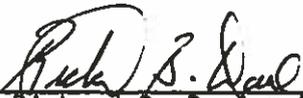


FEASIBILITY STUDY

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NC 18
From NC 268-A to SR 1002
Wilkes County
R-2517

Prepared by
Planning and Research Branch
Division of Highways
N. C. Department of Transportation


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NC 18
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I. GENERAL DESCRIPTION

This report covers a preliminary study of the proposed widening of NC 18 near North Wilkesboro to a multi-lane facility. The proposed project extends from NC 268-A to SR 1002 and is approximately 1.4 miles in length (see Figure 1). It is included in the 1990-1996 Transportation Improvement Program for feasibility study and/or right-of-way protection. It is not currently funded for design, right-of-way acquisition, or construction.

II. PURPOSE OF PROJECT

Existing Route Characteristics

NC 18 serves as a radial route into North Wilkesboro from the north. It is classified as a major thoroughfare on the North Wilkesboro Thoroughfare Plan which was adopted December, 1983. NC 18 is classified as an Urban Minor Arterial inside the North Wilkesboro Town Limits, and as a Rural Major Collector outside the town limits in the North Carolina Functional Classification System.

NC 268 is basically a two-lane facility with a 20-foot pavement and shoulders varying from 3 to 6 feet in width, which widens to a 4-lane, 44-foot curb and gutter section at the NC 268-A intersection. The existing right-of-way is claimed 32 feet, symmetrical about the present centerline, with the exception of the section on the west side of NC 18 between SR 1529 and SR 1530 where a 30-foot right-of-way (measured from the centerline) was acquired in 1973 for shoulder widening. Both the horizontal and vertical alignments are good along the studied section of road. All intersections along the studied route are at grade. There are traffic signals at the intersections of NC 268-A, SR 1523, and at the shopping center entrance located between SR 1925 and SR 1584. All other intersections along the project are stop sign controlled. There are plans by the Division to signalize and widen the approaches to SR 1002 in the near future. The speed limit is 35 mph throughout the project length.

Development along the studied route is heavy and is a mixture of commercial, residential, and institutional. The Fairplains Elementary School is located just off the project on SR 1972. There are also two churches located on side streets within view of NC 18.

Traffic Volumes, Capacity, and Accident Record

The current traffic volume of 13,100 vehicles per day (vpd) on NC 18 is projected to increase to 22,500 vpd by the year 2010. With the current traffic volumes, NC 18 is operating at Level of Service E during peak periods. This level of service is characterized by congestion and delays

to motorists. Without improvements to the highway, the level of traffic service will deteriorate in the future as traffic volumes continue to grow. With the proposed improvements, NC 18 should operate at Level of Service C or better throughout the planning period.

During the period from January 1, 1986 through September 30, 1989, a total of 57 accidents were reported on the subject portion of NC 18, resulting in an accident rate of 241.0 accidents per 100 million vehicle miles (acc/100mvm). This compares to a statewide average of 277.1 acc/100mvm for all two-lane, urban North Carolina routes over a similar period. The most common accident type was the rear-end collision. The proposed improvements to NC 268 should reduce the potential for this type of accident.

Need for Project

The widening of NC 18 to a multi-lane section is needed to provide adequate capacity for existing and future traffic volumes. The project will improve access into North Wilkesboro from the north and will improve access to the development along the road. The project will also enhance safety along the road.

III. RECOMMENDATIONS AND COSTS

The widening of NC 18 to a multi-lane facility is immediately warranted. The recommended improvement is a four-lane curb and gutter cross section, 48 feet from face to face of curbs, and widening to a five-lane, 59-foot curb and gutter cross section, at selected locations to provide a center left-turn lane. Preliminary investigations indicate left-turn lanes will be needed at NC 268-A, SR 1523, the shopping center entrance, and from SR 1972 through the SR 1002 intersection. Other locations may be identified during the project planning period. Widening is recommended to be generally symmetrical about the existing centerline; however, it may need to be shifted at specific locations to avoid undue damage to one side. A right-of-way width varying from 60 feet in the four-lane sections to 75 feet in the five-lane sections, plus construction easements as needed, is anticipated for the proposed roadway.

