

FEASIBILITY STUDY

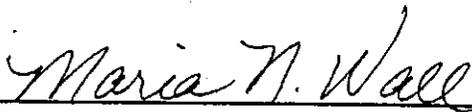
Mocksville Bypass

from US 601 south of Mocksville to
US 601 northwest of Mocksville

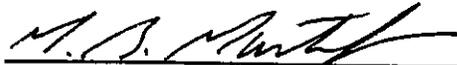
Davie County

R-3111

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



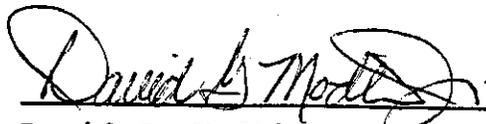
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FEASIBILITY STUDY

Mocksville Bypass

from US 601 south of Mocksville to
US 601 northwest of Mocksville

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I. GENERAL DESCRIPTION

This is a feasibility study for the Mocksville Bypass, from US 601 south of Mocksville to US 601 northwest of Mocksville, a distance of approximately 4.2 miles (6.8 kilometers) (See Figures 1 and 2). The recommended typical section is a five-lane, 60-foot (18.3-meter) wide roadway with 8-foot (2.4-meter) shoulders, including 2-foot (0.6-meter) paved shoulders on a 150-foot (45.7-meter) wide right-of-way with no access control. The estimated cost of the project is \$15,200,000 (\$1,900,000 for right-of-way and \$13,300,000 for construction).

This study is not a detailed planning/environmental investigation. A feasibility study presents recommended cross sections for improvements, general alignments of improvements, and estimated cost of construction and right-of-way. This study attempts to identify any potential environmental, permitting, or other observed issues which deserve consideration in the planning and construction stages.

II. NEED FOR PROJECT

This project was requested by the City of Mocksville. The Mocksville Bypass is classified as a major thoroughfare on the Mocksville Thoroughfare Plan. The recommended improvements are needed to reduce truck traffic through downtown Mocksville and promote industrial development and expansion.

The south terminal of the project is located at US 601, south of Mocksville, approximately 0.2 miles (0.3 kilometers) north of the Davie High School. In this area, US 601 is a three-lane, 40-foot (12.2-meter) face-to-face, curb and gutter section with 8-foot (2.4-meter) berms. Land use is residential, institutional, and industrial in this area.

The north terminal of the project is located at the intersection of US 601 and SR 1404, northwest of Mocksville. US 601 is a five-lane, 64-foot (19.5-meter) face-to-face curb and gutter section with 8-foot (2.4-meter) berms. Land use is commercial and undeveloped in this area.

The estimated 2020 design year average daily traffic (ADT) on the Mocksville Bypass is 20,000 vehicles per day (vpd). It is anticipated that traffic would experience a LOS B in the year 2020 on the recommended Mocksville Bypass. Additionally, a capacity analysis for a two-lane roadway resulted in a LOS F in the year 2020, therefore this alternate typical cross-section was eliminated.

III. RECOMMENDATIONS

It is recommended that the Mocksville Bypass be constructed on new location from US 601 south of Mocksville to US 601 northwest of Mocksville (See Figure 2). The recommended typical section is a five-lane, 60-foot (18.3-meter) wide roadway with 8-foot (2.4-meter) shoulders, including 2-foot (0.6-meter) paved shoulders on a 150-foot (45.5-meter) wide right-of-way with no access control.

All intersections will be at-grade. The intersections of US 601 south of Mocksville with the Mocksville Bypass, US 601 northwest of Mocksville with the Mocksville Bypass, and US 64 with the Mocksville Bypass are recommended to be signalized.

A bridge is recommended over the Southern Railway tracks west of Davie High School. There are two trains per day along these tracks at an average speed of 35 miles per hour (56.5 kilometers per hour). The exposure index, a product of the design year traffic volume and the number of trains per day, is 40,000. This exposure index exceeds the 15,000 index set for rural areas, thereby resulting in the recommended grade separation. Additional bridges and culverts would be constructed at drainage crossings.

The recommended corridor would encourage industrial development in this region and also provide a bypass route for truck traffic.

Total project cost is estimated as follows:

Right-of-way	\$ 1,900,000
Construction	\$13,300,000
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Project Cost	\$15,200,000

Low utility conflicts are expected.

IV. OTHER COMMENTS AND CONCERNS

It is estimated that this project would require the relocation of 5 residences.

