

FEASIBILITY STUDY

Marion
SR 1001 (Sugar Hill Road)
I-40 to Marion Bypass
McDowell County, R-2643

Prepared by
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I. GENERAL DESCRIPTION

This report covers a preliminary study of the proposed upgrading of SR 1001 (Sugar Hill Road) in Marion to a multi-lane facility. The proposed project extends from Interstate 40 to the US 221 Marion Bypass and is approximately 2.3 miles in length (see Figure 1). It is included in the 1990-1996 Transportation Improvement Program for feasibility study and/or right-of-way protection. It is not currently funded for design, right-of-way acquisition, or construction.

II. PURPOSE OF PROJECT

Existing Route Characteristics

Sugar Hill Road serves the southwestern area of Marion and provides a major connector between Interstate 40 and the downtown Marion area. It is classified as a major thoroughfare on the Marion Thoroughfare Plan which was adopted in January 1985. From I-40 to SR 1168, this route is classified as a Rural Minor Collector, and from SR 1168 to the Marion Bypass, it is classified as a Rural Major Collector in the North Carolina Functional Classification System.

Sugar Hill Road is basically a two-lane facility with a 24-foot pavement and 6-foot shoulders which widens to a 64-foot curb and gutter section at the Marion Bypass. The existing right-of-way is claimed 32 feet, symmetrical about the present centerline. The horizontal alignment is good, and the vertical alignment is fair along the studied section of road. All intersections along the studied route are at grade with the exception of the I-40 interchange and are all stop sign controlled with the exception of the signalized intersection at Rankin Drive (SR 1323). The speed limit is 45 mph from I-40 to Rankin Drive, where it decreases to 35 mph for the remainder of the project.

Development along the studied route is heavy and is a mixture of commercial, residential, and institutional. The West Marion Elementary School is located on the east side of Sugar Hill Road at the intersection of SR 1169, and McDowell Hospital is located just off the project on Rankin Drive. The West Marion United Methodist Church is located at the top of a high cut just north of SR 1183.

Traffic Volumes, Capacity, and Accident Record

The current traffic volumes range from a low of 9700 vehicles per day (vpd) at the south end of the project to 11,300 vpd at the north end of the project. By the year 2010, these volumes are projected to increase to approximately 17,500 vpd and 20,500 vpd, respectively. With the current traffic volumes, Sugar Hill Road is operating at Level of Service

E during peak periods. This level of service is characterized by congestion and delays to motorists. Without improvements to the highway, the level of traffic service will deteriorate in the future as traffic volumes continue to grow. With the proposed improvements, Sugar Hill Road should operate at Level of Service C or better throughout the planning period.

During the period from November 1, 1986 through October 31, 1989, a total of 107 accidents were reported on the subject portion of Sugar Hill Road, resulting in an accident rate of 415.9 accidents per 100 million vehicle miles (acc/100mvm). This compares to a statewide average of 378.4 acc/100mvm for all urban secondary roads over a similar period. The most common accident type was the rear-end collision. The proposed improvements to Sugar Hill Road should reduce the potential for this type of accident.

Need for Project

The widening of Sugar Hill Road to a multi-lane section is needed to provide adequate capacity for existing and future traffic volumes. The project will improve access into Marion from I-40, and will improve access to the development along the road, such as the school and the hospital. The project will also enhance safety along the road.

III. RECOMMENDATIONS AND COSTS

The widening of Sugar Hill Road to a multi-lane facility is immediately warranted. The recommended improvement is a five-lane curb and gutter cross section, 64 feet from face to face of curbs. Widening is recommended to be generally symmetrical about the existing centerline; however, it may need to be shifted at specific locations to avoid undue damage to one side. A 100-foot right-of-way, plus construction easements as needed, are anticipated for the proposed roadway.

The estimated costs of this project are as follows:

Construction	\$ 3,700,000
Right-of-Way	<u>2,500,000</u>
TOTAL	\$ 6,200,000

The construction cost includes engineering and contingencies and the right-of-way cost includes relocation, acquisition, and utility costs.

