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FEASIBILITY STUDY

Hickory, SR 1476 (Fairgrove Church Road)
From NC 10 Southwest of Newton
to SR 1491 (Section House Road),
Catawba County,
U-2529

Prepared by
Planning and Research Branch
Division of Highways
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I. DESCRIPTION

This report covers a preliminary study of the proposed upgrading and extension of SR 1476 (Fairgrove Church Road) in eastern Hickory. As shown on the attached map (Figure 1), this study extends from NC 10 near Newton to SR 1491 (Section House Road) in Hickory. The project is approximately 7.0 miles in length, and appears in the 1990-1996 Transportation Improvement Program (T.I.P.) for feasibility study and/or right-of-way protection. It is not currently funded.

II. PURPOSE OF PROJECT

Existing Route Characteristics

SR 1476 appears as a major thoroughfare on the Hickory-Newton-Conover Urban Area Thoroughfare Plan (adopted 1987, see Figure 3), and as an Urban Minor Arterial (within the city limits) and Rural Major Collector (outside) on the County Functional Classification Plan. The route is a major north/south thoroughfare in eastern Hickory.

The studied section of road has variable pavement widths. Predominantly, it is a 40-foot curb and gutter facility (from I-40 to SR 1692). At the I-40 interchange, the pavement widens for 0.4 mile to a 48-foot pavement with 12-foot shoulders. To each extreme of SR 1476 (near US 64 and at SR 1007), the roadway has a 24-foot pavement with 4-foot shoulders. A short section of SR 1283 south of US 64, which would be utilized as part of the project, has a 40-foot pavement with curb and gutter.

The Southern Railway crosses SR 1476 approximately 250 feet south of SR 1007. This railway has a volume of 18 trains per day, and is protected with gates and flashers.

The existing alignment constructed through rolling terrain is good. The speed limit on the route is predominantly 35 mph, switching to 45 mph north of SR 1692.

There is one bridge on SR 1476 and information is listed below:

<u>Bridge No.</u>	<u>Location</u>	<u>Length (Ft.)</u>	<u>Width (Ft.)</u>	<u>Age (Yrs.)</u>	<u>Rating (New=100)</u>
168	I-40	290	68.0	15	96.8

There are 7 existing traffic signals on Fairgrove Church Road. They are located at US 64/70, the I-40 ramps, 12th Ave. Place S.E., the Catawba Memorial Hospital Entrance, Tate Blvd., and SR 1007. Development along the route is predominantly industrial and commercial with some residential and industrial uses.

Traffic Volumes, Capacity, and Accident Record

Current traffic volumes on SR 1476 range from a low of 7000 vehicles per day (vpd) near SR 1007 to a high of 22,200 vpd near I-40. By the year 2010, it is anticipated that volumes on the proposed project will be approximately 7900 vpd at SR 1007, 19,500 vpd north of I-40, 26,500 vpd south of I-40, 12,500 vpd at SR 1165, 7700 vpd at SR 1149, and 6800 vpd near NC 10.

Accident data for a recent 3-year period indicates a total of 179 accidents on Fairgrove Church Road. This yields a total accident rate of 718.6 accidents per hundred million vehicle miles (ACC/100MVM), which is greater than the statewide average of 378.4 for similar urban secondary routes. Predominant accident types were rear-end (62%), left turn (38%), and angle (37%) collisions.

Present capacity along SR 1476 is approximately 10,000 vpd.

Need for Project

This upgrading and extension would provide vital thoroughfare plan links from I-40 to points north and south, and provide (with U-2404, which is the proposed Eastern Loop of Conover) continuity of an extensive loop system around the Conover/Newton area.