The estimated costs of this project are as follows:

Construction	\$ 1,750,000
Right-of-Way	<u>3,500,000</u>
TOTAL	\$ 5,250,000

The construction cost includes engineering and contingencies and the right-of-way cost includes relocation, acquisition, and utility costs.

IV. ALTERNATIVES

The alternative of providing a five-lane cross section throughout the project length was considered. The five-lane alternative will better handle the projected traffic since it provides a continuous left-turn lane to serve all minor streets and driveways. However, this alternative is not recommended because of its higher cost and its adverse impact on the adjacent development. The five-lane alternative has an estimated total cost of \$7,450,000, including \$2,050,000 for construction and \$5,400,000 for right-of-way, and it would require the relocation of 18 residences and 14 businesses.

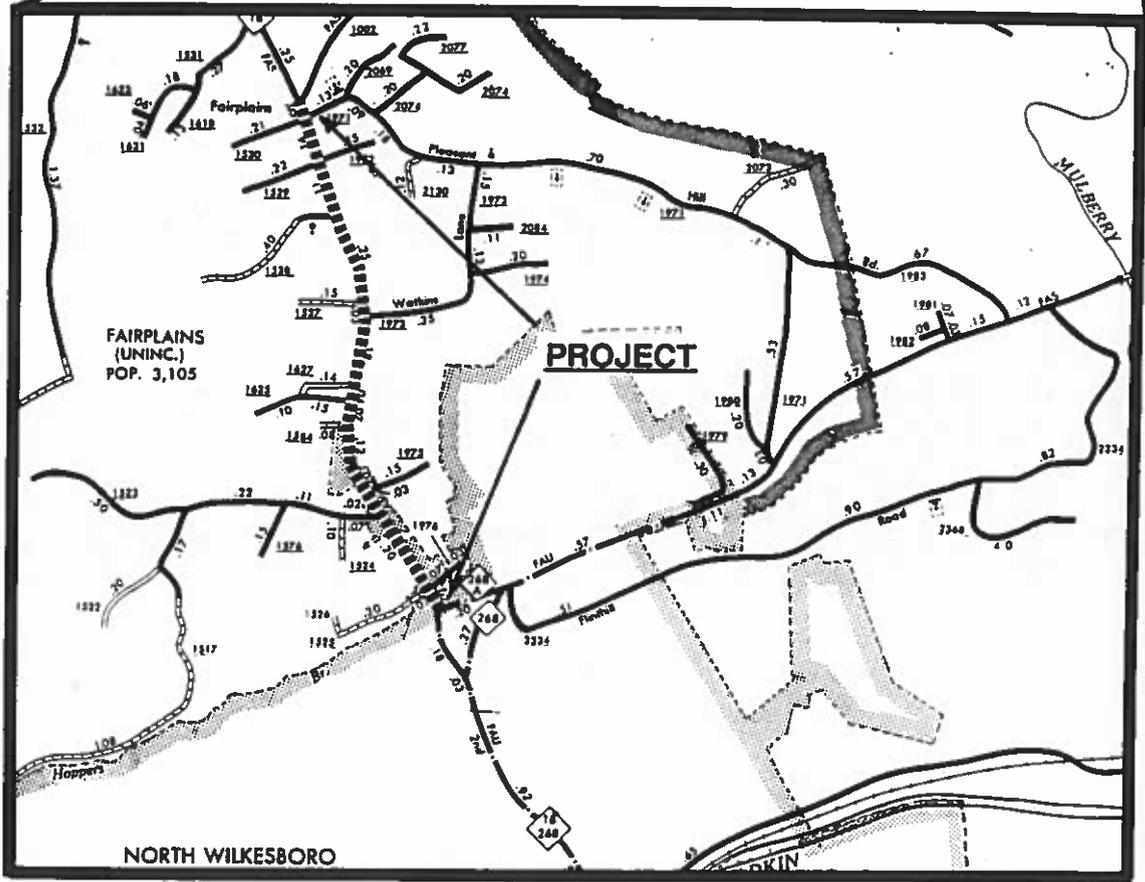
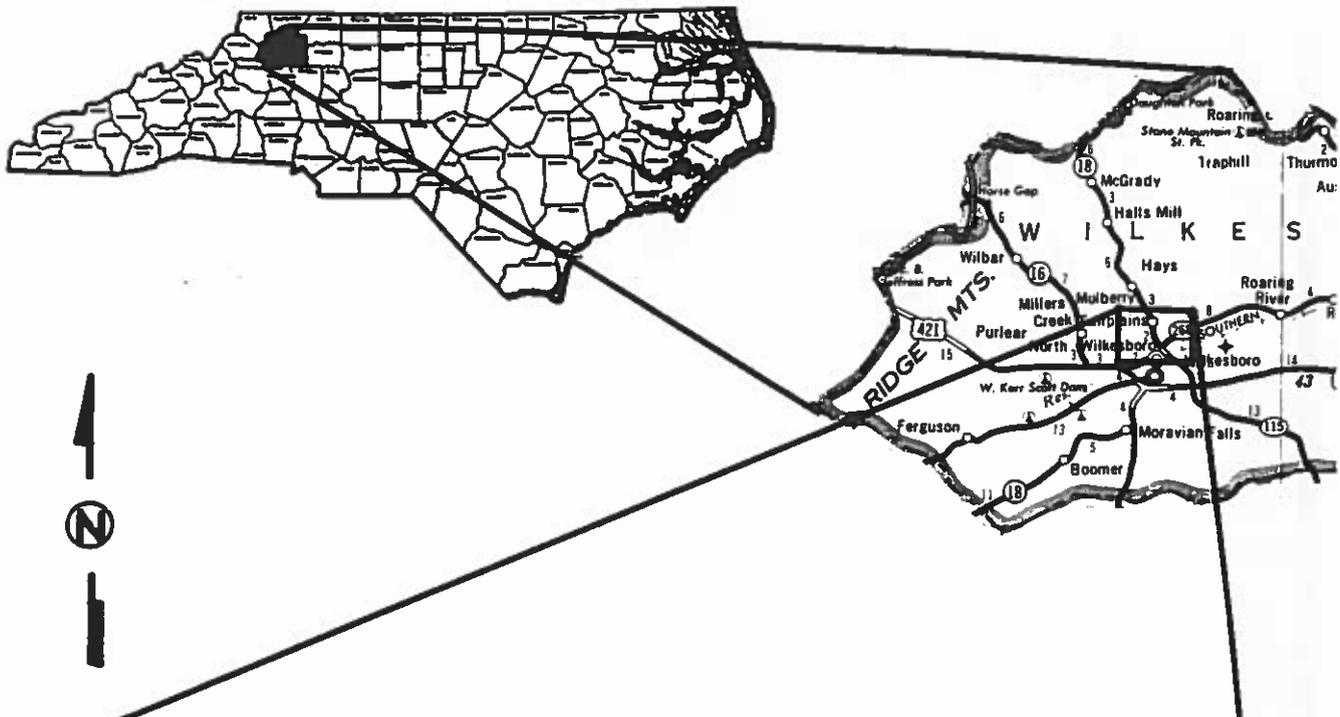
V. ENVIRONMENTAL EFFECTS

The implementation of the proposed project is not expected to result in any significant impact on the environment. The widening of the subject road will require the relocation of an estimated 8 residences and 7 businesses. The project will also result in increased noise levels for development adjacent to the roadway. Other impacts will be primarily related to the actual construction of the proposed roadway. These include minor erosion and siltation, increased noise levels from construction machinery, and delay and inconvenience to motorists using the subject route.

VI. FUTURE ACTIVITIES

If the project is to be implemented at a future date, all feasible alternatives and their associated impacts will need to be evaluated in a planning/environmental document prior to that time, and a decision made as to the most appropriate improvement.

RBD/plr



	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANNING AND RESEARCH BRANCH	
	<p style="text-align: center;"> NC 18 FROM NC 268 A TO SR 1002 WILKES COUNTY R-2517 </p>	
<p style="text-align: center;">  </p>		<p style="text-align: right;">FIG. 1</p>