



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JAMES B. HUNT, JR.
GOVERNOR

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

R. SAMUEL HUNT III
SECRETARY

March 27, 1995

MEMORANDUM TO: Mr. J. Douglas Galyon, Member, Board of Transportation
Mr. J. W. Watkins, P.E., Division Engineer, Division 7
Mr. C. W. Leggett, P.E.
Mr. W. H. Webb, P.E.
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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

SUBJECT:

Feasibility Study # U-3304, Burlington, Grand Oaks Boulevard
from Alamance Road (NC 62) to Kirkpatrick Road (SR 1146),
Alamance 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

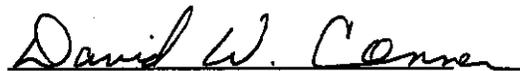


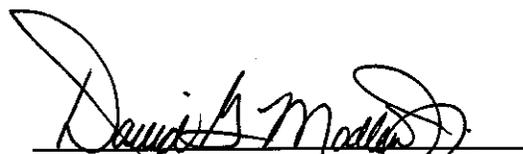
FEASIBILITY STUDY

**Burlington
Grand Oaks Boulevard
From Alamance Road (NC 62)
to Kirkpatrick Road (SR 1146)
Alamance County**

U-3304

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. 3/14/95
Head of Feasibility Studies Date

U-3304

Grand Oaks Boulevard
From Alamance Road (NC 62)
to Kirkpatrick Road (SR 1146)
Alamance County

I. General Description

This feasibility study describes proposed improvements to Grand Oaks Boulevard in Burlington. It is proposed to widen Grand Oaks Boulevard and extend it from its existing western terminus to Kirkpatrick Road (SR 1146). The total project length is 1.1 miles (1.8 km). The location of the recommended improvements is shown on Figure 1.

The ultimate recommended cross section is a 5-lane, 68-foot (20.7-m) wide (face-to-face), curb-and-gutter section, with 8-foot (2.4-m) wide berms, throughout the project length. This cross section will accommodate bicycles on wide outside lanes. The required right-of-way width is 100 feet (30.5 m).

It is proposed that the recommended improvements be implemented in two chronological stages as follows:

Stage I

Stage 1 includes construction (on new location) of a 2-lane, 28-foot (8.5-m) wide (fact-to-face) curb-and-gutter section from the existing western terminus of Grand Oaks Boulevard to Kirkpatrick Road. Stage 1 also includes acquisition of right-of-way 100 feet (30.5 m) wide to accommodate the ultimate 5-lane curb-and-gutter facility. The cost of Stage 1, including right-of-way and construction, is estimated to be \$1,100,000 as follows:

Right-of-Way	\$ 500,000
Construction	600,000
Total Cost	\$1,100,000

Stage II

Stage II includes the remaining construction to realize the ultimate 5-lane, 68-foot (20.7-m) wide (face-to-face) curb and gutter section with a 12-foot (3.6-m) and a 14-foot (4.2-m) wide travel lane (widened to accommodate bicycles) in each direction and a 12-foot (3.6-m) wide center turn lane from Kirkpatrick Road

to Alamance Road. The construction cost for Stage II is estimated to be \$1,400,000.

It is anticipated that no businesses or 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

The purpose of this project is to provide an alternate route for traffic currently utilizing the Huffman Mill Road interchange and to provide for improved access to the new Alamance County Hospital site. It is also included on the Burlington Thoroughfare Plan as a part of the Southside Loop which is the Number 1 transportation priority of the City of Burlington.

Grand Oaks Boulevard is designated as a major thoroughfare on the Burlington Thoroughfare Plan. It has not been classified in the North Carolina Statewide Functional Classification System.

Existing Grand Oaks Boulevard is a dead-end road serving a moderately expensive residential subdivision. Development has commenced and is proceeding on the north side of the roadway. At the time of this writing, the south side of the roadway has not been developed.

