

FEASIBILITY STUDY

Oxford

**NC 96
From SR 1607 (Knotts Grove Road)
To SR 1606-1649 (Antioch Drive-New Commerce Road)**

Granville County

Division 5

FS-9905C



Prepared by
Programming and TIP Branch
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Date

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To SR 1606-1649 (Antioch Drive-New Commerce Road)
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I. General Description

This preliminary study describes the recommended improvements to NC 96 south of I-85 in Oxford. It is recommended that NC 96 be widened from SR 1607 (Knotts Grove Road) to SR 1606 SR 1649 (Antioch Drive-New Commerce Road). SR 1609 (Fairport Road) should be realigned to intersect NC 96 at SR 1607 (see Figure 1). The project length is approximately 1.2 miles.

The recommended cross section is a three-lane section constructed asymmetrically to the east, with a shoulder section on the West Side and curb and gutter on the East Side. The section will be 42-foot from edge of pavement to face of curb, with a 10-foot berm on the East Side. The proposed 100-foot right of way is generally symmetrical to the existing alignment of the roadway. It is anticipated that right-of-way for this project will not result in the relocation of any residences or businesses. The total cost for right-of-way and construction is estimated to be \$4,100,000.

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 problem areas that deserve consideration in the planning and design phases.

II. Need For Project

The purpose of this project is to improve the traffic carrying capacity of NC 96 south of I-85 in Oxford. The project was requested by the City of Oxford.

Within the project, NC 96 is designated a collector route on the North Carolina Statewide Functional Classification System. It is designated a major thoroughfare on the Oxford Thoroughfare Plan.

Development along this corridor is a mix of commercial and residential with a convenience store, motel, and a new subdivision. NC 96 connects the southern planning area to the central business district and to the I-85 corridor in Oxford.

Existing NC 96 is generally a 2-lane rural shoulder section with 12-foot wide travel lanes, 4-foot wide paved shoulders, and 6-foot to 8-foot wide soil shoulders. SR 1609 is a 2-lane, rural shoulder section, which intersects NC 96 from the southeast, creating a "Y" intersection. At this intersection, traffic is channeled by means of a raised median and sight distance is limited.

The 2002 Average Daily Traffic (ADT), within the project limits, was estimated to range from approximately 4,900 vehicles per day (vpd) near the south project terminus to approximately 7,500 vpd near the north project terminus. The design year (2025) estimates are 9,400 vpd and 12,600 vpd respectively. The estimated current Level of Service (LOS) is Level D and it is anticipated that it will deteriorate to LOS E prior to the design year. With the recommended improvements, the facility would operate at LOS D through the design year.

During the period from September 1, 1995, through August 31, 1998, there were 16 accidents reported on NC 96 within the project terminals. This resulted in an accident rate of 262 accidents per 100 million vehicle miles (Acc/100MVM), compared to a statewide average of 246 Acc/100 MVM for all NC routes during the period from 1995 through 1997. There were no fatalities reported during the period, and 4 of the accidents resulted in injuries. The most prevalent accident type (44%) was rear-end collisions. The wider cross section with center turn lane will reduce the potential for this type of accidents.

III. Recommendations

It is recommended that NC 96 be widened from SR 1607 (Knotts Grove Road) to SR 1606-SR 1649 (Antioch Drive-New Commerce Road). SR 1609 (Fairport Road) should be realigned to intersect NC 96 at SR 1607 (see Figure 1). The project is approximately 1.2 miles in length.

The recommended cross section is a three-lane section constructed asymmetrically to the east, with a shoulder section on the West Side and curb and gutter on the East Side from SR 1607 to SR 1606-SR 1649. This cross section should permit the future widening to a five-lane or comparable section once justified by traffic volumes. The cross section for the realignment of SR 1607 would be a 2-lane rural shoulder section with a 28-foot wide pavement and 6-foot wide soil shoulders. Improvements to SR 1649 (New Commerce

Drive) should include an exclusive right-turn lane at the northbound approach to SR 1650 (Raleigh Street) and SR 1606 (Antioch Drive).

The proposed 100-foot right of way is generally symmetrical to the existing alignment of the roadway. It is estimated that right-of-way for this project will not result in the relocation of any residences or businesses. The total cost of this alternative, including construction and right-of-way, is estimated to be \$ 4,100,000.

Right-of-Way	\$ 400,000
Construction	\$ 3,700,000
<u>Total Project Cost</u>	<u>\$ 4,100,000</u>

IV. Other Comments

In addition to the recommended 3-lane cross-section, an ultimate 5-lane curb-and-gutter cross-section was also evaluated for this project. The 5-lane, 68-foot wide (face-to-face of curbs) cross section would consist of two travel lanes in each direction, a center turn lane, and 10-foot wide berms. With the 5-lane cross section, it is estimated that the Level of Service would improve to Level A in the 2025 design year. The total cost for right-of-way and construction for the 5-lane alternate is estimated to be \$6,700,000 as follows:

Right-of-Way	\$ 400,000
Construction	\$ 6,300,000
<u>Total Project Cost</u>	<u>\$ 6,700,000</u>

An environmental screening was not conducted for this study.

Based on maps at the Department of Environment, Health & Natural Resources - Natural Heritage Section, no threatened or endangered species were identified in the project corridor and no wetlands or historic properties are expected to be encountered.

This section of roadway does not correspond to an existing bicycle TIP request, nor is it a designated bicycle route. However, Granville County had a petition in the 1999-2006 TIP for shoulder improvements along NC 96 to accommodate bicycles. The recommended improvements include 14-foot wide outside lanes that will accommodate bicycles. The cost for providing these bicycle accommodations are incorporated into the project alternatives.

