



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 17, 1997

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. *David Modlin*
Head of Feasibility Studies

SUBJECT: Feasibility Study # R-3618, Clayton, New Route from SR 1553
(Shotwell Rd.) west of US 70 to NC 42 east of Clayton, Johnston
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. William J. Watson, P.E.



FEASIBILITY STUDY

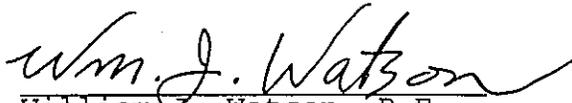
Clayton

Westside Connector
From Shotwell Road (SR 1553) to
NC 42 East of Clayton
Johnston County

Division 4

R-3618

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



William J. Watson, P.E.
Highway Planning Engineer



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

2/21/97
Date

Clayton
Westside Connector
From Shotwell Road (SR 1553) to
NC 42 East of Clayton
Johnston County
R-3618

I. GENERAL DESCRIPTION

This preliminary study describes the proposed Westside Connector, mainly on new location, from Shotwell Road (SR 1553) to NC 42 east of Clayton. The location is shown on Figure 1. The total project length is approximately 3.0 miles (4.8 km). The proposed cross-section, for the first 1,000 feet (305 m) is a 5-lane, curb-and-gutter section, 68 feet (20.7 m) wide from face-to-face of curbs. The cross-section for the remainder of the project is a 2-lane, rural shoulder section with a 32-foot (9.8-m) wide pavement including two 12-foot (3.6-m) wide travel lanes and 4-foot (1.2-m) wide full depth paved shoulders. The studied cross-section will accommodate anticipated bicycle traffic.

The project will require the minor relocation of SR 1553 and SR 1583 in order for these roads to make suitable intersections with the project roadway. A new bridge will be required where the project crosses Little Creek.

The required right-of-way width is 100 feet (30.5 m).

This project is not expected to require any business or residential relocations. The total cost including construction and right-of-way is estimated to be \$ 7,800,000.

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 needs, recommend a treatment including costs, and identify potential problem areas that require consideration in the planning and design phases.

II. NEED FOR PROJECT

The purpose of this project is to enhance current and future traffic flow in the area west of the US 70 Corridor in Clayton. This is an area of rapidly expanding residential and commercial development. This project was requested by the Town of Clayton and appears to have strong local support. The project corridor is a Major Thoroughfare on the Clayton Thoroughfare Plan.

Traffic volume estimates between US 70 and relocated SR 1553, for the years 1996 and 2020 are 9,500 vehicles per day (vpd) and 19,400 vpd respectively. The Level of Service (LOS) based on the years 1996 and 2020 respectively are LOS A and LOS B.

Traffic volume estimates between relocated SR 1553 and the east project terminal, for the years 1996 and 2020 are 6,500 vehicles per day (vpd) and 13,000 vpd respectively. The Level of Service (LOS) based on the years 1996 and 2020 respectively are LOS C and LOS D.

III. RECOMMENDATIONS

It is proposed to construct a new connector road, mainly on new location, from Shotwell Road (SR 1553) to NC 42 east of Clayton. The location is shown on Figure 1. The total project length is approximately 3.0 miles (4.8 km). The proposed cross-section, for the first 1,000 feet (305 m) is a 5-lane, curb-and-gutter section, 68 feet (20.7 m) wide from face-to-face of curbs. The cross-section for the remainder of the project is a 2-lane, rural shoulder section with a 32-foot (9.8-m) wide pavement including two 12-foot (3.6-m) wide travel lanes and 4-foot (1.2-m) wide full depth paved shoulders. The studied cross-section will accommodate anticipated bicycle traffic.

The project will require the minor relocation of SR 1553 and SR 1583 in order for these roads to make suitable intersections with the project roadway. A new bridge will be required where the project crosses Little Creek.

The required right-of-way width is 100 feet (30.5 m).

This project will likely require no business relocations and no residential relocations.

The total cost including construction and right-of-way is estimated to be \$ 7,800,000 as follows:

Right-of-Way	\$ 1,300,000
Construction	<u>6,500,000</u>
Total Cost	\$ 7,800,000

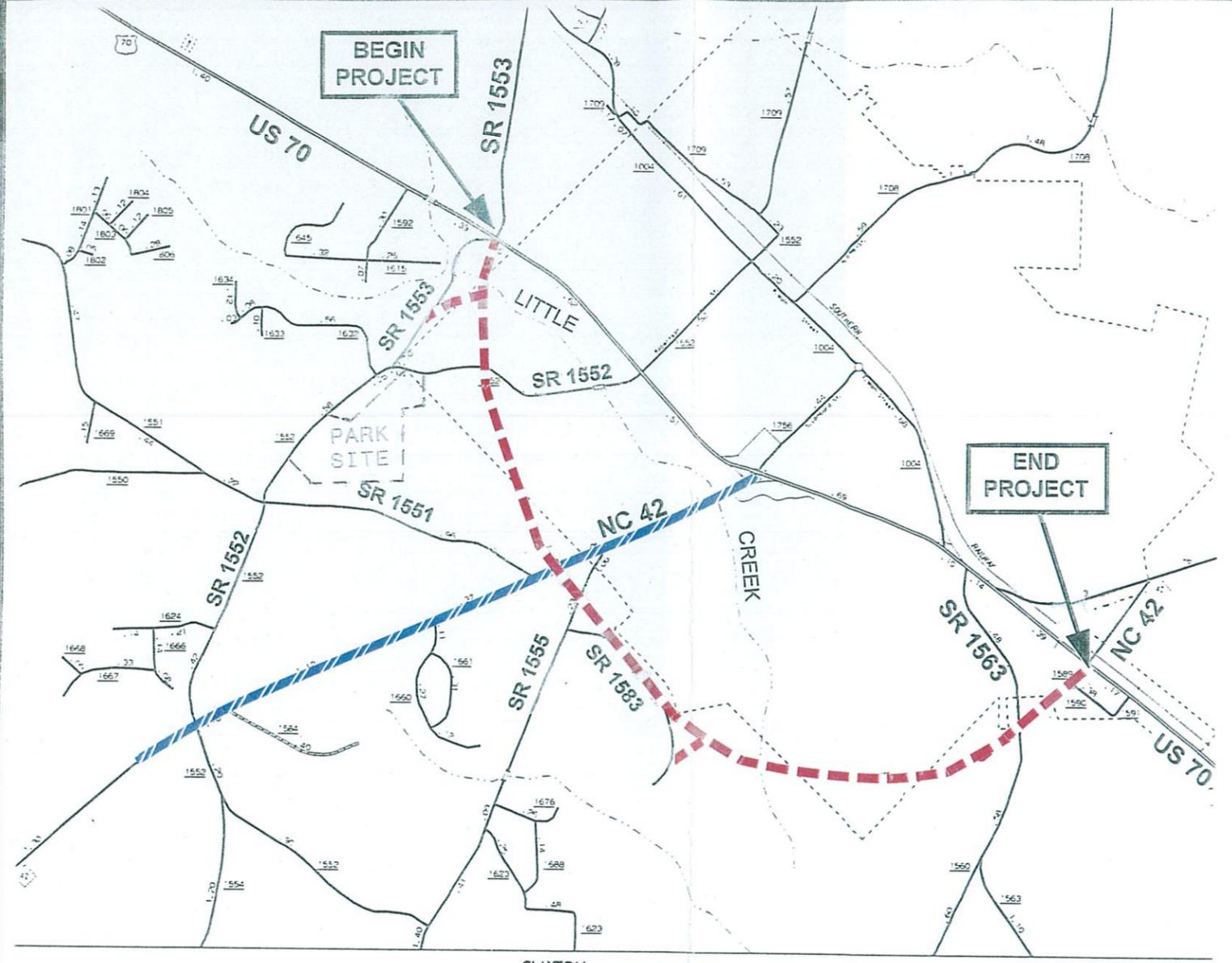
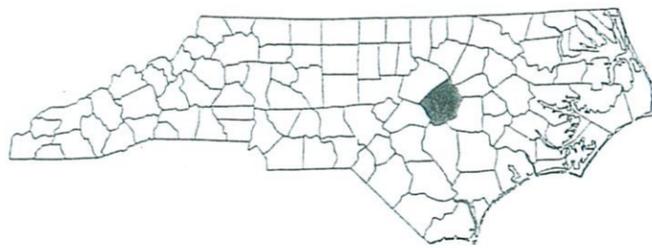
IV. OTHER COMMENTS

An environmental screening was not conducted for this study. No wetlands, historic properties, or endangered species are anticipated.

The NCDOT Office of Bicycle and Pedestrian Transportation recommends bicycle accommodations for this project. The Town of Clayton has requested such accommodation, and is currently in the process of developing a master plan which includes a bicycling element. The project corridor includes significant residential development and a middle school. The recommended cross-sections will provide 14-foot (4.2-m) wide lanes in the curb-and-gutter section, and 4-foot (1.2 m) wide paved shoulders in the shoulder section to provide the requested accommodation. The estimated cost is \$75,000 to provide the wider curb-and-gutter cross-section to accommodate bicycles.

The Town has recently purchased a site for a major park which will be served by this project. The park site, shown on Figure 1, is near the project corridor but does not touch it.

Project R-3410, the proposed widening of NC 42, is an "Identified Future Need" in the current Transportation Improvement Program (TIP). Under project R-3410 NC 42 will be widened to a 5-lane curb-and-gutter section both east and west of project R-3618.



LEGEND	
R-3618	
R-3410	

FEASIBILITY STUDIES UNIT		
FIGURE 1. PROJECT LOCATION		
NEW ROUTE FROM SR 1553 (SHOTWELL ROAD) WEST OF US 70 TO NC 42 EAST OF CLAYTON		
Clayton, Johnston County		
R-3618	DIVISION 4	FIGURE 1