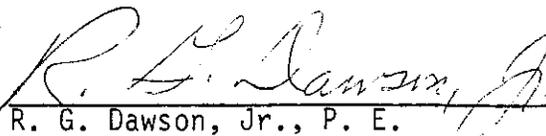
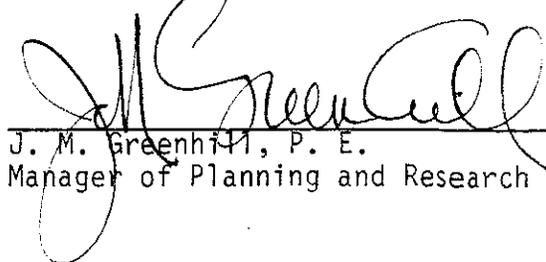

FEASIBILITY STUDY

Montgomery-Richmond Counties
SR 1005, From Troy to Rockingham
R-2314

Prepared by
Planning and Research Branch
Division of Highways
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9.8.88
Date

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I. DESCRIPTION

This report covers a preliminary study of the proposed widening and realignment of the subject facility. The study extends between NC 24-27 in Troy to US 74 at Rockingham, a distance of approximately 32.5 miles. This project is included in the 1988-1996 Transportation Improvement Program for feasibility study and/or right of way protection. No funding has been appropriated for this project. Location of the project is shown on the attached map.

II. PURPOSE OF PROJECT

Existing Route Characteristics

SR 1005 is designated as a major collector in the Montgomery County Thoroughfare Plan. No thoroughfare plan has been developed for Richmond County; however, it is anticipated that SR 1005 would also serve as a major collector.

The studied section of road has variable pavement widths of 16 to 22 feet with generally 5-foot shoulders. The predominant pavement width is 18 feet. The existing pavement is in poor condition with poor riding quality. Inside the Troy town limits, the facility has variable 28 to 34-foot curbed sections. At Rockingham, the existing road from SR 1139 to US 74 has 24 and 48-foot shoulder sections. Since no recorded right of way agreements are available, existing right of way along much of the studied section is estimated to be the maintained width of 30 feet.

The existing horizontal alignment along the entire project length is poor. It is saturated with curves, most of which are substandard and back to back. The vertical alignment is not as critical but does contain several undulating sections requiring grade changes. Little of the total project length has safe passing sight distance.

Despite its unfavorable alignment, most of the entire studied length has a posted speed limit of 55 MPH. Adjacent land use is predominantly wooded and undeveloped. Existing development is generally sparse and scattered but increases in density as SR 1005 approaches Troy and Rockingham.

Five bridges are in place along the subject facility. They are described as follows:

<u>County</u>	<u>Bridge No.</u>	<u>Location</u>	<u>Year Built</u>	<u>Sufficiency Rating</u>	<u>Length</u>	<u>Width</u>
Montgomery	70	Little River	1971	94.4	261'	34'
Montgomery	64	Cheek Creek	1950	43.7	71'	20'
Richmond	107	Big Mountain Cr.	1965	92.8	106'	28'
Richmond	108	Little Mt. Cr.	1964	79.9	61'	24'
Richmond	118	Cartledge Cr.	1967	81.3	76'	28'

All bridges except No. 64 are of concrete construction. Bridge No. 64 is scheduled to be replaced in FY 1992 (B-1285).

Traffic Volumes, Capacity, and Accident Record

For the most part, current traffic volumes range from approximately 400 vehicles per day to 900 vpd. Estimated traffic volumes for year 2008 are 700 to 1600 vpd, including 2 percent TTST and 2 percent dual tired trucks.

Present capacity along the two-lane facility operating under rural conditions is approximately 3000 vehicles per day at level of service C. Thus, present capacity is more than adequate to accommodate future traffic demands.

Some 68 accidents occurred on the rural 31-mile portion of SR 1005 during a 4-year period of 1984-1987. This record yielded an accident rate of 2.6 accidents per million vehicle miles, which is less than the statewide 1987 average rate of 3.5 acc/mvm for secondary roads. The major accident pattern was the run-off-road types, which were responsible for half of the total accidents.

Need for Project

Purpose of the project is to upgrade SR 1005 to an adequate two-lane facility that would provide an improved connection between Troy and Rockingham. Although travel on SR 1005 shortens the distance between the two urban areas by as much as seven miles as compared to the alternate but higher type routing of NC 24-27 and US 220, it is severely hampered by very narrow pavements and dangerous curves. Elimination of these deficiencies would enhance traffic operation and safety and afford better access through two counties.

III. RECOMMENDATIONS AND COSTS

Widening, resurfacing, and realignment of SR 1005 to modern two-lane standards are justified and immediately warranted. Recommended cross section for the improvement is 22-foot pavement with minimum 6-foot shoulders. Based on preliminary design studies, horizontal and vertical alignment changes are recommended on approximately 14.5 miles or nearly half of the total studied length. The alignment improvements would allow a minimum desirable design speed of 50 MPH. (An aerial mosaic showing the proposed realignments is on file in the office of the Roadway Design

Unit.) No bridge work would be required or other major improvements to the existing road are foreseen. Within the corporate limits of Troy and between SR 1139 and US 74 at Rockingham, only resurfacing is recommended.

