

FEASIBILITY STUDY

NC 279, Gastonia,  
From NC 7 to Long Creek,  
Gaston County,  
U-2523

Prepared by  
Planning and Research Branch  
Division of Highways  
N. C. Department of Transportation

  
Marc Hamel  
Project Planning Engineer

  
R. G. Dawson, Jr., P. E.  
Head of Feasibility & Special  
Studies Unit

5/21/90  
Date for   
L. J. Ward, P. E.  
Manager, Planning and Research

NC 279, Gastonia,  
From NC 7 to Long Creek,  
Gaston County,  
U-2523

I. DESCRIPTION

This report covers a preliminary study of the proposed upgrading of the subject road to a multi-lane facility. As shown on the attached map (Figure 1), this study extends from NC 7 in Gastonia to Long Creek, with a supplemental study (see Supplemental Recommendations below) extending to NC 275 (Stanley Road) in Dallas for continuity. The project is approximately 1.5 miles in length (with a supplement length of 1.6 miles), 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

NC 279 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 a major north/south connector between I-85 and southeastern Gastonia and Dallas to the north.

The studied section of road has a predominant pavement width of 24 feet with varying 6 to 8-foot unpaved shoulders. At NC 7, the cross section widens to a 5 lane curbed width (over the existing railroad upgrade separation), but is currently marked for southbound left, through, and right/through lanes along with one northbound lane. South of this intersection, NC 279 has a 5-lane cross section. Pavement has also been widened with offset curb and gutter south of Long Creek for a short distance due to commercial development, and a northbound left turn lane is in place at SR 2279 (Modena Street). The 2-lane cross section continues to NC 275 in Dallas. West of NC 275 to Spargo Street, NC 279 has a 48-foot curbed section marked for two lanes with parking. Further west through downtown Dallas to US 321, the road widens to accommodate 4 lanes with some parking.

The existing alignment is generally good and is constructed through rolling terrain. The speed limit on the route is predominantly 45 mph, changing to 35 mph north of SR 2335. Existing right-of-way is generally 48 feet.

One bridge is located on the project 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>
12	Long Ck.	163	28.1	28	58.7

There are 3 existing traffic signals along the route. They are located at NC 7, Auten Drive, and NC 275.

Development along the route is primarily residential, with some small commercial uses.

#### Traffic Volumes, Capacity, and Accident Record

Current traffic volumes range from a low of 10,100 vehicles per day (vpd) near SR 2269 to a high of 18,000 vpd near NC 7. Traffic volume on the route in Dallas is 12,500 vpd. By the year 2010, it is estimated that these volumes in Gastonia will reach 20,000 and 26,000 vpd respectively.

Accident data for a recent 3-year period indicates a total of 3 accidents on the project. This yields a total accident rate of 6.6 accidents per hundred million vehicle miles (ACC/100MVM), which is much less than the statewide average of 285.5 ACC/100MVM for similar, 2-lane, urban NC routes. There were 2 accidents involving angle collisions, and one involving running off of the road.

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

#### Need for Project

The existing road has critical capacity problems at this time, and will have more severe problems in the future that can only be addressed with provision of additional lanes to reduce congestion.

### III. RECOMMENDATIONS AND COSTS

Upgrades to NC 279 are proposed for the T.I.P. project from NC 7 to Long Creek. The improvements to the existing two-lane section consist of widening to a 5-lane, 59-foot curb and gutter section. Existing residential development in close proximity to the pavement on each side of NC 279 makes widening to a 5-lane 64-foot section economically and environmentally unfeasible. Widening on this section is anticipated to be generally symmetrical.

It is anticipated that the bridge over Long Creek would be replaced in this project due to insufficient width and condition, but it is recommended that this replacement be included in the supplementary section of the project (see Supplemental Recommendations below).

The total estimated cost of the recommended improvements within the T.I.P. project limits is \$ 3,700,000, including \$ 2,000,000 for roadway construction and \$1,700,000 for right-of-way. A right-of-way width of 80 feet was used for cost estimating purposes. Cost estimates were prepared by the Preliminary Estimate Engineer and the Right-of-Way Branch.

#### IV. SUPPLEMENTAL RECOMMENDATIONS

It is recommended, for purposes of multi-lane route continuity, the project be extended to include the portion of NC 279 from Long Creek to NC 275 in Dallas. Traffic volume on NC 275 near Dallas is 12,500 presently, which is over capacity for this type of route. With the upgrading of the adjacent segment, future traffic growth, and increased turning movements, upgrading of this link in the thoroughfare system will be needed in the near future. With improvement to both the supplemental section and the T.I.P. project section, a continuous multi-lane operation can be provided from southeast Gastonia to US 321 at Dallas.

