

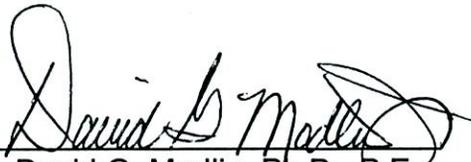
FEASIBILITY STUDY

**Proposed Interchange
Interstate 95 at SR 1313 (Hornes Church Rd.)
Wilson & Nash County
I-3321**

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



Eric J. Lamb
Transportation Engineer Associate



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

3/13/95

Date

Proposed Interchange
Interstate 95 at SR 1313 (Hornes Church Rd.)
Wilson & Nash Counties
I-3321

I. General Description

This feasibility study describes roadway improvements near Wilson. It is recommended to convert the existing grade separation at SR 1313 (Hornes Church Rd.) and I-95 to a diamond interchange by constructing the required ramps. The proposed cross-section is a 16-foot (4.9-m) wide ramp with 4-foot (1.2-m) paved shoulders on each approach. The proposed right-of-way will extend outward 100 feet (30.5 m) from the centerline of the ramps. The project location is shown on Figure 1. It is anticipated that there will be four residences and one business relocated due to this project. The total cost of the project, including construction and right-of-way, is estimated to be \$3,000,000.

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 proposed project including costs, and to identify potential problems that may require consideration in the planning and design phases.

II. Need for Project

The purpose of this project is to improve access to the northwest portion of the Wilson Urban Area. This project is supported by the Wilson Chamber of Commerce and by local residents.

SR 1313 is designated as a minor rural collector in the North Carolina Statewide Functional Classification System.

Development along the project is of light density. There are several single family residences and a church in the immediate vicinity of the project. There is also a large amount of agricultural land in the area.

The cross-section of SR 1313 in the vicinity of the project is currently a two-lane, two-way roadway with a pavement width of 20 feet (6.1 m) and soil shoulders 6 feet (1.8 m) wide.

There is an existing grade separation carrying SR 1313 over I-95. Bridge No. 111 is located 3.1 miles (5.0 km) north of the interchange located at US 264

and I-95. Built in 1976, this bridge is 219 feet (66.8 m) long with a clear deck width of 36 feet (11.0 m), and currently has a sufficiency rating of 97.7.

SR 1313 supports NC Bicycle Route 2 through this area.

The 1994 Average Daily Traffic (ADT) along SR 1313 is 2,600 vehicles per day (vpd). The 1994 ADT for I-95 is 26,900 vpd. For the design year (2020), the estimated traffic volume on SR 1313 will be 4,400 vpd if no improvements are made. If access to I-95 is allowed, the design year traffic volume on SR 1313 is projected to increase to 7,300 vpd. Design year traffic volume on I-95 is projected to be 73,300 vpd. Truck traffic is estimated to make up 5% of daily traffic on SR 1313 and 13% on I-95.

If constructed, the access ramps will operate at a Level of Service (LOS) of C in the current year. Due to the projected increases in volumes along I-95, the ramps will operate at LOS F in the design year, 2020.

During the three-year period from April 1, 1991, to March 31, 1994, there were 10 accidents reported on I-95 within the project limits. Four injuries were reported as a result of these accidents, including one fatality. Along SR 1313 in the area of the project, there were four accidents producing one injury. The accident rate along I-95 in the vicinity of the structure is 81.70 accidents per 100 million vehicle miles (ACC/100MVM). This compares with the 1993 statewide rate of 57.3 ACC/100MVM for interstate highways. The accident rate of SR 1313 in the vicinity of the project is 300.75 ACC/100MVM. This compares with the 1993 statewide rate of 197.4 ACC/100MVM for rural primary routes.

III. Recommendations

It is recommended to convert the existing grade separation at SR 1313 (Hornes Church Rd.) and I-95 to a diamond interchange by constructing the required ramps. The proposed cross-section is a 16-foot (4.9-m) wide ramp with 4-foot (1.2-m) paved shoulders on each approach. The proposed right-of-way will extend outward 100 feet (30.5 m) from the centerline of the ramps.

It is anticipated that 4 residences and 1 business will be relocated due to the project.

