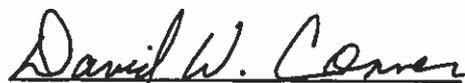


FEASIBILITY STUDY

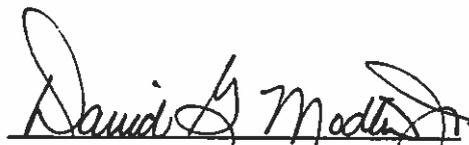
**Burlington Southern Loop
New Route From Grand Oaks Boulevard To NC 87
Alamance County**

U-3407

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



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2/27/96

Date

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I. General Description

This feasibility study describes construction of a new 5-lane curb-and-gutter facility from existing Grand Oaks Boulevard, at NC 62, to NC 87 at SR 2112. The total project length is 5.3 miles (8.5 km). The location of the new facility is shown on Figure 1.

The recommended 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, for the entire project length. The required right-of-way width is 100 feet (30.5 m).

The estimated cost of right-of-way and construction is \$24,300,000 as follows:

Right-of-Way	\$ 7,700,000
Construction	<u>16,600,000</u>
Total Cost	\$24,300,000

It is anticipated that 1 business and 24 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 Burlington and has a priority ranking of 12 of 13 projects by the Alamance County Urban Area Transportation Advisory Committee.

The purpose of this project is to move local and through traffic from the NC 62 area to the NC 87 area and to divert local and cross-town traffic from I-40/85.

At the western project terminal, NC 62 is a 2-lane roadway with a 22-foot (6.7-m) wide pavement and 5-foot (1.5-m) wide soil shoulders.

Existing Grand Oaks Boulevard (a non system roadway) is a 33-foot (10.1-m) wide (face-to-face) curb-and-gutter facility which dead-ends approximately 0.5 miles (0.8 km) west of NC 62. The roadway is scheduled in the TIP (U-3304) for widening to a 5-lane curb-and-gutter facility and extension to Kirkpatrick Road (SR 1146).

At the eastern project terminal, NC 87 is a 4-lane shoulder section with 48-foot (14.6-m) wide pavement north of SR 2112 and a 2-lane shoulder section with 20-foot (6.1-m) wide pavement south of SR 2112.

SR 2112 is a 2-lane roadway with 10-foot (3.0-m) wide travel lanes and 4-foot (1.2-m) to 6-foot (1.8-m) wide soil shoulders. This roadway was recommended for improvements in a previous feasibility study (U-2502 - NC 87 Northeast Bypass). The project is included in the TIP as an "Identified Future Need" and is not funded at this time.

West of SR 2309, the studied corridor is generally undeveloped woodlands and farmlands with a few residences scattered throughout. From SR 2309, eastward, the corridor skirts existing residential subdivisions. The Alamance County Airport is located south of the western project terminal. The recommended roadway alignment will flank the proposed extended runway protection zone.

It is estimated that if this project were in place at this time, it would have traffic volumes ranging from approximately 3,300 vehicles per day (vpd) at the eastern terminal to approximately 8,700 vpd at the western terminal. In the design year (2020), volumes are estimated to reach approximately 7,000 vpd and 18,200 vpd respectively.

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 2009 at which time the Level of Service will reach Level B which will prevail through the design year (2020). Evaluation of a 2-lane facility indicates that it would initially operate at Level of Service D but would reach a Level of Service E around the year 2007.

III. Detailed Description

This feasibility study describes construction of a new 5-lane curb-and-gutter facility from existing Grand Oaks Boulevard, at NC 62, to NC 87 at SR 2112. The total project length is 5.3 miles (8.5 km). The location of the new facility is shown on Figure 1.

The recommended 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, for the entire project length. The required right-of-way width is 100 feet (30.5 m).

The studied alignment includes the following:

1. Construction on new location from NC 62 at Grand Oaks Boulevard to SR 1148 at SR 1157. This segment should skirt the proposed extension of the Object Free Zone on the north side of the Alamance County Airport.
2. Widen existing SR 1157 and SR 2317 from SR 1148 to SR 2312
3. Construction on new location from SR 2312 to NC 87 at SR 2112

New bridges should be constructed over Alamance Creek.

The western terminal of SR 2312 should be realigned such that it makes a 90 degree intersection with the new roadway.

At the western project terminal, it is recommended that the new roadway include a left-turn lane, a through lane, a combination through/right-turn lane, and two lanes exiting the intersection.

At the eastern project terminal, SR 2113 should be extended to intersect NC 87 and a dead-end should be created on SR 2116 at it's existing intersection with SR 2112.

Also, at the eastern project terminal, the new roadway include a left-turn lane, a through lane, a right-turn lane, and two lanes exiting the intersection.

The estimated cost of right-of-way and construction is \$24,300,000 as follows:

Right-of-Way	\$ 7,700,000
Construction	<u>17,500,000</u>
Total Cost	\$24,300,000

It is anticipated that 1 business and 24 residences will be relocated as a result of this project.