Existing Grand Oaks Boulevard forms a T intersection with Alamance Road and extends westward a distance of approximately 0.5 miles (0.8 km). It is a 2-lane, 33-foot (10.1-m) wide (face-to-face) curb-and-gutter section with sidewalks on the north side. The south side of the roadway has been graded and utilities are set back for future widening. Right-of-way is reserved for future widening.

At the eastern project terminal, Alamance Road is a 2-lane roadway with 22-foot (6.7-m) wide pavement and 8-foot (2.4-m) wide soil shoulders.

Current traffic volumes on Grand Oaks Boulevard are presently quite low and generally limited to vehicles traveling to and from the residences located in the developed area north of the roadway. After its extension to Kirkpatrick Road, traffic on Kirkpatrick Road is projected to increase significantly and the design year (2020) traffic is expected to reach approximately 19,000 vehicles per day.

Based on current traffic projections, it is estimated that construction of a 2-lane facility will allow the roadway to operate at a Level Of Service D until about the year 2010. Construction of a 5-lane facility will allow a Level B through the design year (2020).

III. Recommendations

It is proposed to widen Grand Oaks Boulevard and extend it from its existing western terminus to Kirkpatrick Road (SR 1146). The total project length is 1.1 miles (1.8 km). The location of the recommended improvements is shown on Figure 1.

The ultimate recommended cross section is a 5-lane, 68-foot (20.7-m) wide (face-to-face), curb-and-gutter section, with 8-foot (2.4-m) wide berms, throughout the project length. The required right-of-way width is 100 feet (30.5 m).

It is proposed that the recommended improvements be implemented in two chronological stages as follows:

Stage I

Stage 1 includes construction (on new location) of a 2-lane, 28-foot (8.5-m) wide (fact-to-face) curb-and-gutter section from the existing western terminus of Grand Oaks Boulevard to Kirkpatrick Road. Stage 1 also includes acquisition of right-of-way 100 feet (30.5 m) wide to accommodate the ultimate 5-lane curb-and-gutter facility. Initiation of construction on Stage I at the earliest possible date is recommended. The cost of Stage 1 is estimated to be \$1,100,000 as follows:

Right-of-Way	\$ 500,000
Construction	600,000
Total Cost	\$1,100,000

Stage II

Stage II includes the remaining construction to realize a 5-lane, 68-foot (20.7-m) wide (face-to-face) curb and gutter section with a 12-foot (3.6-m) and a 14-foot (4.2-m) wide travel lane in each direction and a 12-foot (3.6-m) wide center turn lane from Kirkpatrick Road to Alamance Road. It is anticipated that Stage II should be implemented around the year 2010 to maintain an acceptable level of service. The construction cost for Stage II is estimated to be \$1,400,000.