III. RECOMMENDATIONS AND COSTS

It is recommended a continuous 5-lane, 64-foot curb and gutter cross section be provided from SR 1165 to SR 1007 along the alignment (including SR 1476) indicated on Figure 2. From NC 10 to SR 1165, and from SR 1007 to SR 1491 (the south and north extremes of the project), the recommended improvement is a 24-foot pavement with minimum 8-foot shoulders. This reduction in cross section is due to significant drops in traffic volumes on these sections of the project. The southern section from NC 10 to SR 1165 ties into the proposed Conover Eastern Loop, which also has a recommended 24-foot shoulder cross section at NC 10, thus insuring continuity.

The alignment deviates from the thoroughfare plan in the area of new location south of US 64. The recommended alignment is located to the east of Clark Creek, whereas the original alignment followed the west side of the creek. This revision was made due to more favorable terrain, less development, and positive local support.

It is not anticipated that the structure at the I-40 interchange would need revision in this project. Additionally, due to topographic and developmental limitations near SR 1007, a grade separation with the Southern Railway is not recommended.

The right-of-way widths used for cost estimating purposes are 160 feet on new location, and 100 feet on existing location. Where a 24-foot cross section is recommended, the additional right-of-way allows for

future multi-laning as necessary. Existing right-of-way on SR 1476 varies from 40 to 50 feet, except for the wider right-of-way at the I-40 interchange.

The total estimated cost of the recommended improvements is \$20,250,000, including \$16,500,000 for roadway construction, and \$3,750,000 for right-of-way. Cost estimates were prepared by the Preliminary Estimate Engineer and the Right-of-Way Branch.

