

FEASIBILITY STUDY

Rockingham
US 1 (Fayetteville Road)
from Lawson Lane
to SR 1640 (Wiregrass Road) / SR 1442 (Ledbetter Road)
Richmond County
U-3456



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

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Eric J. Lamb
Feasibility Studies Engineer

A handwritten signature in black ink, appearing to read "David G. Modlin, Jr.". The signature is written in a cursive style and is positioned above a horizontal line.

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

2/28/96
Date

US 1 (Fayetteville Rd.)
from Lawson Lane
to SR 1640 (Wiregrass Rd.) / SR 1442 (Ledbetter Rd.)
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I. General Description

This feasibility study describes widening US 1 (Fayetteville Rd.) from Lawson Lane to the intersection with SR 1640 (Wiregrass Rd.) and SR 1442 (Ledbetter Rd.), a distance of 2.7 miles (4.3 km). The project location is shown on Figure 1. The recommended cross-section is a three-lane curb and gutter facility, 40 feet (12.2 m) wide from face-to-face with 8-foot (2.4-m) berms, on 100 feet (30.5 m) of right-of-way with no access control. It is anticipated that there will be two residences and three businesses relocated due to this project. The total cost of the project, including construction and right-of-way, is estimated to be \$5,900,000.

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 safety and reduce the number of accidents along the subject roadway. This project is supported by the City of Rockingham.

US 1 is designated as a major thoroughfare in the Rockingham Thoroughfare Plan and as a principal urban arterial in the North Carolina Statewide Functional Classification System.

Development along the project is of low density. There are several single family residences and small businesses adjacent to the project. Richmond Senior High School is located east of the intersection with SR 1666 (Ellen Rd.).

The existing cross-section of US 1 west of Lawson Lane is a 40-foot (12.2-m) curb and gutter facility. East of Lawson Lane, US 1 is currently a two-lane roadway 24 feet (7.3m) wide with 2-foot (0.6-m) paved shoulders and 8-foot

(2.4-m) soil shoulders. There are two short sections within the project limits that are three-lane shoulder sections 40 feet (12.2 m) wide. The existing right-of-way is 60 feet (18.3 m) wide throughout the project limits.

TIP Project R-2501 will construct the US 1 Bypass of Rockingham. This project will be a four-lane divided controlled-access facility on new location. Current plans indicate US 1 Bypass will follow the existing alignment of US 1 from east of this project to the intersection with SR 1640 (Wiregrass Rd.) and SR 1442 (Ledbetter Rd.), where the project will turn southward on new location. This project is currently scheduled for right-of-way acquisition in FY2000 and construction in FY2002.

The 1995 Average Daily Traffic (ADT) along US 1 varies from 7,600 to 8,200 vehicles per day (vpd). For the design year 2020, the estimated traffic volume on US 1 will range between 13,900 and 15,200 vpd. It is projected that construction of the US 1 Bypass will reduce traffic on this section of roadway by 40%. Truck traffic is estimated to make up 10% of daily traffic.

Currently US 1 within the project limits is operating at Level of Service (LOS) D, and it is projected that the roadway will operate at LOS E in the design year 2020. If the proposed US 1 Bypass is constructed, existing US 1 will operate at LOS C in the current year and at LOS D in the design year 2020.

During the three-year period from June 1992 to May 1995, there were 63 accidents reported on US 1 within the project limits. As a result of these accidents, 79 injuries were reported. No fatalities were reported. Fifty percent of the accidents along this project were rear-end collisions. The accident rate along US 1 within the project limits is 178.02 accidents per 100 million vehicle miles (acc/100mvm). This compares with the 1994 statewide rate of 183.00 acc/100mvm for rural US routes. The proposed improvements should improve safety conditions along US 1 and reduce the number of rear-end accidents by providing a center turn-lane.

III. Recommendations

It is recommended to widen US 1 (Fayetteville Rd.) from Lawson Lane to the intersection with SR 1640 (Wiregrass Rd.) and SR 1442 (Ledbetter Rd.), a distance of 2.7 miles (4.3 km). The project location is shown on Figure 1. The recommended cross-section is a three-lane curb and gutter facility, 40 feet (12.2 m) wide from face-to-face with 8-foot (2.4-m) berms, on 100 feet (30.5 m) of right-of-way with no access control. It is also recommended to signalize the intersection with SR 1640 and SR 1442 as a part of this project.

It is anticipated that two residences and three businesses will be relocated due to the project. Two of the businesses in question are service stations with underground fuel tanks.

