

FEASIBILITY STUDY

NC 274, Gastonia,
From Niblick Drive to Rivermont Drive,
Gaston County,
U-2522

Prepared by
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I. DESCRIPTION

This report covers a preliminary study of the proposed upgrading of NC 274 to a multi-lane facility. As shown on Figure 1, this study extends from Niblick Drive to Rivermont Drive in southern Gastonia. A supplement to this study (see Supplemental Recommendations below) extends the project south to SR 2444 (at the Gastonia Airport), and adds a small section to the north (between Forest Drive and Broad Street) for continuity purposes (see Figure 2). The scheduled project length is approximately 3.0 miles. This NC 274 project 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

NC 274 appears as a major thoroughfare on the Gaston Urban Area Thoroughfare Plan (adopted 1986), and as an Urban Principal Arterial on the County Functional Classification Plan. This route serves as one of the major thoroughfares collecting traffic from areas south of Gastonia.

The studied section of NC 274 has a predominant pavement width of 24 feet, with variable 6 to 8-foot unpaved shoulders. Existing right-of-way on the route is maintained 46 feet.

From Neal Hawkins Road (SR 2400) south to Robinson Road (SR 2416), the roadway has been widened by the City of Gastonia to a 5-lane, curb and guttered facility. This roadway transitions to two lanes to the north of SR 2400, and to the south of SR 2416.

North of Niblick Drive to Betty Street south of the Garrison Boulevard intersection, this route has a 41-foot curb and gutter cross section marked for 2-lane operation. The city has expressed their intent to mark this segment for 4-lane operation if upgrades to adjoining sections are completed.

North of Betty Street (near the intersection with Garrison Boulevard), NC 274 has a 2-lane, 24-foot shoulder section extending to Third Avenue. Beyond Third Avenue, it forms into a 2-lane, one-way pair separated by the Northwestern Railroad.

There is one box culvert on the project. Located at Catawba Creek, it is 41 years old, has a length of 32 feet, and a sufficiency rating of 94.5. The width of this reinforced concrete structure is sufficient to accommodate future widening as necessary.

The road has good alignment, and is constructed through rolling terrain. Speed limit on the route is 45 mph. There are 4 signals on the route, and they are located at SR 2400, SR 2446, SR 2416, and Garrison Ave.

Development along NC 274 is a mixture of residential and commercial, with some small undeveloped areas.

Traffic Volumes, Capacity, and Accident Record

Current traffic volumes on NC 274 range from a low of 11,200 vehicles per day (vpd) near Catawba Creek, to 11,700 vpd near the airport, to a high of 15,000 vpd between SR's 2400 and 2416. By the year 2010, it is estimated that these volumes will range from 24,000 vpd to 36,000 vpd, respectively.

Accident data for a recent 3-year period indicates a total of 189 accidents on the project length and the supplementary sections. This yields a total accident rate of 421.7 accidents per hundred million vehicle miles (ACC/100MVM), which is more than the statewide average of 285.5 ACC/100MVM for similar, 2-lane, urban NC routes. Predominant accident types were rear-end (41%) and angle (14 %) collisions, and running off the road (12%).

Present capacity along the 2-lane facility operating under urban conditions is approximately 10,000 vpd. Thus, capacity is exceeded by current traffic volumes at all points along the studied project and supplementary sections.

Need for Project

The existing road has critical capacity problems at this time, and will have more serious problems in the future as traffic growth and development continues. This can only be addressed by multi-laning NC 274.

III. RECOMMENDATIONS AND COSTS

Upgrades are recommended for the entire 3.0-mile project length from SR 2400 (Neal Hawkins Road) to the wide curbed beginning near Catawba Creek. The improvements to this existing 2-lane portion of NC 274 consist of widening to a 5-lane, 64-foot curb and gutter facility. The recommended width should be transitioned to the existing curbed width at the northern extreme of the project. A 100-foot right-of-way width was used for cost estimate purposes.

The total estimated cost of the recommended upgrades within the T.I.P. project limits is \$ 3,600,000, including \$ 2,400,000 for roadway construction, and \$ 1,200,000 for right-of-way. Cost estimates were prepared by the Preliminary Estimate Engineer and the Right-of-Way Branch.

It is not anticipated that any residential or business relocations would be necessitated by construction of the project.

IV. SUPPLEMENTAL RECOMMENDATIONS

It is recommended, for multi-lane route continuity between downtown Gastonia and the airport, that the project be extended to include the two following additional upgrades (see Figure 2):

Section A- from SR 2444 to SR 2416 (1.0 mile). Upgrade to 5-lane, 64-foot curb and gutter facility. Total cost is \$ 3,000,000, (\$ 1,800,000 for roadway construction, and \$ 1,200,000 for right-of-way). This would involve the relocation of 1 residence and 1 business. A 100-foot right-of-way width was used for cost purposes.

