Way.....	<u>1,000,000</u>
Total Cost.....	\$5,000,000

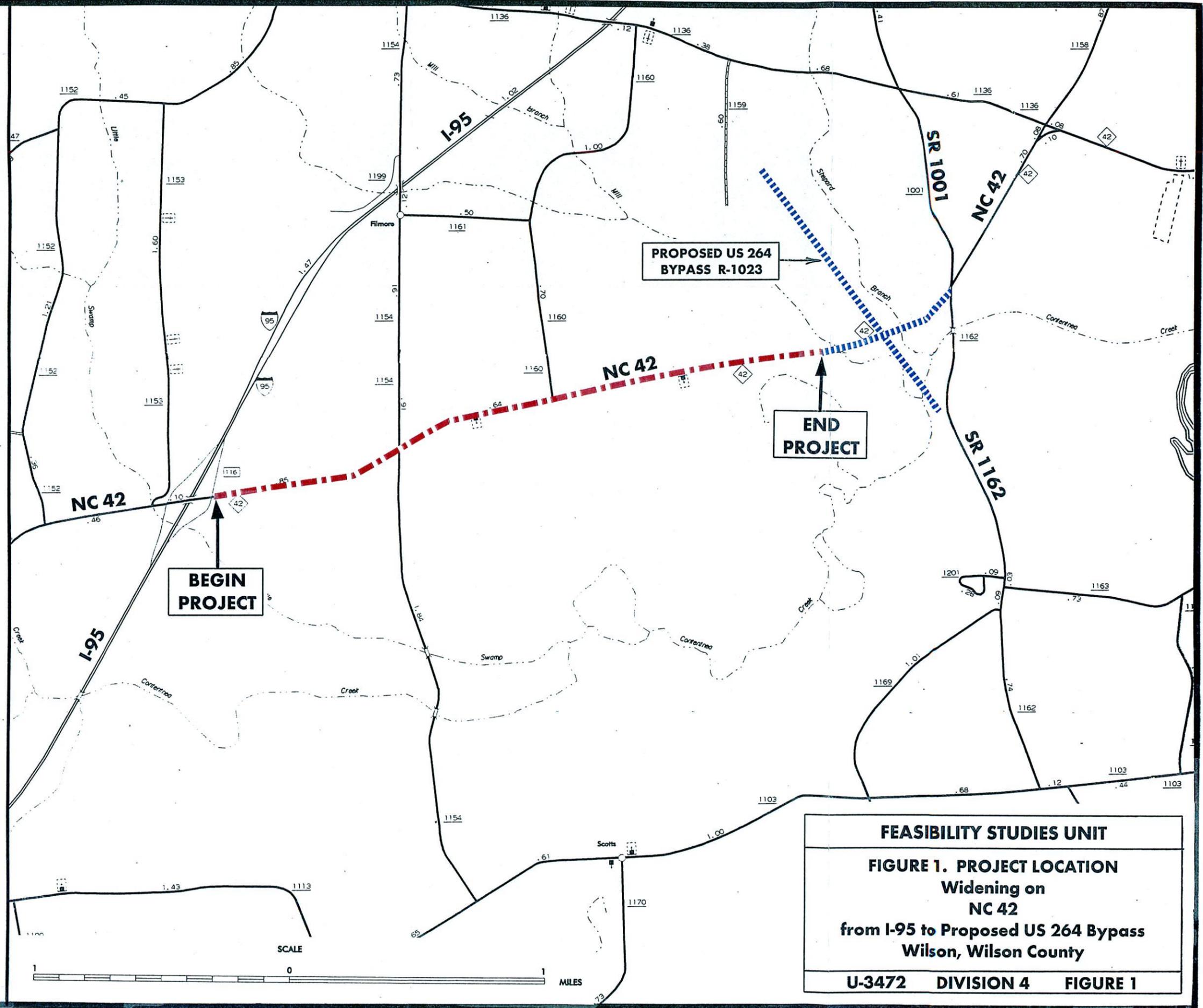
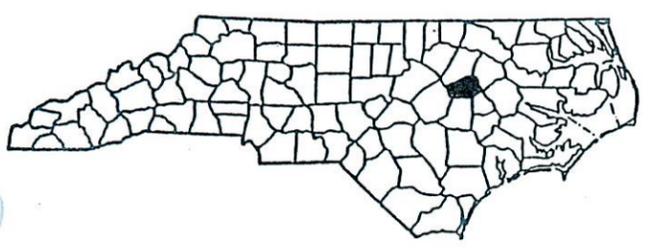
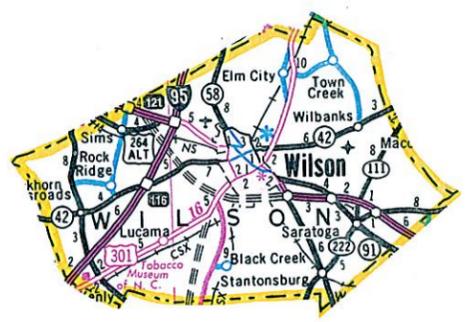
IV. OTHER COMMENTS

An environmental screening was not conducted for this study. This project will cross some wetlands. No historic properties or endangered species are anticipated.

No special need for bicycle accommodation has been identified for this project.

At the west project terminal, the new cross-section will tie into the existing 3-lane cross-section immediately east of the I-95 interchange structure. The new outside westbound travel lane on NC 42 will terminate by tying into the northbound entrance ramp to I-95, and the new outside eastbound travel lane will begin as a continuation of the northbound exit ramp from I-95.

At the east project terminal, the new cross-section will tie into the 5-lane section proposed for NC 42 as a Y-line improvement under Project R-1023 (US 264 Bypass).



FEASIBILITY STUDIES UNIT
FIGURE 1. PROJECT LOCATION
Widening on
NC 42
from I-95 to Proposed US 264 Bypass
Wilson, Wilson County
U-3472 DIVISION 4 FIGURE 1