

FEASIBILITY STUDY

**Archdale
SR 1577/SR 1004 (Archdale Rd.)
from SR 1567 (Robbins Country Rd.) to US 311 (Main St.)
Randolph & Guilford Counties
U-3400**



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

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Eric J. Lamb

Feasibility Studies Engineer

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Head of Feasibility Studies

2/27/96
Date

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I. General Description

This feasibility study describes the proposed widening of SR 1577 / SR 1004 (Archdale Rd.) from SR 1567 (Robbins Country Rd.) to US 311 (Main St.) in Archdale, a distance of 3.1 miles (5.0 km). The project location is shown on Figure 1. The recommended cross-section is a five-lane, 64-foot (19.5-m) curb and gutter section with 8-foot (2.4-m) berms on 100 feet (30.5 m) of right-of-way. It is anticipated that there will be 17 residences and 9 businesses relocated due to this project. The total cost of the project, including construction and right-of-way, is estimated to be \$17,200,000.

This study is the initial step in the planning and design process for this project and is not the product of exhaustive environmental or design investigations. The purpose of this study is to describe the proposed project including costs, and to identify potential problems that may require consideration in the planning and design phases.

II. Need for Project

The purpose of this project is to improve traffic flow along Archdale Road. This project is supported by the High Point Area Municipal Planning Organization, the City of Archdale and the Archdale/Randolph Chamber of Commerce.

Archdale Road is designated as a major thoroughfare in the High Point Urban Area Thoroughfare Plan and as a minor urban arterial in the North Carolina Statewide Functional Classification System.

Development along the project is varied. North of I-85, there is a high concentration of single family residences. There are also several churches and businesses throughout this portion of the project. South of I-85, the density of single family residences drops substantially. Archdale Office Park is located off Cheyenne Drive. There are several multi-family residences located north of SR 1004 (Trinity Rd.). Archdale-Trinity Middle School is located at the intersection with SR 1567.

From SR 1004 to US 311, Archdale Road is currently a two-lane roadway 20-22 feet (6.1-6.7 m) wide with soil shoulders. South of the SR 1004 intersection, Archdale Road is a three-lane, 33-foot (10.1-m) wide roadway with soil shoulders. The existing right-of-way varies between 35 feet (10.7 m) north of NC 62 and 45 feet (13.7 m) from NC 62 to SR 1578 (Sunny Lane). South of the SR 1578 intersection, Archdale Road has a 60-foot (18.2-m) right-of-way.

There is an existing grade separation carrying I-85 over Archdale Road. These bridges, Nos. 466 and 467, were built in 1981 and have an under horizontal clearance of 71 feet (21.6 m). These bridges have sufficiency ratings of 96.7. There is also a culvert just north of these bridges. Culvert No. 462 is a double 10-foot by 8-foot (3.0-m by 2.4-m) reinforced concrete box culvert that carries Archdale Road over Muddy Creek. It was built in 1955 and has a sufficiency rating of 99.3.

Between SR 1004 (Trinity Rd.) and SR 1567, there is a railroad that runs adjacent to Archdale Road. This railroad is owned by Carolina & Northwestern Railway and supports two trains per day at an average speed of 25 mph. At some points, the rails are within 30 feet of the edge of pavement of the existing roadway.

There are currently four fully signalized intersections within the project limits. They are located at the intersections of Archdale Road with US 311, NC 62 (Trindale Rd.), SR 1681 (Balfour Dr.), and SR 1567 (Robbins Country Rd.).

The 1994 Average Daily Traffic (ADT) along Archdale Road varies from 9,200 to 11,200 vehicles per day (vpd). For the design year 2020, the estimated traffic volume on Archdale Road will range between 19,500 and 23,500 vpd. Truck traffic is estimated to make up 9% of daily traffic.

Currently Archdale Road is operating at Level of Service (LOS) C. If no improvements are made, it is projected that the roadway will operate at LOS F in the design year 2020. If Archdale Road is widened to a five-lane curb and gutter section, the facility will operate at a LOS of B in the current year and at LOS C in the design year 2020.

Accident Data. During the three-year period from May 1992 to April 1995, there were 113 accidents reported on Archdale Road within the project limits. Seventy-two injuries were reported as a result of these accidents. No fatalities were reported. The accident rate along Archdale Road is 354.63 accidents per 100 million vehicle miles (acc/100mvm). This compares with the 1994 statewide rate of 340.50 acc/100mvm for urban secondary routes.

III. Recommendations

It is recommended to widen SR 1577/SR 1004 (Archdale Rd.) from SR 1567 (Robbins Country Rd.) to US 311 (Main St.) in Archdale, a distance of 3.1 miles (5.0 km). The project location is shown on Figure 1. The recommended cross-section is a five-lane 64-foot (19.5-m) curb and gutter section with 8-foot (2.4-m) berms on 100 feet (30.5 m) of right-of-way.

Symmetrical construction and right-of-way acquisition is recommended from US 311 to SR 1004 (Trinity Rd.). South of the Trinity Road intersection, the construction and right-of-way acquisition should be done asymmetrically to the east side of the roadway due to the proximity of the railroad right-of-way.

It is recommended to install a traffic signal at the intersection of SR 1577 and SR 1004 (Trinity Rd.).

It is anticipated that 17 residences and 9 business will be relocated due to the project.