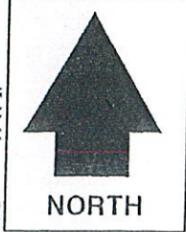
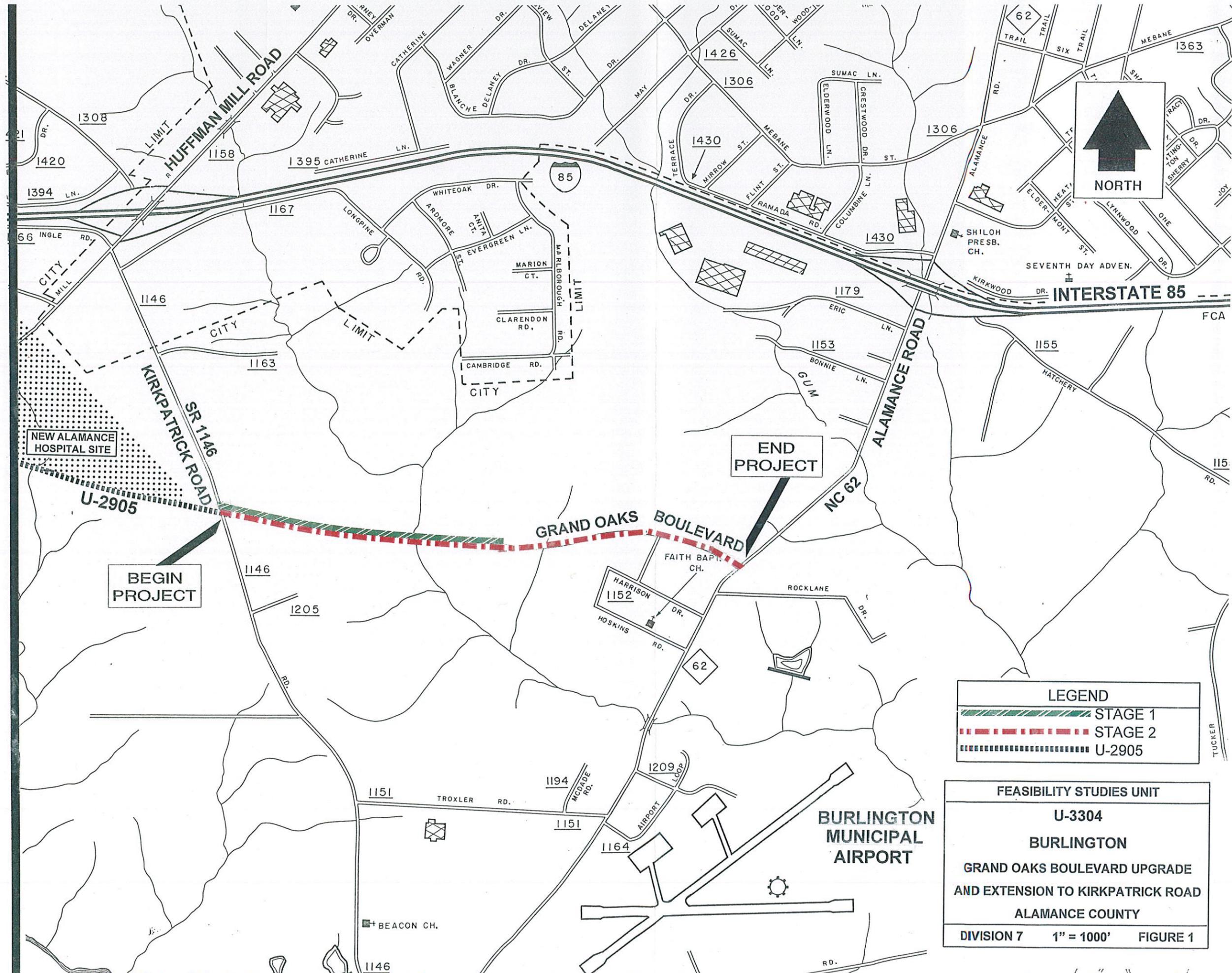
It is anticipated that no businesses or residences will be relocated as a result of this project.

The Kirkpatrick Road intersection will be controlled with a traffic signal and the Grand Oaks Boulevard approach should include a left-turn lane, and a combination through/right-turn lane.

The Alamance Road intersection will also be controlled with a traffic signal and the Grand Oaks Boulevard approach should include a left-turn lane and a right-turn lane. Alamance Road should be re-graded immediately south of the intersection to provide additional sight distance.

IV. Other Comments

No wetlands or historic properties are anticipated on this project; however, an environmental screening was not conducted.



BEGIN PROJECT

END PROJECT

LEGEND	
	STAGE 1
	STAGE 2
	U-2905

FEASIBILITY STUDIES UNIT	
U-3304	
BURLINGTON	
GRAND OAKS BOULEVARD UPGRADE AND EXTENSION TO KIRKPATRICK ROAD	
ALAMANCE COUNTY	
DIVISION 7	1" = 1000' FIGURE 1