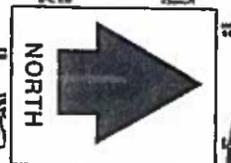
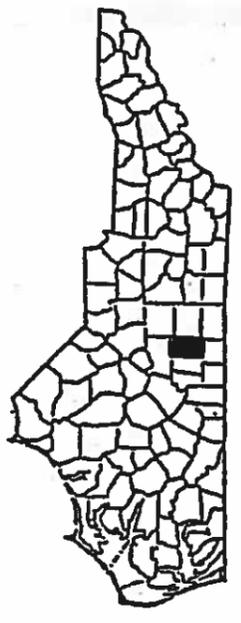
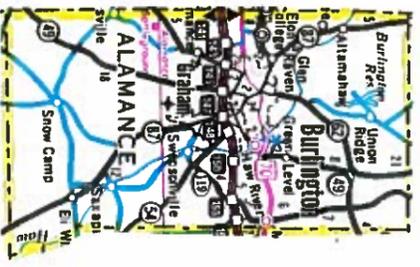
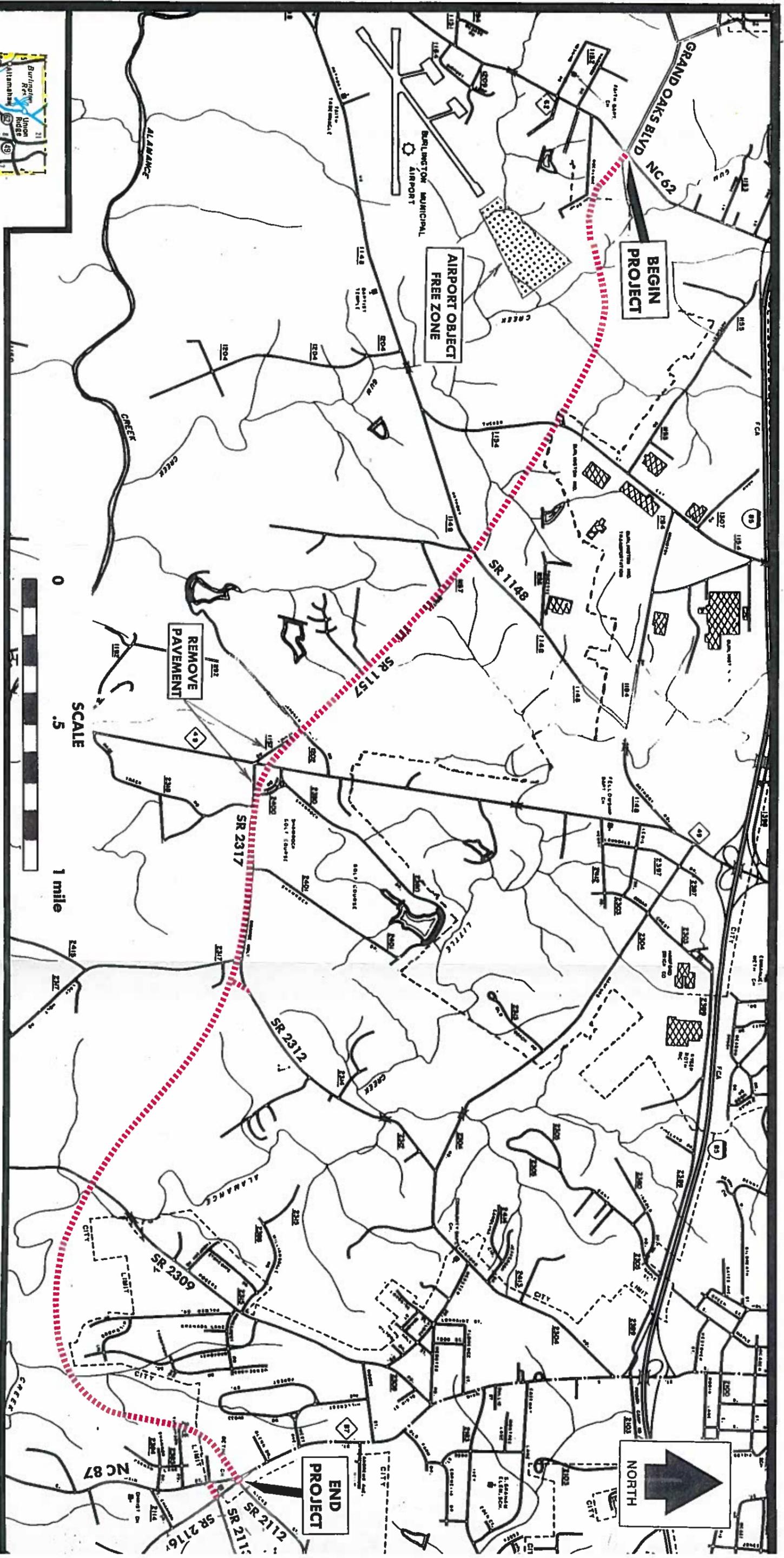
IV. Other Comments

A 68-foot (20.7-m) wide (face-to-face), curb-and-gutter section was also evaluated. This cross section was ruled out because the need for wide outside lanes is not apparent as there is no apparent designated bicycle route in the project area. The

estimate cost of right-of-way and construction for the 68-foot (20.7) wide section is \$25,200,000.

Corps of Engineers Permits and wetlands mitigation will be required due to the potential for construction in wetland areas. The costs included in this report do not include any costs for wetlands mitigation.

No environmental screenings were done as a part of this study.



FEASIBILITY STUDIES UNIT
SOUTHERN LOOP
 from Grand Oaks Blvd
 to NC 87
ALAMANCE COUNTY
DIVISION 7 U-3407 FIGURE 1