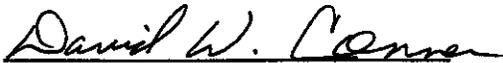


FEASIBILITY STUDY

**Mt. Airy
US 601
From the Yadkin River to SR 1359 (McKinney Rd.)
Surry County
R-2714**

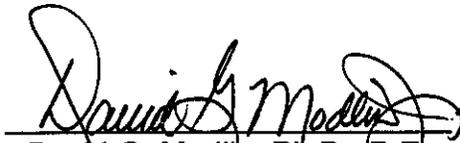
Prepared by
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3/14/95
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Mt. Airy
US 601
From the Yadkin River to SR 1359 (McKinney Rd.)
Surry County
R-2714

I. General Description

This feasibility study describes the proposed widening of US 601 from the Yadkin River to SR 1359 (McKinney Road), a distance of 14.3 miles (23.0 km). From the Yadkin River to the intersection with US 601 Business south of Dobson, the proposed cross-section is a two-lane, two-way 24-foot (7.3-m) wide roadway with 8-foot (2.4-m) shoulders, including 2-foot (0.6-m) paved shoulders. The proposed alignment follows new and existing alignments, and a 100-foot (30.5-m) wide right-of-way is required. From the intersection of US 601 Business south of Dobson to SR 1359, the recommended cross-section is a four-lane shoulder section with a 46-foot (14.0-m) median on a 250-foot (76.2-m) right-of-way. The project location is shown on Figure 1. It is anticipated that there will be 13 residences and 7 businesses relocated due to this project. The total cost of the project including construction and right-of-way is estimated to be \$29,200,000.

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 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 the traffic carrying capacity and the safety of US 601. This project was requested by the Surry County Board of Commissioners and has the support of several local agencies, including the City of Mount Airy, the Town of Dobson and the Surry County Planning Board.

US 601 is designated as a rural minor arterial in the North Carolina Statewide Functional Classification System and as a major thoroughfare in the Mt. Airy Urban Area Thoroughfare Plan .

Development along the project is of medium density residential with small businesses scattered throughout the project limits.

From the Yadkin River Bridge to the US 601 Business intersection south of Dobson, US 601 is a two-lane, two-way roadway that is 20 feet (6.1 m) wide with soil shoulders varying between 4 and 6 feet (1.2 - 1.8 m) wide. Existing right-of-way varies between 60 and 100 feet (18.3 - 30.5 m). The segment of US 601 between the intersection of US 601 Business south of Dobson and SR 1359 is currently a two-lane, two-way roadway that is 24 feet (7.3 m) wide, with 12-foot (3.7-m) shoulders, including 2-foot (0.6-m) paved shoulders. The existing right-of-way is 250 feet (76.2 m).

There are several structures located along the length of the project. East of Dobson, Bridge No. 41 carries SR 1100 (Turkey Ford Rd.) over US 601. It has a clear deck width of 48 feet (14.6 m). This bridge is 211 feet (64.3 m) long and has a vertical clearance of over 16 feet (4.9 m). This bridge has a sufficiency rating of 100.0.

There is also a bridge carrying US 601 over the Fisher River. This bridge (No. 59) is located 0.2 miles (0.3 km) north of SR 2258 (Old Highway 601). It is 196 feet (59.8 m) long and has a clear deck width of 44 feet (13.4 m). This bridge has a sufficiency rating of 99.4.

There are also two culverts within the project limits. The culvert carrying King Creek under US 601 (No. C4) is a triple 8-foot x 10-foot (2.4 m x 3.0 m) reinforced concrete box culvert located 0.6 miles (1.0 km) north of NC 268. The culvert at Cody Creek (No. C5) is a 36-foot x 14-foot (11.0-m x 4.3-m) reinforced concrete arch culvert located 0.5 miles (0.8 m) south of SR 1104.

North of SR 1359, project R-98 is currently under construction. R-98 will be a four-lane expressway on new location that will serve as a connector between US 52 and I-77. North of R-98, project R-2917 will improve US 601 to a four-lane divided highway into Mt. Airy, where the roadway is currently a five-lane curb & gutter section. This project is scheduled to begin in 1998.

