

FEASIBILITY STUDY

US 70  
From SR 3056 (Rock Creek Dairy Road) Guilford County  
to SR 1309 (Westbrook Avenue) Alamance County  
Guilford and Alamance Counties  
R-2910

Prepared by  
Program Development Branch  
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I. GENERAL DESCRIPTION

This preliminary study describes proposed improvements to US 70 in Guilford and Alamance Counties. It is proposed to widen US 70 from SR 3056 (Rock Creek Dairy Road) in Guilford County to SR 1309 (Westbrook Avenue) in Burlington (Alamance County), a total length of 4.2 miles. Please see Figure 1 for the project location.

A 5-lane curb and gutter section (64 feet face to face with 8 foot wide berms) is proposed for the entire project length on a 100 foot wide right of way.

The widening will retain and utilize the existing alignment to the extent possible and will be generally symmetrical to the centerline of the existing roadway. It is estimated that there will be 4 residential relocations and 1 business relocation due to this project.

The total cost for right of way and construction is estimated to be \$ 8,000,000.

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 the study is to describe the problem, recommend a treatment including costs, and 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 the traffic carrying capacity and accident experience of US 70. The project was requested by the City of Greensboro, the Greensboro Area Chamber of Commerce, and the City of Burlington.

US 70 is designated a major thoroughfare on the Greensboro Urban Area Thoroughfare Plan and the Alamance County Urban Area Thoroughfare Plan. It is classified a Principle Arterial in the North Carolina Statewide Functional Classification System.

The project route is located in a rural area consisting of farm, pasture, and wooded lands with very light residential development between the project terminals. A cemetery is located approximately 0.9 miles west of Westbrook Avenue on the north side of US 70 and the privately owned Westgate Recreation Park and a large church are located on the south side of US 70 at the intersection with NC 100. A new subdivision is located approximately 0.6 miles east of Rock Creek Dairy Road on the north side of US 70.

Within the project terminals, existing US 70 is generally a 2-lane, 22 foot wide, rural shoulder section with 4 to 6 foot wide soil shoulders. The western project terminal is signalized and the approaches on US 70 have been widened to provide left turn lanes. Between Rock Creek Dairy Road and NC 61, sections of the roadway have been widened to 3 lanes to provide for alternating passing zones. The intersection with NC 61 is controlled with a flasher; however, the flasher is being converted to a 2-phase actuated traffic signal. Immediately east of this project, Project U-2424 is under construction to widen US 70 to a 5-lane curb and gutter section. Project U-2581 is programed in the TIP and will widen US 70 to a 5-lane curb and gutter section immediately west of this project. The speed limit on US 70 from Rock Creek Dairy Road to Alamance County is 45 miles per hour (mph) and 35 mph from the county line eastward.

There are two culverts located within the project terminals. A single barrel, 38 foot by 19 foot, reinforced concrete arch culvert is located approximately 1.7 miles east of Rock Creek Dairy Road. This culvert has a sufficiency rating of 99.1 and an estimated remaining life of 10 years. The second culvert, a triple barrel, 8 foot by 11 foot, reinforced concrete box culvert is located approximately 2.4 miles east of Rock Creek Dairy Road. This culvert has a sufficiency rating of 99.5 and an estimated remaining life of 16 years.

The Average Daily Traffic (ADT) on US 70 within the project terminals ranges from 6,200 to 9,000 vehicles per day (vpd) in 1991. The design year (2013) volume is estimated to be 7,900 to 17,300 vpd.

The Level Of Service (LOS) within the project terminals is estimated to currently be level D and approaching level E. With the proposed improvements the LOS is expected to improve to level B which will prevail through the design year. Without these improvements it is estimated that in the design year the LOS will be E.

During the period from January 1, 1989 through May 31, 1992 there were 129 accidents reported on US 70 between Rock Creek Dairy Road and Westbrook Avenue. This resulted in an accident rate of 274.3 accidents per 100 million vehicle miles (Acc/100MVM), compared to a statewide average of 166.30 Acc/100 MVM for all rural US 2-lane undivided routes during 1991. There were no fatalities reported during the period, but 65 of the accidents resulted in injuries. The most prevalent accident types were angle (22.5%), rear-end (20.9%), and ran off road (16.3%).

The wider cross section with center turn lane proposed will reduce the potential for these types of accidents.

### III. RECOMMENDATIONS

It is proposed to widen US 70 from SR 3056 (Rock Creek Dairy Road) in Guilford County to SR 1309 (Westbrook Avenue) in Burlington (Alamance County), a total length of 4.2 miles. Please see Figure 1 for the project location.

A 5-lane curb and gutter section (64 feet face to face with 8 foot wide berms) is proposed for the entire project length on a 100 foot wide right of way.

The widening should utilize the existing alignment to the extent possible and should be generally symmetrical to the centerline of the existing roadway, except as noted in Section V below.

At the western project terminal, the project should meet and tie into the 5-lane curb and gutter section proposed under Project U-2581.

At the eastern project terminal, the project should meet and tie into the 5-lane section being constructed by the City of Burlington under Project U-2424.

It is estimated that there will be 4 residential relocatees and 1 business relocatee due to this project.

The total cost for right of way and construction is estimated to be \$ 8,000,000 as follows:

Construction Cost.....	\$ 6,100,000
Right of Way .....	1,900,000
Total Cost .....	\$ 8,000,000

## V. OTHER COMMENTS

The Office of Bicycle and Pedestrian Transportation has indicated that there does not appear to be any need for special accommodations for bicycles on this project.