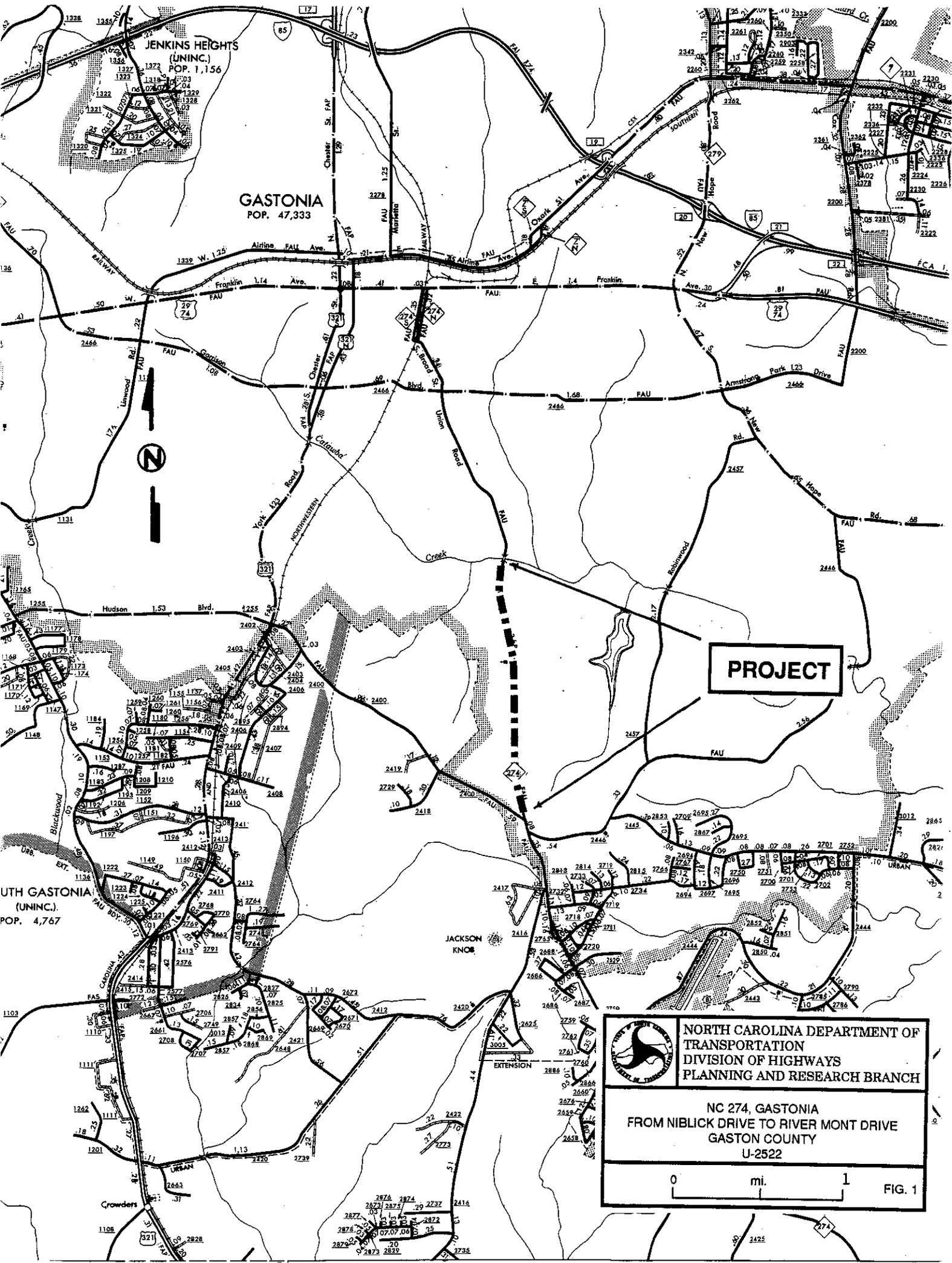
Section B- from Betty Street to Third Street (0.8 mile). Upgrade to 52-foot, 4-lane curb and gutter facility. Total cost is \$ 2,500,000 (\$ 700,000 for roadway construction, and \$ 1,800,000 for right-of-way). This would involve the relocation of 5 residences and 5 businesses. A 60-foot right-of-way width was used for cost purposes.