IV. ALTERNATIVES

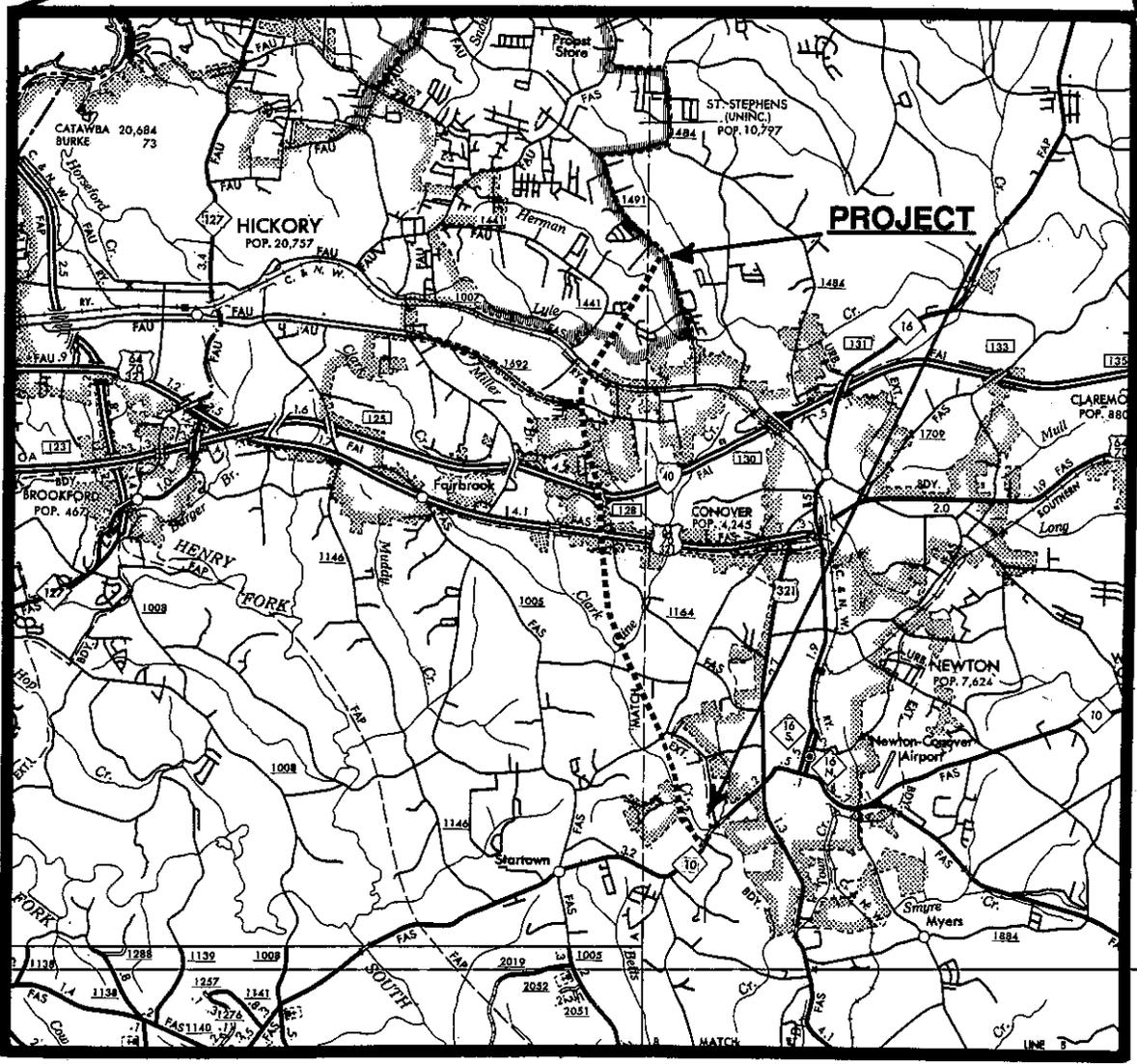
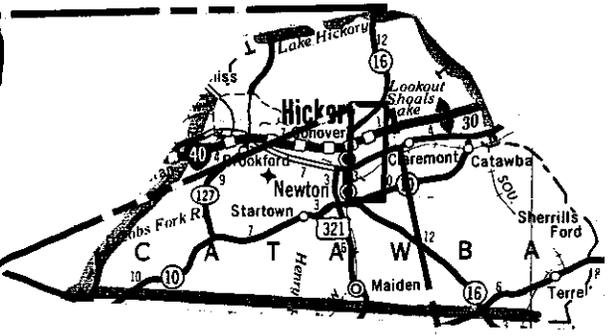
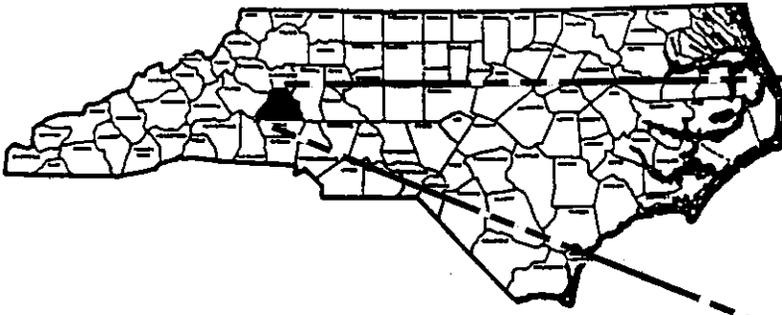
A studied alternative to the recommended cross section above involves the construction of a five-lane, 64-foot curb and gutter section throughout the project. This would increase the total cost of the project to approximately \$ 24,750,000, with \$ 21,000,000 for roadway construction, and \$ 3,750,000 for right-of-way.

V. OTHER COMMENTS

Negative environmental impacts of the project are: (1) relocation of approximately 3 businesses and 10 residences; (2) loss of wetlands along Clark Creek and at the crossing of Cline Creek; and (3) loss of pasture and woodlands south of US 64.