IV. ENVIRONMENTAL EFFECTS

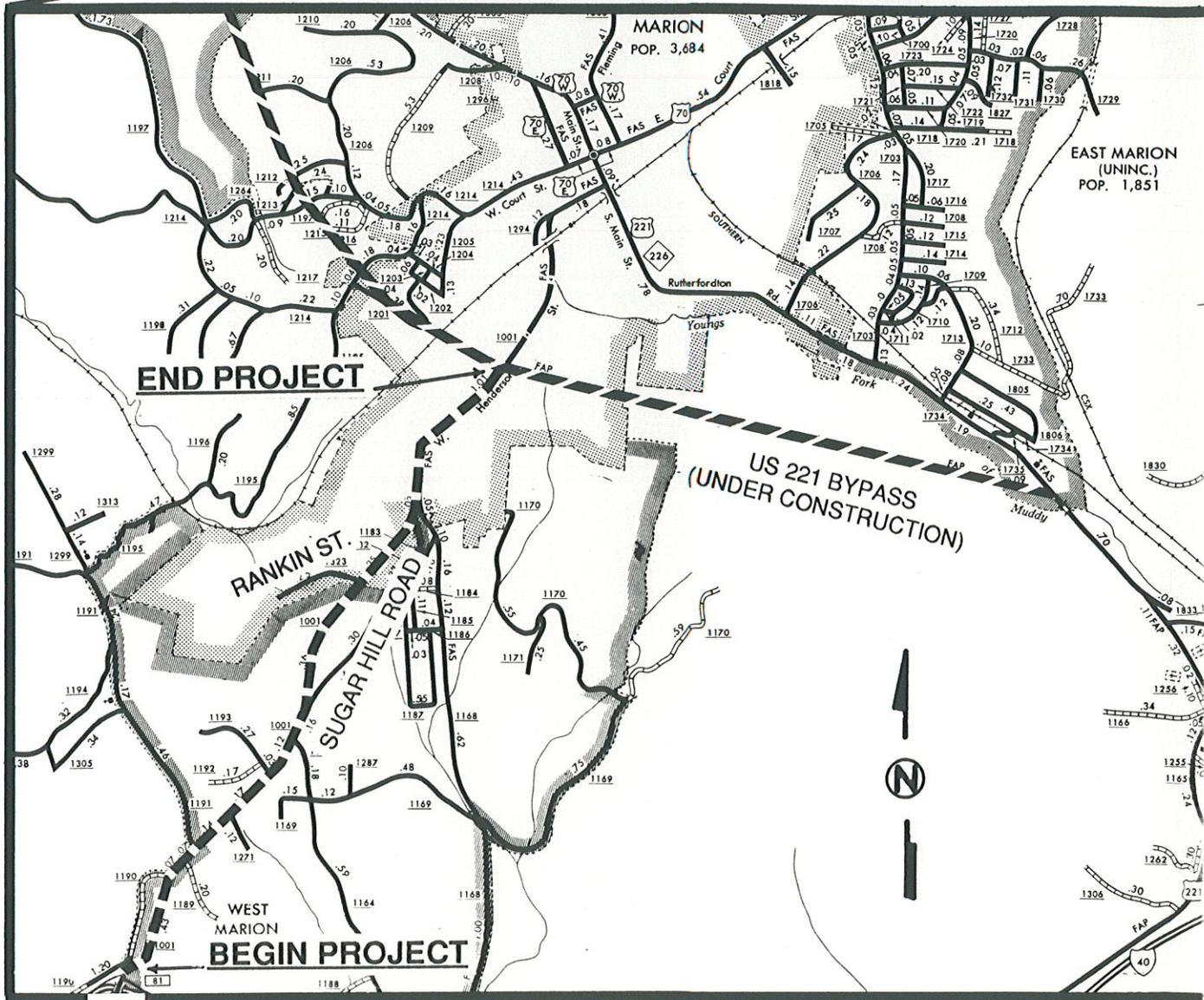
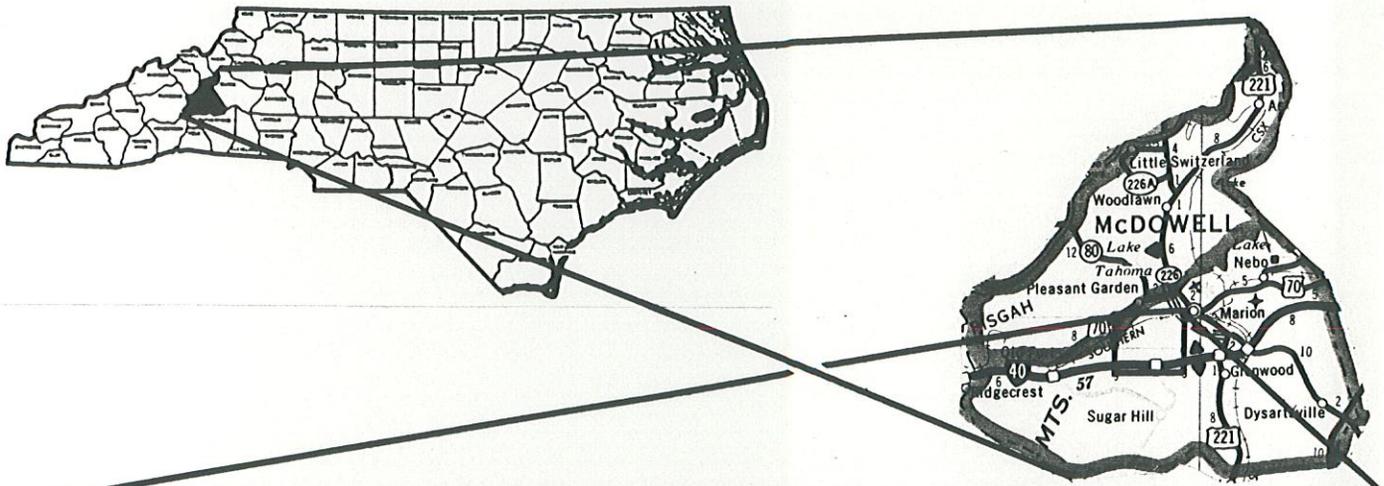
The implementation of the proposed project is not expected to result in any significant impact on the environment. The widening of the subject road will require the relocation of an estimated 17 residences and 3 businesses. The project will also result in increased noise levels for remaining development adjacent to the roadway. Other impacts will be primarily related to the actual construction of the proposed roadway.

These include minor erosion and siltation, increased noise levels from construction machinery, and delay and inconvenience to motorists using the subject route.

V. FUTURE ACTIVITIES

If the project is to be implemented at a future date, all feasible alternatives and their associated impacts will need to be evaluated in a planning/environmental document prior to that time, and a decision made as to the most appropriate improvement.

RBD/plr



I-40

 NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND RESEARCH BRANCH

MARION
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FIG. 1