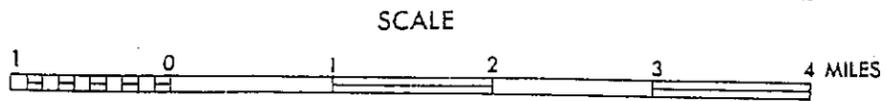
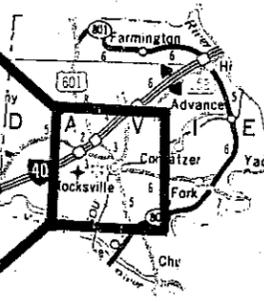
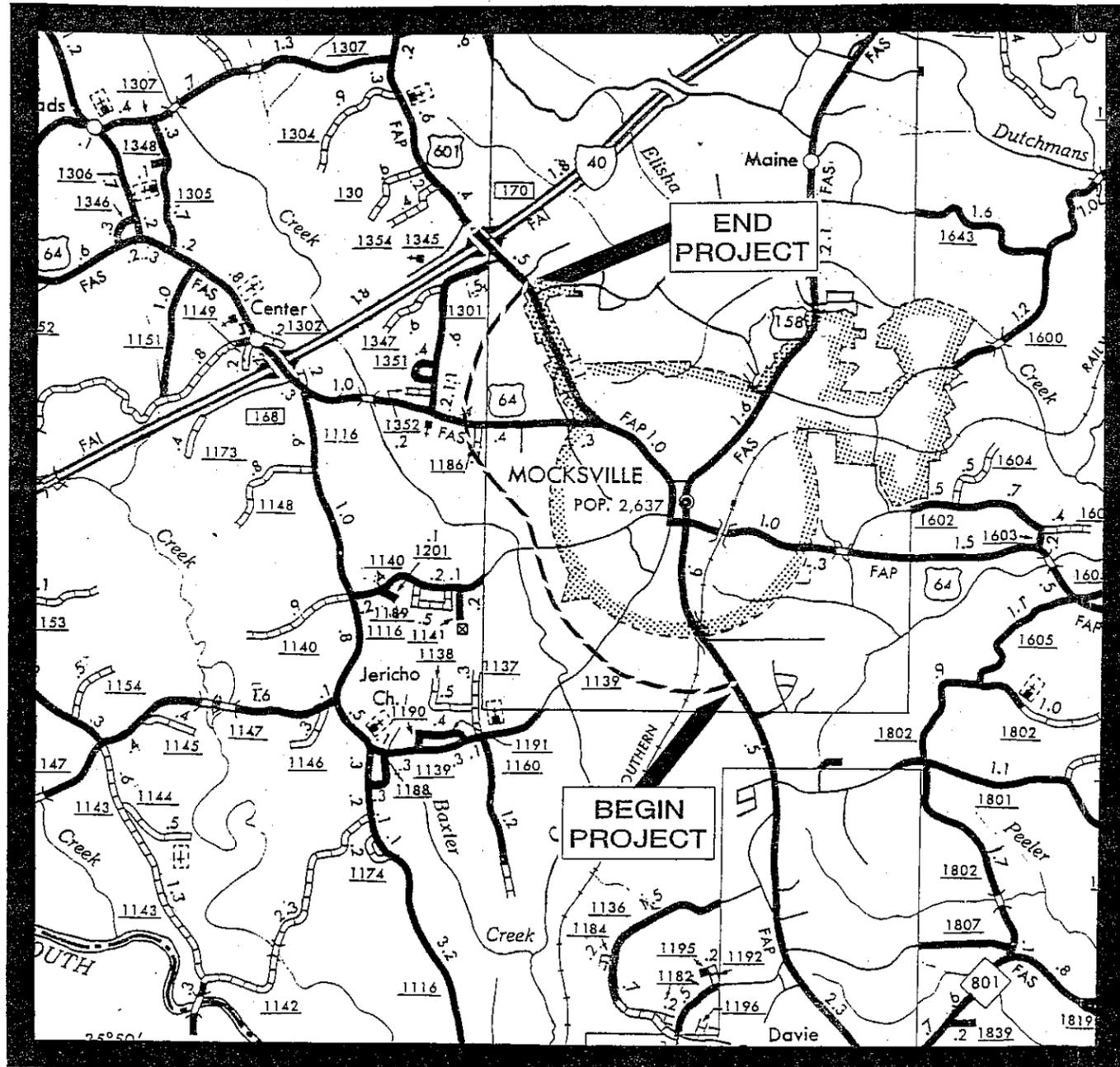
This project may require a Section 404, Corps of Engineers Nationwide Permit. A high quality water supply watershed exists north of SR 1140 along the project corridor. No historical or architecturally significant sites are known to be in the vicinity of the proposed project.

The Mocksville Thoroughfare Plan recommends continuing another section of the Mocksville Bypass from US 601 south of Mocksville to US 64 east of Mocksville. This would allow traffic between Lexington and Statesville to bypass Mocksville, thereby further reducing congestion through downtown Mocksville.