The total cost is as follows:

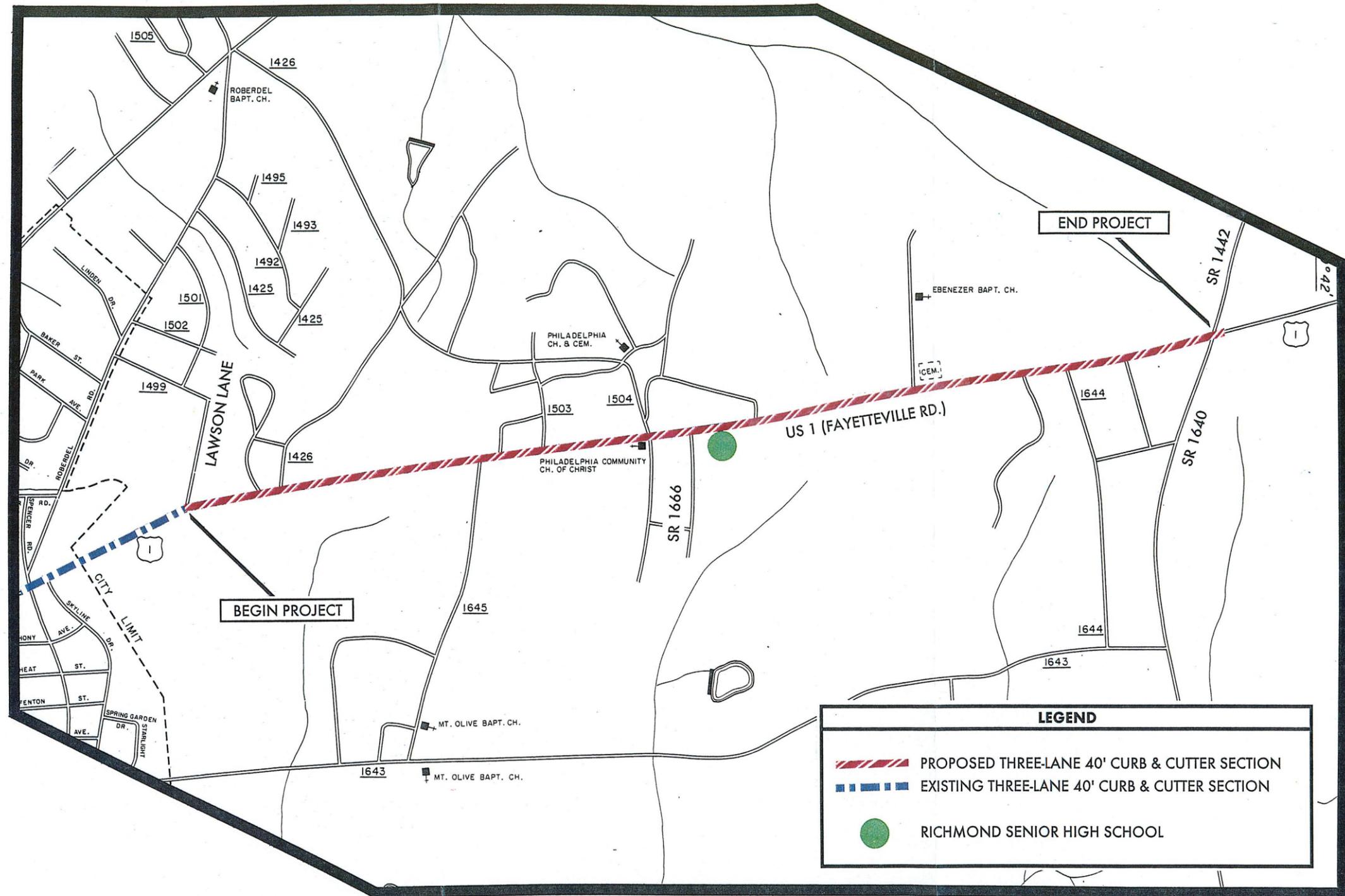
Construction.....	\$ 4,500,000
Right-of-way.....	\$ 1,400,000
Total Cost	\$ 5,900,000

IV. Other Comments

An environmental screening was not conducted for this study. However, no impacts to historic properties or wetlands are anticipated.

Based on maps at the Department of Environment, Health & Natural Resources - Natural Heritage Section, no threatened or endangered species were identified in the project corridor.

No special accommodation for bicycles is recommended on this project.



LEGEND

- PROPOSED THREE-LANE 40' CURB & CUTTER SECTION
- EXISTING THREE-LANE 40' CURB & CUTTER SECTION
- RICHMOND SENIOR HIGH SCHOOL

FEASIBILITY STUDIES UNIT

U-3456
US 1 (FAYETTEVILLE RD.)
FROM LAWSON LANE
TO SR 1640 (WIREGRASS RD.)/SR 1442 (LEDBETTER RD.)
ROCKINGHAM

DIVISION 8	RICHMOND COUNTY	FIGURE 1
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