The 1994 Average Daily Traffic (ADT) on US 601 varies from 2,700 vehicles per day (vpd) south of Dobson up to 12,500 vpd near Mt. Airy. For the design year (2020), the estimated traffic volumes on US 601 will range between 5,800 and 27,400 vpd. Truck traffic is estimated to make up 3% of daily traffic.

US 601 is currently operating at Level of Service (LOS) C from the Yadkin River to the intersection of US 601 Business south of Dobson. Without improvement, this section of roadway will reach LOS E by the design year 2020. Widening this section to a 24-foot (7.3 m) roadway with 8-foot (2.4-m) shoulders, including 2-foot (0.6-m) paved shoulders, would improve the current LOS to C and the design year LOS to D. From the US 601 Business intersection south of Dobson to SR 1359, US 601 currently operates at LOS E and will reach LOS F by the design year if no improvements are made. Constructing a four lane

divided highway on this section will offer a current LOS of A and a design year LOS of B.

During the three-year period from April 1, 1991, to March 31, 1994, there were 211 accidents reported on US 601 within the project limits. These accidents produced a total of 189 injuries and three fatalities. The accident rate along the project is 146.24 accidents per 100 million vehicle miles (ACC/100MVM). This compares with the 1993 statewide rate of 179.3 ACC/100MVM for rural US routes.

III. Recommendations

The project should be considered in two segments. The first segment proposes to improve the roadway between the Yadkin River Bridge and the intersection of US 601 Business south of Dobson, a distance of approximately 7.2 miles (11.6 km) (see Figure 1). It is recommended to widen this segment to a 24-foot (7.3-m) wide roadway with 8-foot shoulders, including 2-foot (0.6-m) paved shoulders, on a 100-foot (30.5-m) right-of-way on new and existing alignments. It is necessary to realign three portions of the roadway along this segment to reduce the amount of horizontal curvature that exists along the present alignment.

Segment 2 consists of the roadway from the intersection of US 601 Business south of Dobson to the SR 1359 intersection, a distance of 7.1 miles (11.4 km). It is recommended to improve this segment to a four-lane divided highway with a 46-foot (14.0-m) median in order to accommodate the projected increase in traffic. A 250-foot (76.2-m) right-of-way currently exists throughout this section. Some utility conflicts are expected.

This feasibility study was programmed in the TIP to examine the widening of US 601 to a two-lane, two-way roadway with 12-foot (3.6-m) lanes from the Yadkin River to Mt. Airy. Currently US 601 meets this condition from the intersection of US 601 Business south of Dobson to the existing five-lane section in Mt. Airy. However, two area projects, R-98 and R-2917, will improve US 601 to a four-lane divided highway from the existing five-lane section in Mt. Airy south to SR 1359 (McKinney Rd.).

Traffic forecasts from Statewide Planning project a significant increase in traffic volumes through the corridor between the intersection of US 601 Business south of Dobson and SR 1359. This can be attributed to increased commuter traffic from Dobson combined with increased commercial traffic between Yadkinville and Mt. Airy. Construction of a four-lane divided section along Segment 2 is the best solution for this situation. Right-of-way is already

available along this segment, as the current width is 250 feet (76.2 m). This construction will increase both the capacity and the safety of US 601.

Signals should be installed at the intersections of US 601 with US 601 Business north of Dobson, with SR 2221 (Rockford Rd.) and with NC 268.

It is anticipated that 13 residences and 7 businesses will be relocated due to this project.

The total cost of the project is as follows:

Construction.....	\$ 25,900,000
Right-of-way.....	<u>\$ 3,300,000</u>
Total Cost	\$ 29,200,000

IV. Other Comments

A second alternate was also considered that did not involve any improvements to US 601 along Segment 2, since it currently satisfies minimum roadway standards. Under this alternate, Segment 1 would be upgraded to a 24-foot (7.3-m) roadway with 8-foot (2.4-m) shoulders, including 2-foot (0.6-m) paved shoulders, on a 100-foot (30.5-m) right-of-way on new and existing alignments. The total cost of this alternate is as follows:

Construction.....	\$ 8,700,000
Right-of-way.....	<u>\$ 400,000</u>
Total Cost	\$ 9,100,000