V. OTHER COMMENTS

Major negative environmental impacts of the project are: (1) increased noise levels for remaining development; and (2) the possible loss of a small amount of wetlands at Catawba Creek.

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



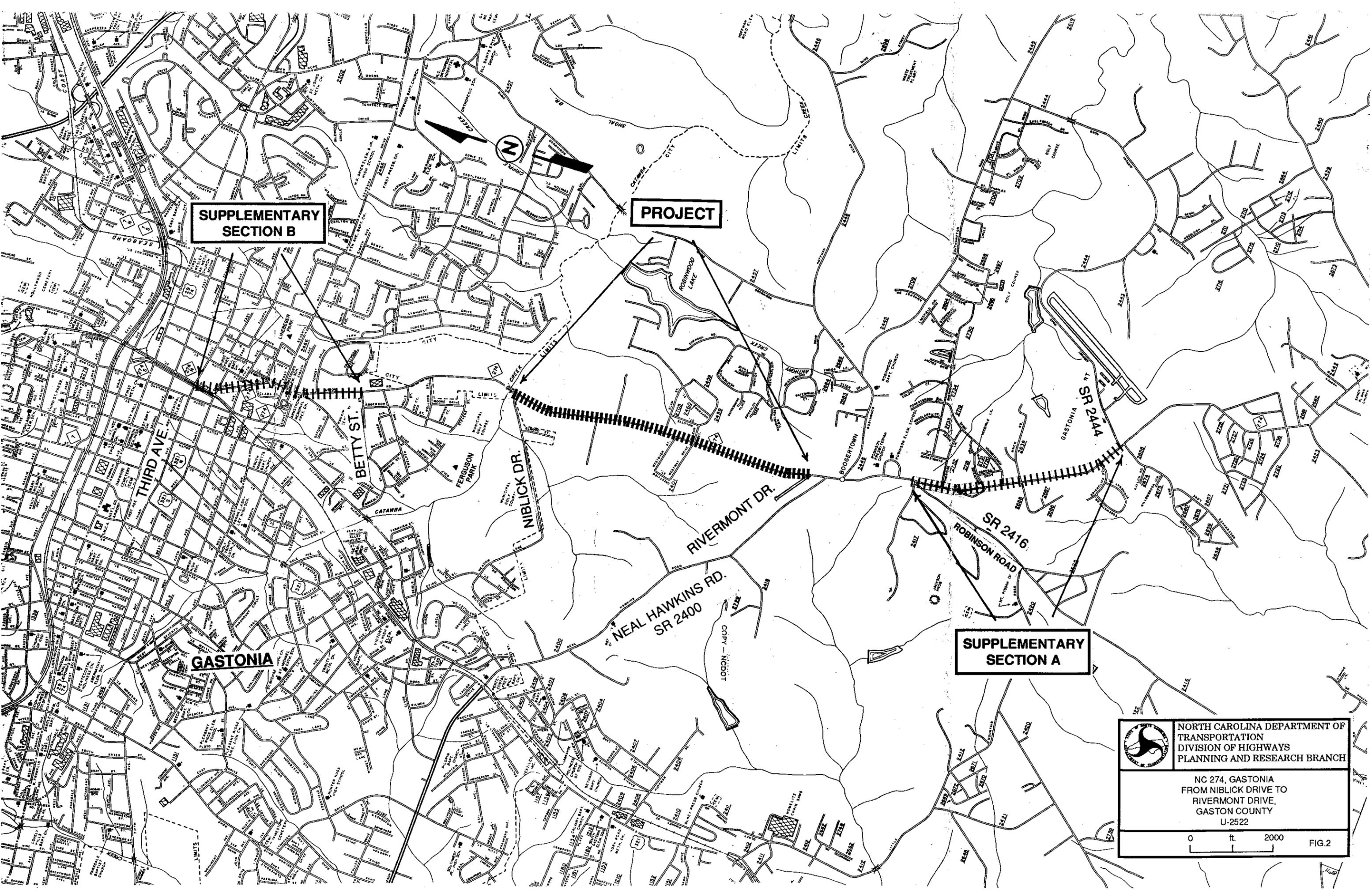
PROJECT



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

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FROM NIBLICK DRIVE TO RIVER MONT DRIVE
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SUPPLEMENTARY SECTION B

PROJECT

SUPPLEMENTARY SECTION A

GASTONIA

	<p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANNING AND RESEARCH BRANCH</p>
<p>NC 274, GASTONIA FROM NIBLICK DRIVE TO RIVERMONT DRIVE, GASTON COUNTY U-2522</p>	
<p>0 ft. 2000</p> <p style="text-align: right;">FIG. 2</p>	