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

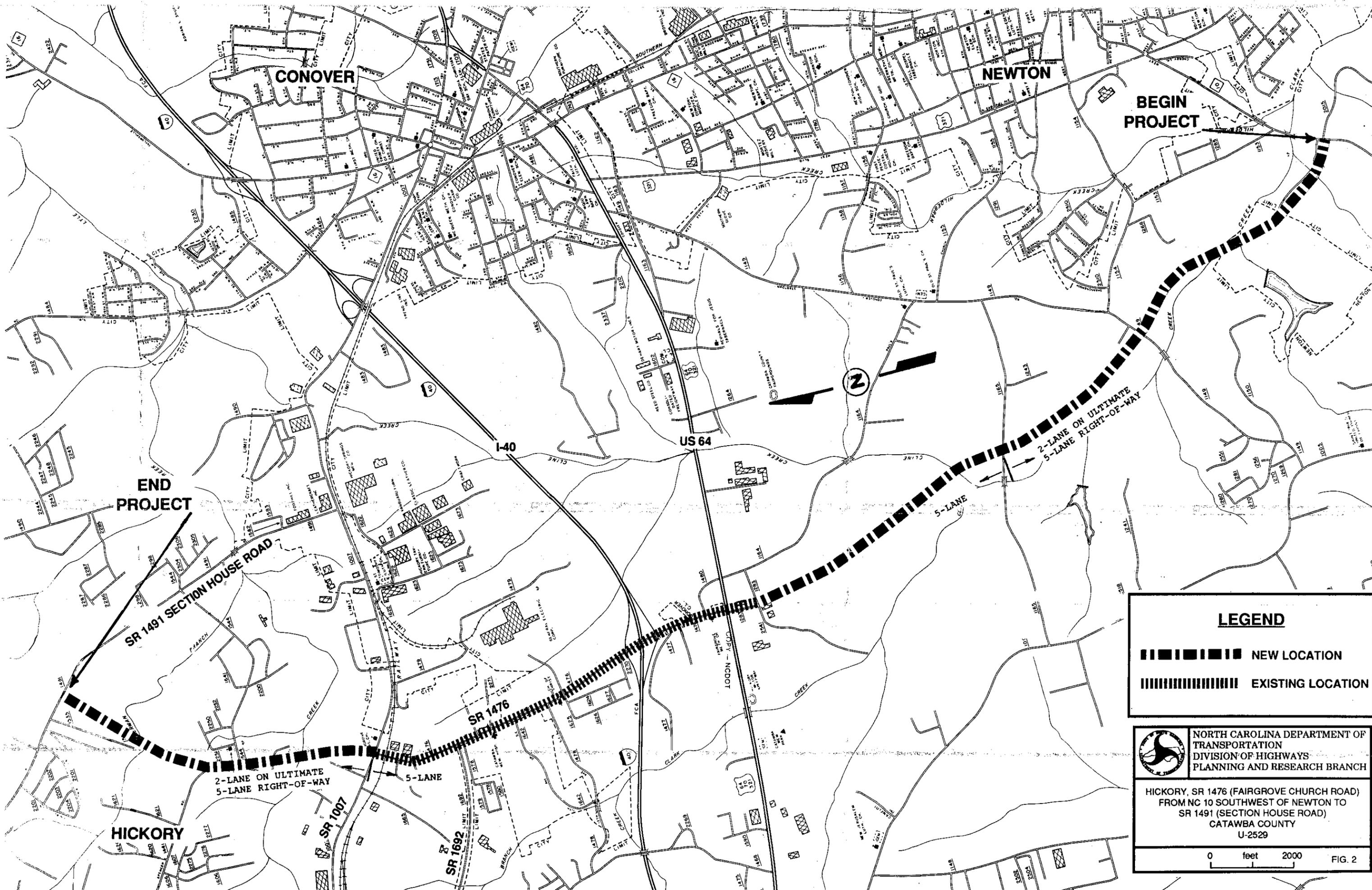
MH/plr



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

HICKORY, SR 1476
(FAIRGROVE CHURCH ROAD), FROM
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0 miles 2 FIG. 1



LEGEND

 NEW LOCATION
 EXISTING LOCATION


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0 feet 2000 FIG. 2



END PROJECT

BEGIN PROJECT

THOROUGHFARE PLAN



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0 feet 2000 FIG. 3