The total estimated cost of the recommended improvements is \$13,400,000, including \$10,200,000 for roadway construction and \$3,400,000 for right of way. The right of way cost is based on acquiring additional right of way to make a total right of way width of 100 feet.

If staging of the project is desired, it is recommended the project be divided as follows:

Priority 1 - NC 24 in Troy to NC 73 (18.4 miles)

Construction	\$5,800,000
Right of Way	<u>1,900,000</u>
Total	\$7,700,000

Priority 2 - NC 73 to US 74 at Rockingham (14.1 miles)

Construction	\$4,400,000
Right of Way	<u>1,300,000</u>
Total	\$5,700,000

Cost estimates were prepared by the Roadway Design Unit and the Right of Way Branch.

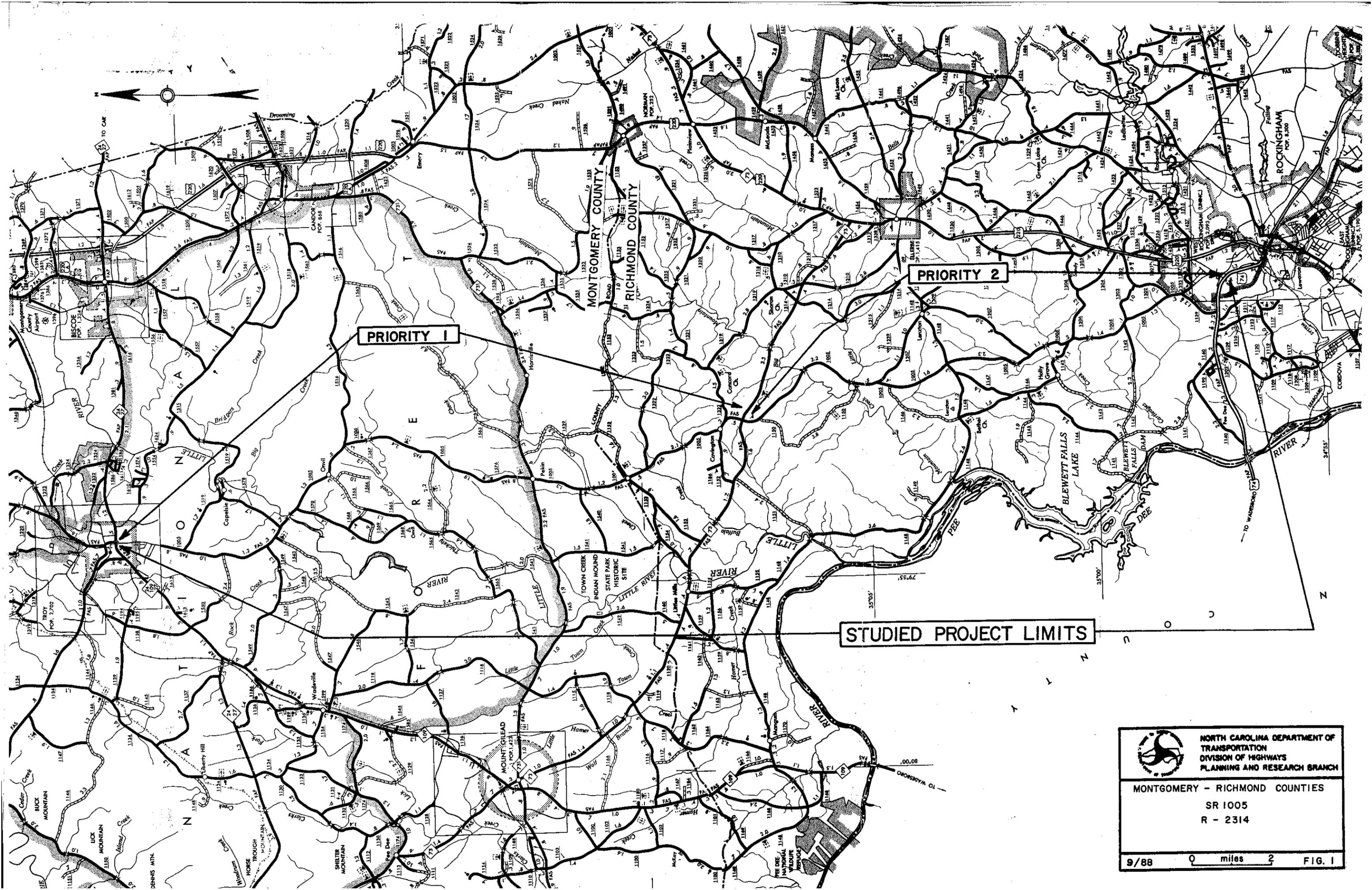
IV. OTHER COMMENTS

No other alternatives were considered for this project.

The project should not have any significant adverse effects on the environment. Negative impacts include loss of some farmland and woodland for the required additional right of way, displacement of approximately 2 residences and 4 businesses, and increased noise levels for remaining roadside development.

Local governments should be encouraged to ensure that new development be adequately set back to allow widening and realignment of SR 1005.

RGD/wp



PRIORITY 1

PRIORITY 2

STUDIED PROJECT LIMITS

	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANNING AND RESEARCH BRANCH
	MONTGOMERY - RICHMOND COUNTIES SR 1005 R - 2314
9/88	0 miles 2 FIG. 1