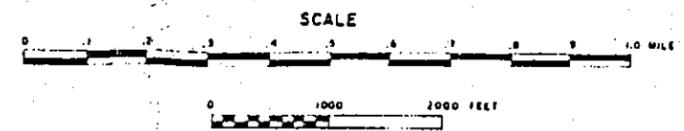
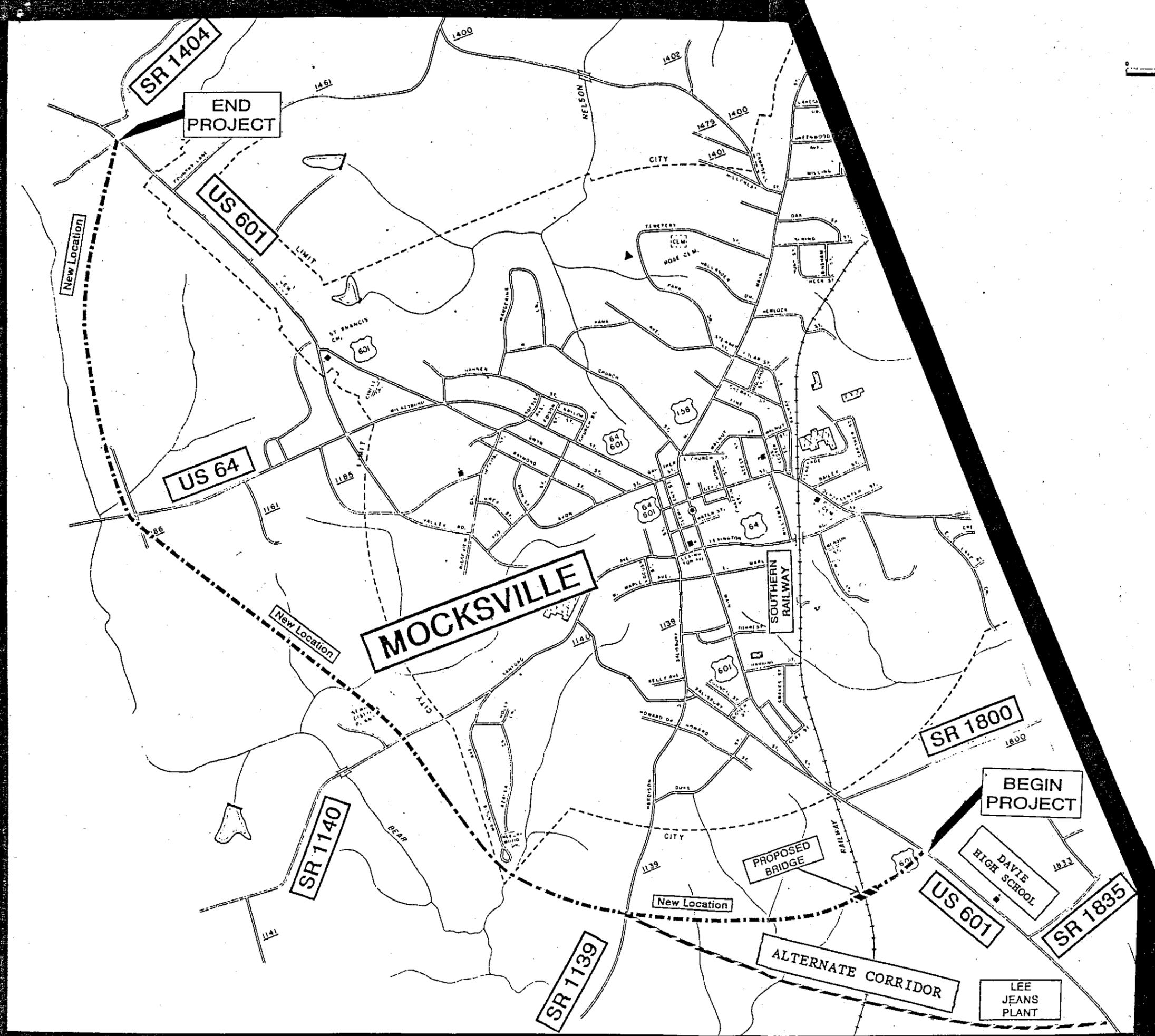
V. OTHER ALTERNATIVES CONSIDERED

An alternate corridor between US 601 south of Mocksville and SR 1139 was studied (See Figure 2). This alternate would begin at US 601 south of Mocksville at the southern boundary of the Lee Jeans manufacturing plant and intersect the recommended corridor at the intersection with SR 1139. This alternate was rejected since it is 0.4 miles longer than the recommended alternate and it deviates from the proposed Mocksville Bypass as outlined on the Mocksville Thoroughfare Plan. The estimated cost of this alternate with a five-lane shoulder section on a 150-foot (45.5-meter) wide right-of-way would be \$16,000,000 (\$1,700,000 for right-of-way and \$14,300,000 for construction).

Also, an alternate typical cross-section was studied for the Mocksville Bypass. The alternate section was a four-lane, 46-foot (14-meter) median divided roadway on a 300-foot (91.5-meter) wide right-of-way with no access control. This alternate was rejected due to a higher estimated cost and an increase in the number of relocations. The estimated cost of this alternate would be \$18,000,000 (\$2,700,000 for right-of-way and \$15,300,000 for construction) utilizing the recommended corridor or \$19,300,000 (\$2,600,000 for right-of-way and \$16,700,000 for construction) utilizing the alternate corridor.



FEASIBILITY STUDIES UNIT	
R-3111	
Mocksville Bypass	
from US 601 south of Mocksville to US 601 northwest of Mocksville	
Davie County	
DIV. 9	FIGURE 1



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Mocksville Bypass	
from US 601 south of Mocksville to US 601 northwest of Mocksville	
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DIV. 9	FIGURE 2