The total cost is as follows:

Construction.....	\$ 7,100,000
Right-of-way.....	\$ 10,100,000
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Total Cost	\$ 17,200,000

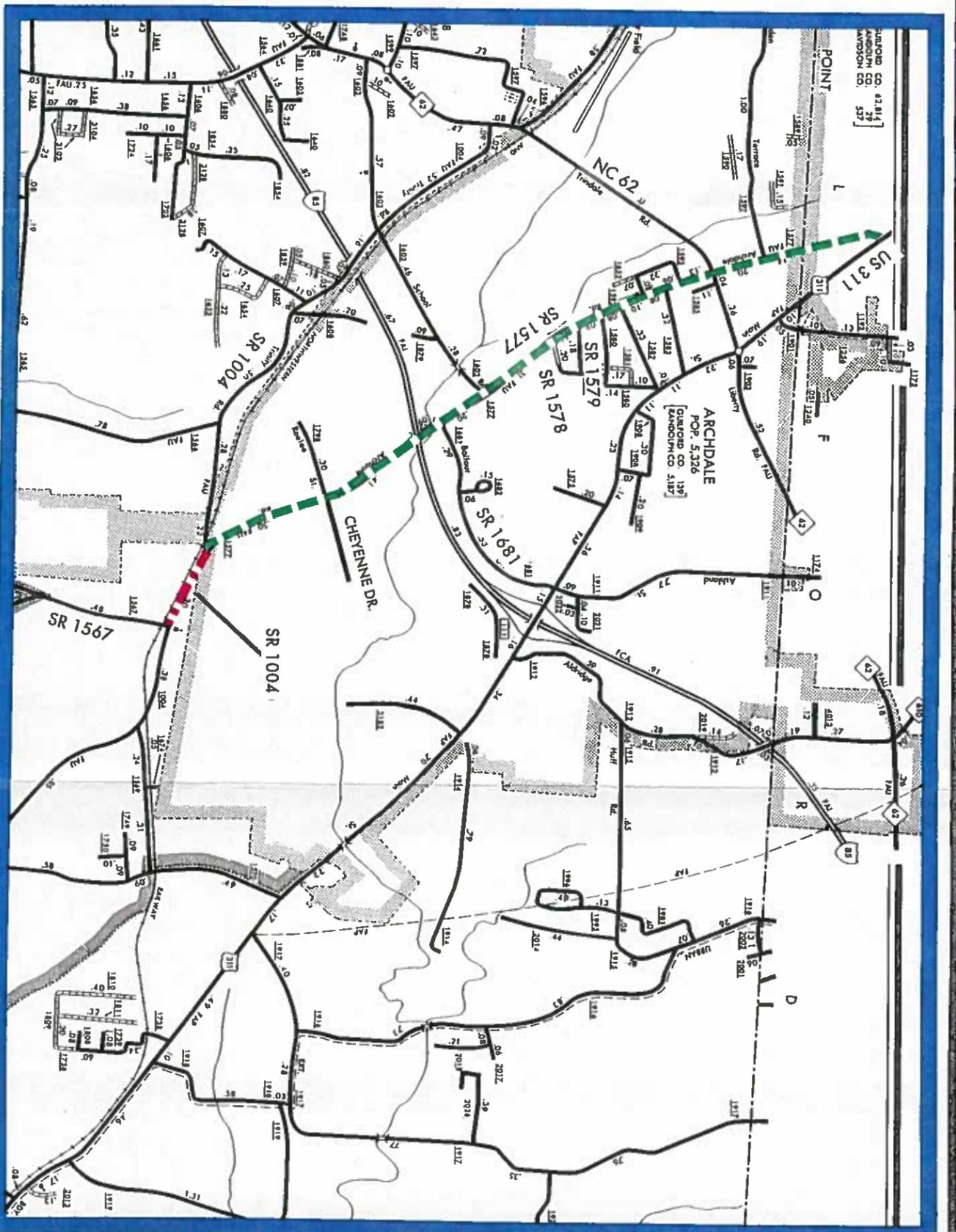
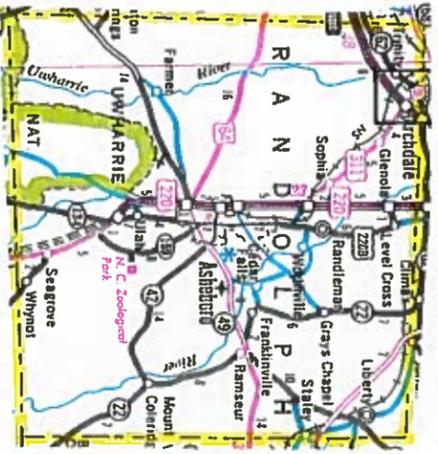
IV. Other Comments

A right-of-way of 90 feet (27.4 m) may be considered from SR 1579 (Dale St.) to US 311 in order to reduce the impact on the area. This option would result in a total of 15 residences and 6 businesses relocated due to this project. The total cost for this option is as follows:

Construction.....	\$ 7,000,000
Right-of-way.....	\$ 8,900,000
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Total Cost	\$ 15,900,000

An environmental screening was not conducted for this study.

No special accommodation for bicycles is recommended on this project.



LEGEND	
	PROPOSED SYMMETRICAL WIDENING
	PROPOSED ASYMMETRICAL WIDENING

FEASIBILITY STUDIES UNIT		
U-3400		
SR 1577/SR 1004 (ARCHDALE RD.)		
FROM SR 1567 (ROBBINS COUNTRY RD.)		
TO US 311 (MAIN ST.)		
ARCHDALE		
DIVISION 8	RANDOLPH & GUILFORD COUNTIES	FIGURE 1