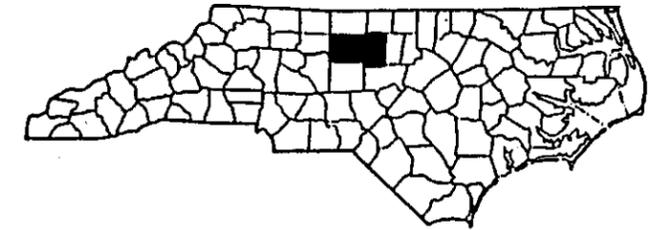
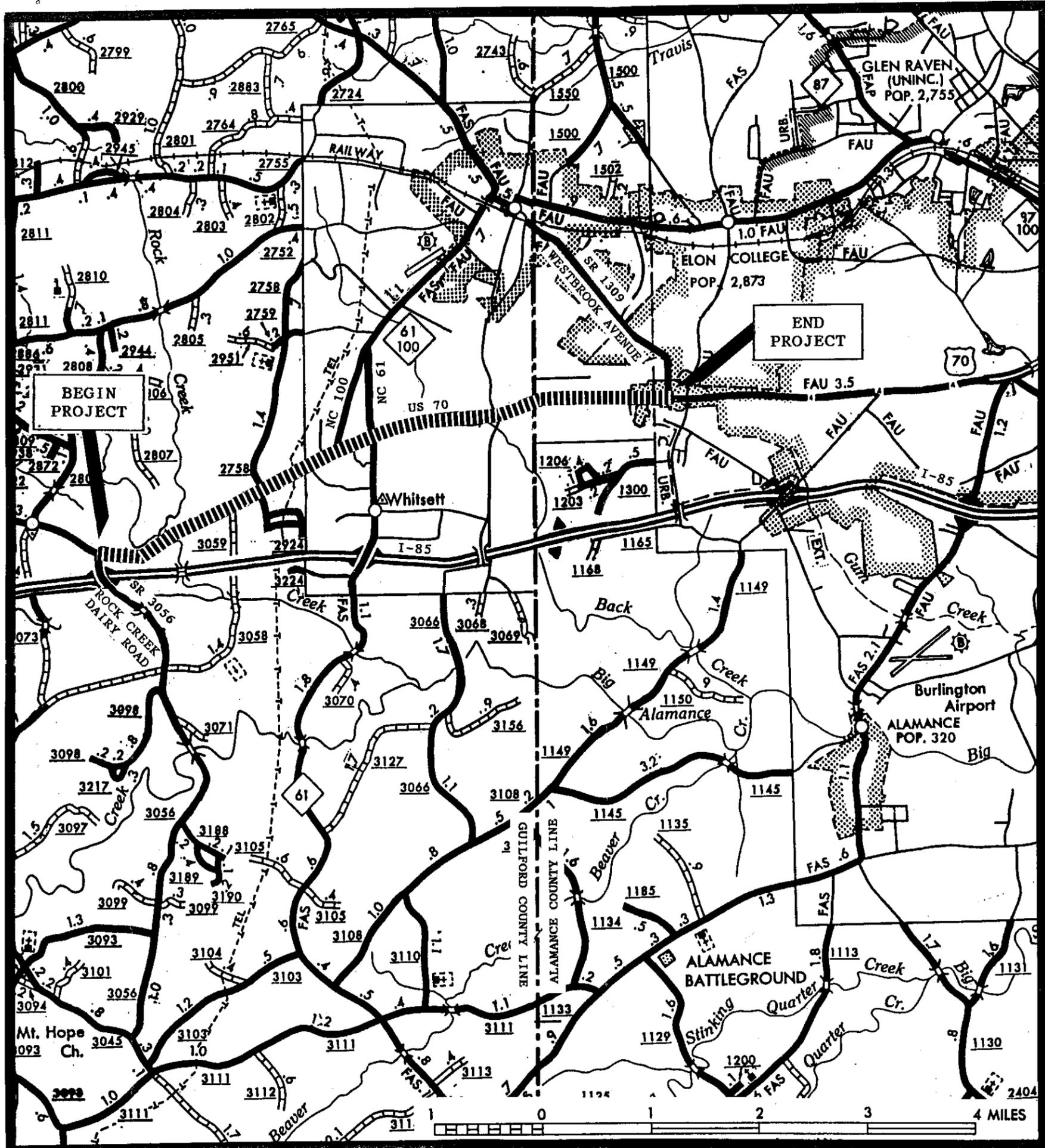
The Division Engineer suggested that this study recognize the potential for US 70 to be used as an alternate route for incidents occurring in the I-40/I-85 corridor and that message boards be reviewed for inclusion into the project. The Division Traffic Engineer stated that an incident management plan has not been developed for this section of

I-40/I-85 and no costs for incident management are included in the feasibility study.

An environmental screening was not conducted for this study, however, a survey for historic properties, by the Planning and Environmental Branch, found four properties that could potentially qualify for the National Register of Historic Places. These properties are located in Guilford County as follows:

1. House on the south side of US 70 approximately 1,250 feet west of SR 2748.
2. House on the north side of US 70 approximately 2,400 feet west of SR 2748.
3. House on the north side of US 70 approximately 3,250 feet west of SR 2748
4. House on the south side of US 70 approximately 900 feet west of SR 3059. This house is included in the County survey of historic properties.

It is recommended that, in the vicinity of these properties, the widening be asymmetrical with respect to the centerline of the existing roadway.



FEASIBILITY STUDIES UNIT	
US 70 FROM SR 3056 IN GUILFORD COUNTY TO SR 1309 IN ALAMANCE COUNTY	
GUILFORD AND ALAMANCE COUNTIES	
R-2910	DIV. 7 FIGURE 1