The total cost is as follows:

Construction.....	\$ 2,000,000
Right-of-way.....	\$ 1,000,000
Total Cost	\$ 3,000,000

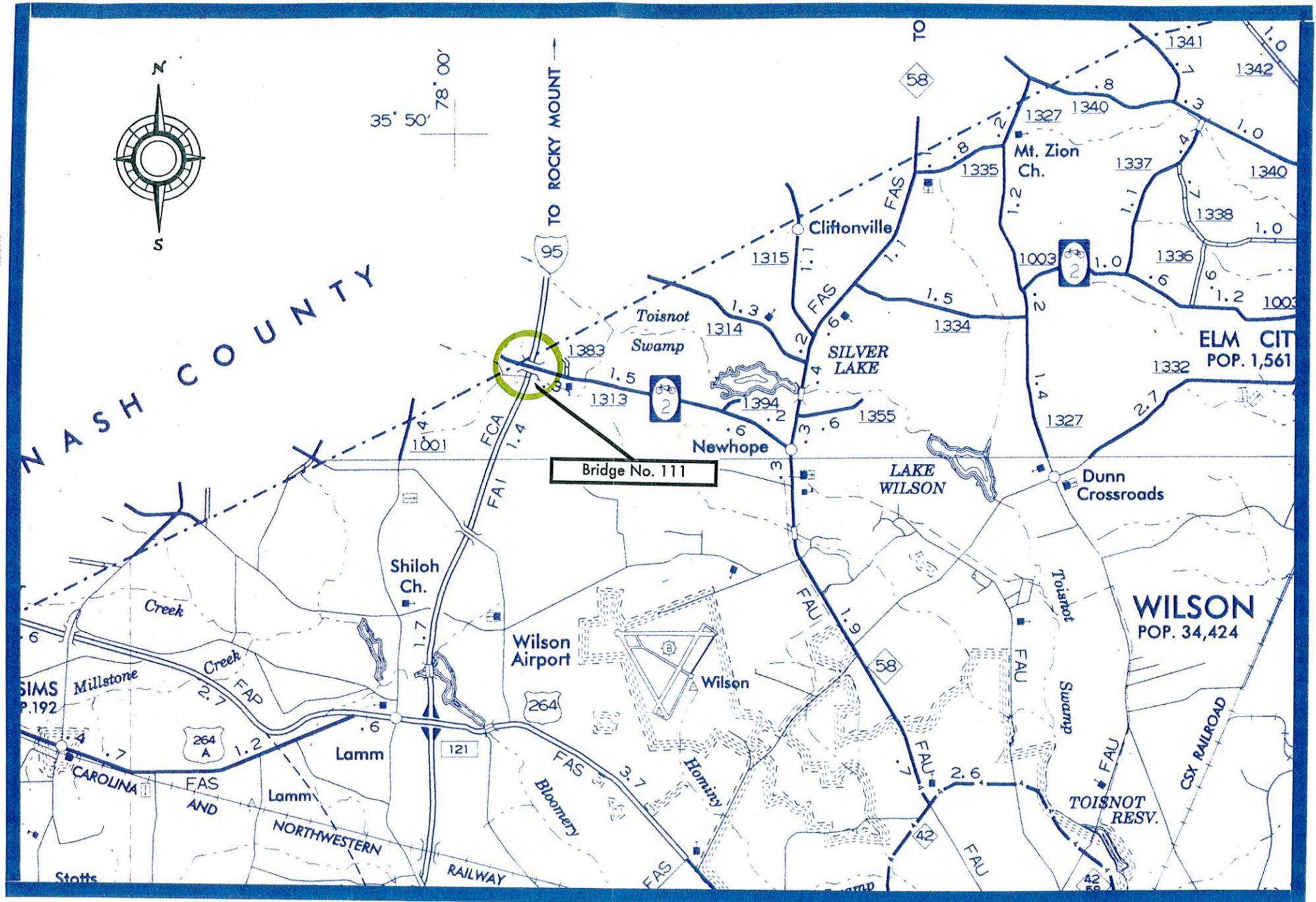
IV. Other Comments

This project will require access point approval from the Federal Highway Administration.

A partial clover-leaf design was examined for this interchange in order to minimize potential right-of-way conflicts. This design would require extensive modifications to be made to the bridge in order to allow lanes from the ramps to pass underneath the bridge. Due to the high construction costs necessary to modify the existing bridge, this option was not considered.

An environmental screening was not conducted for this study.

No special accommodation for bicycles is recommended on this project.



1" = Approx. 1 Mile

FEASIBILITY STUDIES UNIT		
I-3321		
PROPOSED INTERCHANGE ACCESS		
I-95 AT SR 1313 (HORNS CHURCH RD.)		
NEAR WILSON		
DIVISION 4	WILSON & NASH CO.	FIGURE 1