

FEASIBILITY STUDY

Holly Springs

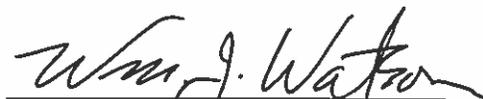
**Widening of NC 55
from SR 1152 (Holly Springs Road)
to SR 1448 (Bobbitt Road)**

Wake County

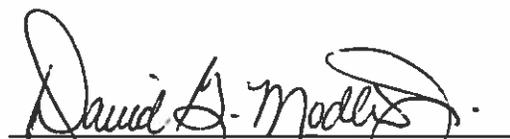
Division 5

U-3838

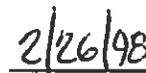
Prepared by the
Program Development Branch
Division of Highways
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**Holly Springs
Widening of NC 55
from SR 1152 to SR 1448
Wake County
U-3838**

I. General Description

This preliminary study describes the proposed widening of NC 55 in Holly Springs. The project location is shown on Figure 1. The proposed cross-section is a 3-lane shoulder section, with a 44-foot (13.4-m) wide pavement which includes one travel lane in each direction, a center turn lane, and 4-foot (1.2-m) wide full-depth paved shoulders. The paved shoulders will accommodate anticipated bicycle traffic. Accommodation for bicycles on NC 55 is included in the Incidental Bicycle and Pedestrian Needs Section of the 1998-2004 TIP. The widening on NC 55 will begin at SR 1152 and extend north to SR 1448, a distance of approximately 2.9 miles (4.7 km).

The proposed improvements also include construction of 3-lane sections on SR 1152 and SR 1301. On SR 1152, the widened section will extend approximately 600 feet (180 m) east and west of NC 55. On SR 1301, the widened section will extend approximately 800 feet (245 m) east of NC 55.

The traffic signal at the SR 1152 intersection will require minor revisions. A new traffic signal will be required at the north project terminus when the Holly Springs Bypass project (TIP# R-2541) is completed. This signal will be installed as part of that project.

No residential or business relocations are anticipated due to this project. The total project cost including construction and right of way is estimated to be \$8,400,000 as follows:

Right-of-Way	\$ 500,000
Construction	<u>7,900,000</u>
Total Cost	\$8,400,000

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 Capital Area Metropolitan Planning Organization and is strongly supported by the Town of Holly Springs. The purpose of the project is to increase the capacity of NC 55 within the project limits. NC 55 is a Major Thoroughfare on the Holly Springs Thoroughfare Plan and is both a rural and urban Minor Arterial in the North Carolina Statewide Functional Classification System. Holly Springs is one of the fastest growing towns in North Carolina. There are several residential subdivisions under construction or planned along the NC 55 corridor within the project limits.

NC 55 within the project limits is a 2-lane, shoulder section that has been widened at major intersections to provide left-turn lanes. The existing right-of-way appears to be approximately 100 feet (30.5 m) wide. SR 1152 is a 2-lane shoulder section. SR 1301 is a 2-lane shoulder section that has been widened at selected points to accommodate a residential subdivision entrance.

The Holly Springs Bypass (TIP# R-2541) is programmed for construction to begin in Fiscal Year 1998. The bypass begins at this project's north terminus (as shown on Figure 1.), runs west of and parallel to NC 55 and ties into NC 55 approximately 1 mile (1.6 km) south of this project's south terminus.

Traffic volume estimates for NC 55, with the Holly Springs Bypass in place, for the years 1997 and 2017, are 11,800 vehicles per day (vpd) and 12,400 vpd respectively. The Level of Service (LOS) without the proposed improvements is estimated to be LOS D in 1997 and LOS D in 2017. With the proposed improvements the estimated LOS is LOS C in 1997 and LOS C in 2017.

During the three year period beginning February 1, 1994, and ending January 31, 1997, there were 134 accidents reported on NC 55 within the project limits. This resulted in a total accident rate of 305 accidents per 100 million vehicle miles (ACC/100MVM). This compares with the statewide average of 241 ACC/100MVM for all NC routes in North Carolina for 1996.

There was one fatal accident reported, and 50 accidents resulted in 79 non-fatal injuries. The most prevalent types of accidents were Rear End (54%), Ran-Off-Road (13%), and Angle (11%). The proposed wider cross-section with a center turn lane would reduce the potential for these types of accidents.

III. Recommendations

It is proposed to widen NC 55 in Holly Springs. The project location is shown on Figure 1. The proposed cross-section is a 3-lane shoulder section, with a 44-foot (13.4-m) wide pavement which includes one travel lane in each direction, a center turn lane, and 4-foot (1.2-m) wide full-depth paved shoulders. The paved shoulders will accommodate anticipated bicycle traffic. Accommodation for bicycles on NC 55 is included in the Incidental Bicycle and Pedestrian Needs Section of the 1998-2004 TIP. The widening on NC 55 will begin at SR 1152 and extend north to SR 1448, a distance of approximately 2.9 miles (4.7 km).

The proposed improvements also include construction of 3-lane sections on SR 1152 and SR 1301. On SR 1152, the widened section will extend approximately 600 feet (180 m) east and west of NC 55. On SR 1301, the widened section will extend approximately 800 feet (245 m) east of NC 55.

The traffic signal at the SR 1152 intersection will require minor revisions. A new traffic signal will be required at the north project terminus when the Holly Springs Bypass project (TIP# R-2541) is completed. This signal will be installed as part of that project.

This project is expected to require no residential or business relocations. The total cost including construction and right-of-way is estimated to be \$8,400,000 as follows:

Right-of-Way	\$ 500,000
Construction	<u>\$7,900,000</u>
Total Cost	\$8,400,000

IV. Other Comments

The Town of Holly Springs requested that cost estimates also be made for a 3-lane curb-and-gutter cross-section, a 4-lane curb and gutter section with a 16-foot (4.9-m) wide median, and a 5-lane curb-and-gutter section. The cost for the 3-lane curb-and-gutter section including construction and right-of-way is estimated to be \$8,500,000. The cost of the 4-lane median divided curb and gutter section including construction and right-of-way is estimated to be \$12,200,000. The cost of the 5-lane curb-and-gutter cross-section including construction and right-of-way is estimated to be \$13,300,000.

The widening for the 4-lane and 5-lane sections begins approximately 500 feet (152 m) south of SR 1152. Also, the cost estimates for these cross-sections include providing 3-lane curb-and-gutter sections on SR 1152 and SR 1301 where they intersect NC 55.

An environmental screening was not conducted for this study. No historic properties, recreation areas, or wetlands have been identified in the project corridor. A rare plant (*Carex tetanica*) has been identified in the project corridor.