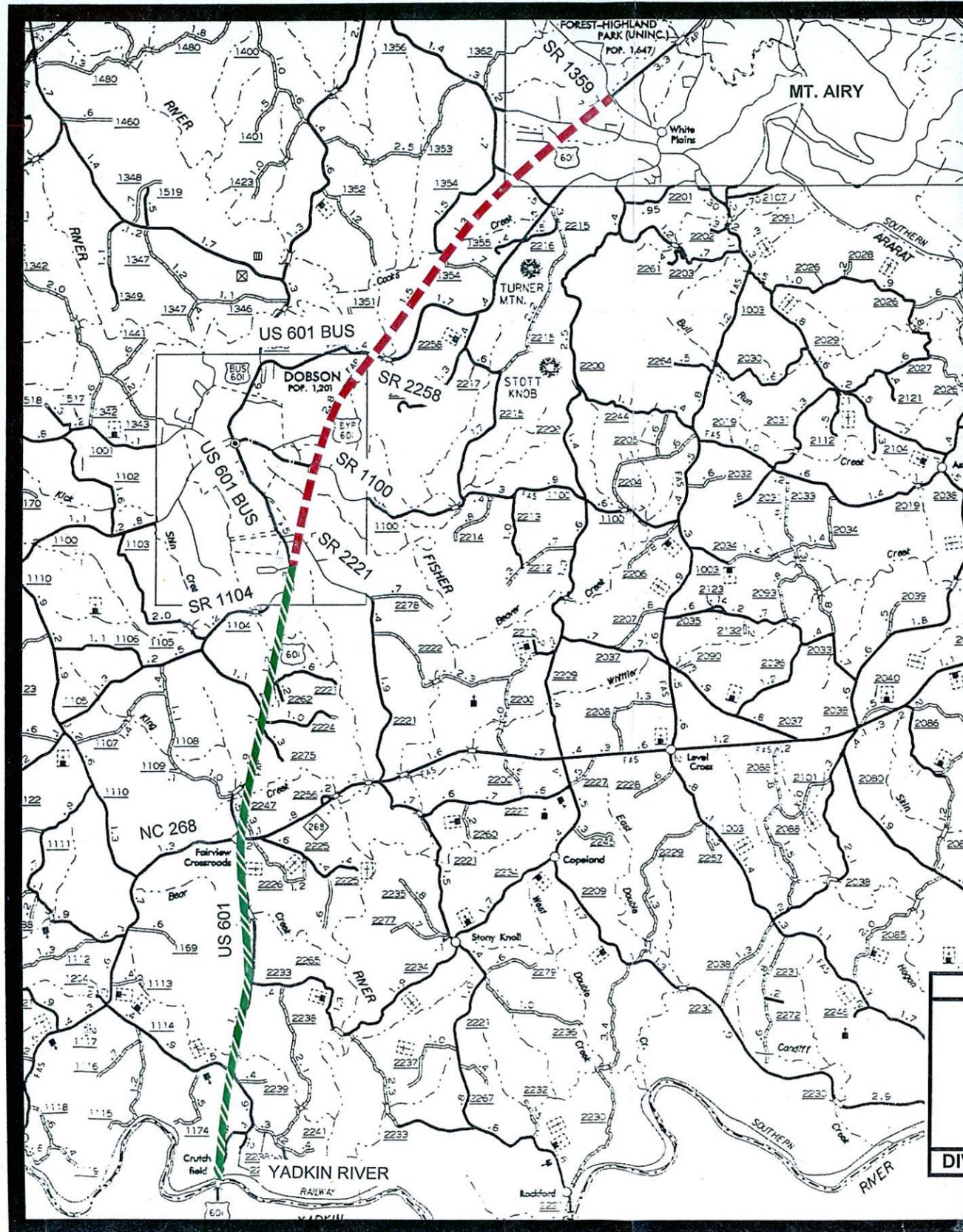
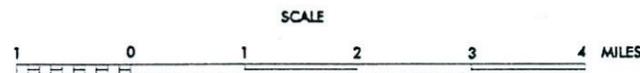
This project may require a Section 404 Corps of Engineers Nationwide Permit.

An environmental screening was not conducted for this study.

No special accommodation for bicycles is recommended on this project.



LEGEND	
	ALTERNATE 1
	ALTERNATE 2



FEASIBILITY STUDIES UNIT

R-2714
US 601
FROM THE YADKIN RIVER BRIDGE
TO SR 1359 (MCKINNEY RD.)

DIVISION 11 | SURRY COUNTY | FIGURE 1