STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JAMES B. HUNT JR.
GOVERNOR

DIVISION OF HIGHWAYS
P.O. BOX 25201, RALEIGH, N.C. 27611-5201

GARLAND B. GARRETT JR.
SECRETARY

March 8, 1996

MEMORANDUM TO: Mr. Clark Jenkins, Member, Board of Transportation
Mr. D. R. Dupree, Division Engineer, Division 4
Mr. C. W. Leggett, P.E.
Mr. W. H. Webb, P.E.
Mr. J. M. Lynch, P.E. (6) Attention: Roberto Canales, P.E.
Congestion Management Engineer
Mr. J. B. Williamson
Mr. H. F. Vick, P.E. (2)
Mr. D. R. Morton, P.E.
Mr. G. T. Shearin, P.E.
Mr. M. R. Poole, P.E.
Mr. A. L. Avant (2)
Mr. J. D. Lane
Mr. T. A. Peoples, P.E.
Mr. L. K. Barger, P.E.

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

David Modlin

SUBJECT: Feasibility Study # U-3470, Wilson Northern Loop from NC 58 (Nash Street) at SR 1320 (Airport Boulevard) to the US 301 Interchange at SR 1436 (Rosebud Church Road), Wilson County.

Our staff has completed a feasibility study for the subject proposed project. This brief analysis suggests improvements that would be logical if the project were to be funded. A copy of our report is attached for your information.

DGM/joa

Attachment

cc: Dr. L. R. Goode, P.E.
Mr. B. G. Jenkins, P.E.
Mr. David W. Conner

FEASIBILITY STUDY

Wilson Northern Loop
From NC 58 (Nash Street) at SR 1320 (Airport Boulevard)
To the US 301 Interchange at SR 1436 (Rosebud Church Road)
Wilson County

U-3470

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

David W. Conner
Highway Planning Engineer

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

2/27/96
Date

Wilson Northern Loop
From NC 58 (Nash Street) at SR 1320 (Airport Boulevard)
To the US 301 Interchange at SR 1436 (Rosebud Church Road)
Wilson County

U-3470

I. General Description

This feasibility study describes construction of a new 5-lane, curb-and-gutter facility from NC 58 (Nash Street) at SR 1320 (Airport Boulevard) to the western US 301 interchange ramps at SR 1436 (Rosebud Church Road) in Wilson. The total project length is 4.5 miles (7.2 km). The location of the new facility is shown on Figure 1.

The studied cross section is a 5-lane, 64-foot (19.5-m) wide (face-to-face), curb-and-gutter section, with 8-foot (2.4-m) wide berms. The required right-of-way width is 100 feet (30.5 m).

The estimated cost of right-of-way and construction is $25,000,000 as follows:

Right-of-Way	.....	$ 2,100,000
Construction	.....	22,900,000
Total Cost	.....	$25,000,000

It is anticipated that no businesses and 4 residences will be relocated as a result of this project.

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 this study is to describe the alternative treatments including costs, and identify potential problem areas that deserve consideration in the planning and design phases.

II. Existing Conditions

This project was requested by the City of Wilson and is endorsed by Wilson County, the Wilson County Chamber of Commerce and the Citizen,s Advisory Group.

The purpose of this project is to provide cross-town traffic flow and accommodate increased traffic from the rapidly developing northern portion of Wilson.

A proposed thoroughfare, with an alignment similar to the studied alignment, is included on the Wilson Thoroughfare Plan and a functional design has been prepared by the City of Wilson.

At the western project terminal, SR 1320 is a 5-lane, 58-foot (17.7-m) wide (face-to-face) curb-and-gutter facility. NC 58 is generally a 3-lane shoulder facility on the north leg of the intersection and a 2-lane shoulder section on the south leg. At the intersection, the roadway has been widened to four lanes on the south leg to facilitate turning movements.

Also, at the western project terminal, SR 1332 (Lake Wilson Road) has been widened to a 3-lane curb-and-gutter section and has been realigned to intersect NC 58 in the area of SR 1320.

At the eastern project terminal, SR 1436 terminates on the western side of the US 301 interchange bridge. The bridge has a clear deck width of 72 feet (21.9 m) and the roadway has a pavement width of 64 feet (19.5 m) at the interchange ramps.

The studied corridor is generally undeveloped woodlands and farmlands with a few residences scattered throughout. At each project terminal, there is substantial industrial growth and the area surrounding the corridor is beginning to experience substantial residential growth.

It is estimated that if this project were in place at this time, it would have traffic volumes of around 6,000 vehicles per day (vpd) and in the design year (2020), volumes are estimated to reach approximately 13,500 vpd.

Based on current traffic projections, it is estimated that construction of a 5-lane facility will allow the roadway to operate at a Level of Service A until about the year 2016 and a Level of Service B through the design year (2020). It is further estimated that a 2-lane roadway will initially operate at a Level of Service D and will reach a Level of Service E by the design year.

III. Detailed Description

This feasibility study describes construction of a new 5-lane, curb-and-gutter facility from SR 1320 (Airport Boulevard) at NC 58 (Nash Street) to SR 1436 (Rosebud Church Road) at the US 301 interchange ramps in Wilson. The total project length is 4.5 miles (7.2 km). The location of the new facility is shown on Figure 1.

The studied cross section is a 5-lane, 64-foot (19.5-m) wide (face-to-face), curb-and-gutter section, with 8-foot (2.4-m) wide berms. The required right-of-way width is 100 feet (30.5 m).

