

FEASIBILITY STUDY

Wilmington

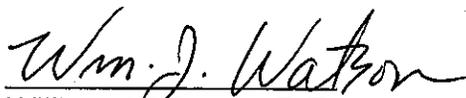
**Widening of Gordon Road (SR 2048)
from NC 132 to Market Street (US 17)**

New Hanover County

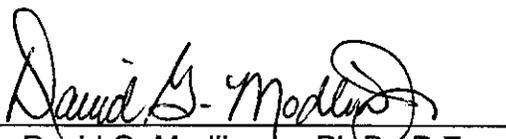
Division 3

U-3831

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



William J. Watson, P.E.
Feasibility Studies Engineer



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

2/26/98

Date

Wilmington

Widening of Gordon Road (SR 2048) from NC 132 to Market Street (US 17) New Hanover County U-3831

I. General Description

This preliminary study describes the proposed widening of Gordon Road in Wilmington. The project location is shown on Figure 1. The proposed cross-section is a 5-lane curb-and-gutter section, 68 feet (20.7 m) wide from face-to-face of curbs, with 10-foot (3.0-m) wide berms. The required right-of-way width is 100 feet (30.5 m). This cross-section would allow wide outside lanes to accommodate anticipated bicycle traffic. Both Gordon Road and Market Street are shown on the Wilmington Bike Map, prepared by the N.C.D.O.T. Bicycle Program, as touring routes. The widening on Gordon Road would begin at NC 132 as shown on Figure 1 and extend east to a point approximately 300 feet (91.5 m) west of Market Street, a distance of approximately 2.4 miles (3.8 km). The Gordon Road approach to Market Street will be widened to a 5-lane curb-and-gutter section and the existing traffic signal at the Gordon Road/Market Street intersection will be revised under project R-2405 (widening Market Street).

The proposed Gordon Road improvements also include widening Harris Road and White Road where they intersect Gordon Road in order to provide exclusive turn lanes.

Three residential and no business relocations are anticipated due to this project. The total project cost including construction and right of way is estimated to be \$11,100,000.

This study is the initial step in the planning and design process 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 may require consideration in the planning and design phases.

II. Need for the Project

This project was requested by the Wilmington Area Metropolitan Planning Organization and is supported by the City of Wilmington and New Hanover County. The purpose of the project is to increase the capacity of Gordon Road

within the project limits. Gordon Road is a major thoroughfare on the Greater Wilmington Urban Area Thoroughfare Plan and is a urban Minor Arterial in the North Carolina Statewide Functional Classification System.

Land use in the project corridor includes commercial, light industrial, residential, and institutional uses. Most of the commercial and light industrial development is near the east project terminus where there is also a public school. The western half of the corridor is primarily residential with several large and expanding residential subdivisions with entrances on Gordon Road.

Gordon Road within the project limits is a 2-lane, paved, shoulder section that has been widened at White Road (the entrance to a large residential subdivision), to provide left and right turn lanes. The existing right-of-way appears to be approximately 60 feet (18.3 m) wide.

Traffic volume estimates for Gordon Road for the years 1997 and 2020 are 14,300 vehicles per day (vpd) and 23,000 vpd respectively. The Level of Service (LOS) without the proposed improvements is estimated to be LOS D in 1997 and LOS E in 2020. With the proposed improvements the estimated LOS is LOS A in 1997 and LOS C in 2020.

During the three year period beginning February 1, 1994, and ending January 31, 1997, there were 196 accidents reported on Gordon Road within the project limits. This resulted in a total accident rate of 619 accidents per 100 million vehicle miles (ACC/100MVM). This compares with the statewide average of 248 ACC/100MVM for all rural Secondary routes in North Carolina for 1996.

There was one fatal accident reported, and 83 accidents resulted in 161 non-fatal injuries. The most prevalent types of accidents were Rear-End (40%), Left-Turn (22%), and Angle (19%). The proposed wider cross-section with a center turn lane will reduce the potential for these types of accidents.

III. Recommendations

It is proposed to widen Gordon Road in Wilmington. The project location is shown on Figure 1. The proposed cross-section is a 5-lane curb-and-gutter section, 68 feet (20.7 m) wide from face-to-face of curbs, with 10-foot (3.0-m) wide berms. The required right-of-way width is 100 feet (30.5 m). This cross-section would allow wide outside lanes to accommodate anticipated bicycle traffic. Both Gordon Road and Market Street are shown on the Wilmington Bike Map, prepared by the N.C.D.O.T. Bicycle Program, as touring routes. The widening on Gordon Road would begin at NC 132 as shown on Figure 1 and extend east to a point approximately 300 feet (91.5 m) west of Market Street, a distance of approximately 2.4 miles (3.8 km). The Gordon Road approach to Market Street will be widened to a 5-lane curb-and-gutter section and the

existing traffic signal at the Gordon Road/Market Street intersection will be revised under project R-2405 (widening Market Street).

The proposed Gordon Road improvements also include widening Harris Road and White Road where they intersect Gordon Road in order to provide exclusive turn lanes.

This project is expected to require three residential and no business relocations. The total cost including construction and right-of-way is estimated to be \$11,100,000 as follows:

Right-of-Way	\$ 4,200,000
Construction	<u>6,900,000</u>
Total Cost	\$ 11,100,000

IV. Other Comments

A cost estimate was made for a 5-lane shoulder section on right-of-way 130 feet (39.6 m) wide. Thirteen residential and no business relocations would be required. The project cost using this section is estimated to be \$12,500,000 as follows:

Right-of-Way	\$ 6,500,000
Construction	<u>6,000,000</u>
Total Cost	\$ 12,500,000

An environmental screening was not conducted for this study. No historic properties, recreation areas, or endangered species have been identified in the project corridor. Approximately half an acre of wetlands would be impacted by this project and no cost for wetland mitigation has been included in the cost estimate.