At the western project terminal, SR 1332 (Lake Wilson Road) should be realigned to form a "T" intersection with the new route.

At the eastern project terminal, SR 1328 (Firestone Parkway) should be realigned to form a "T" intersection with the new route and include eastbound channelization from the new route to SR 1328.

New bridges, with a clear deck width of 64 feet, should be constructed over the streams named Little Swamp and Toisnot Swamp, and over the CSX Railroad.

The existing traffic signal at NC 58 will require upgrading and a new signal should be constructed at SR 1328. All intersections should be constructed at grade and all non-signalized intersections should be stop sign controlled.

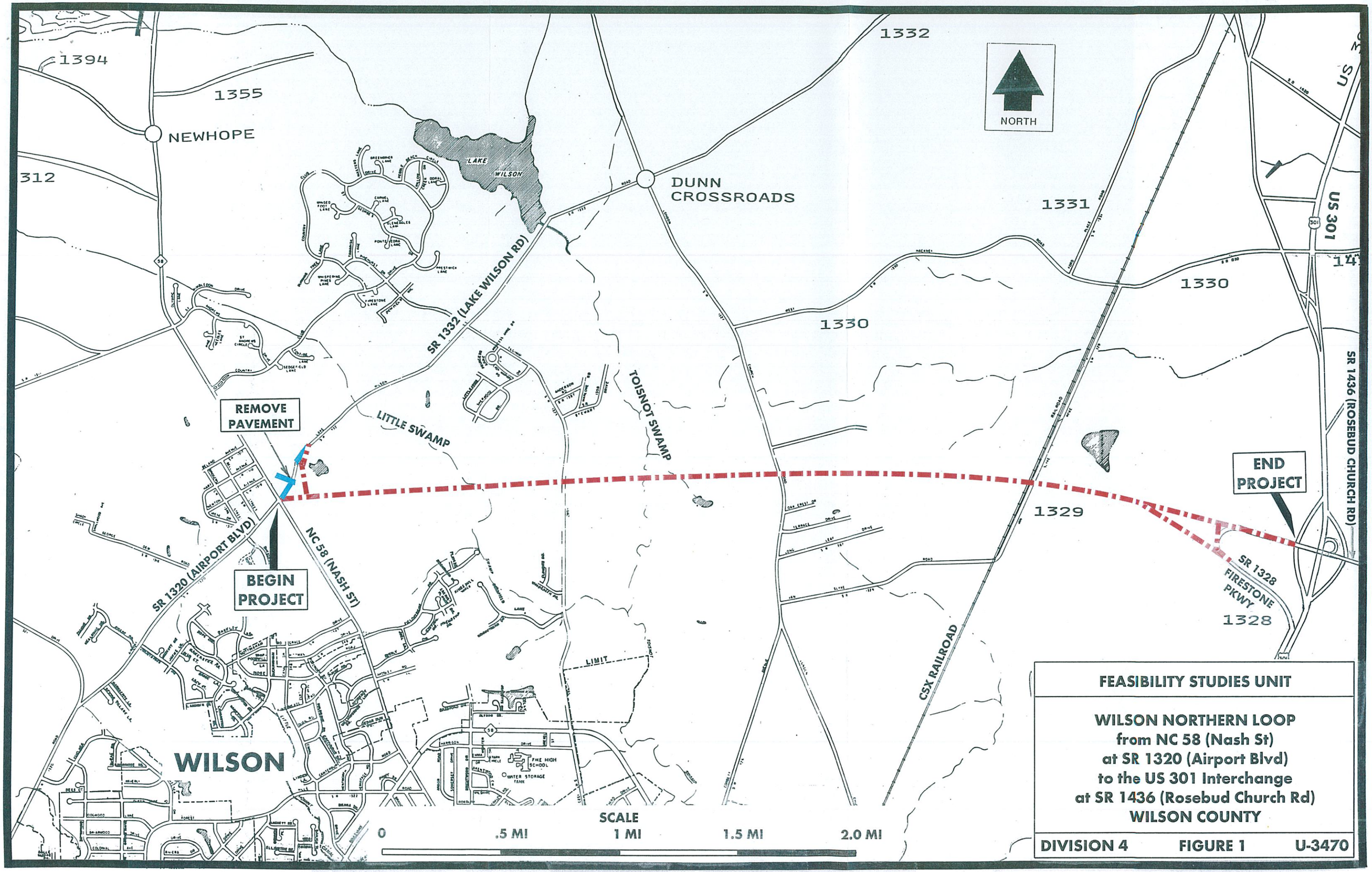
The estimated cost of right-of-way and construction is $25,000,000 as follows:

Right-of-Way	.....	$ 2,100,000
Construction	.....	22,900,000
Total Cost	.....	$25,000,000

It is anticipated that no businesses and 4 residences will be relocated as a result of this project.

IV. Other Comments

Due to the construction potential in the areas of Little Swamp and Toisnot Swamp, Corps of Engineers permits and wetlands mitigation will be required. It is anticipated that approximately 3 acres of wetlands will be disturbe as a result of this project. The costs for wetland mitigation is not included as part of the above estimated project costs.



FEASIBILITY STUDIES UNIT

WILSON NORTHERN LOOP
from NC 58 (Nash St)
at SR 1320 (Airport Blvd)
to the US 301 Interchange
at SR 1436 (Rosebud Church Rd)
WILSON COUNTY

DIVISION 4 **FIGURE 1** **U-3470**