Recommended improvements to this section of road are the same as above: widening to a four-lane, 52-foot curb and gutter facility. Additional widening to a five-lane, 64-foot cross section is recommended at SR 2269 and NC 275. Replacement of the bridge over Long Creek is included in this recommendation and estimate.

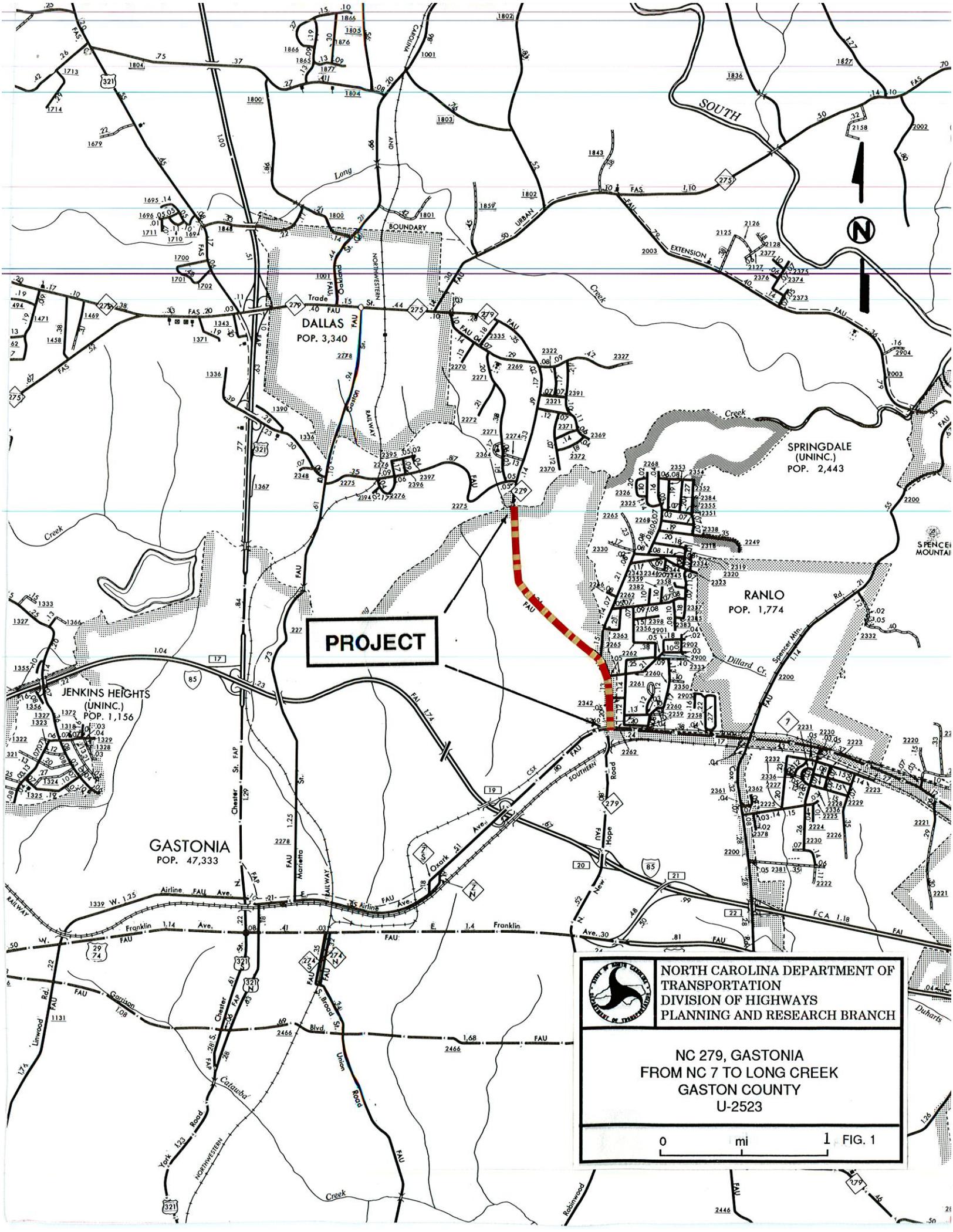
The total estimated cost of this supplementary recommendation is \$4,300,000, including \$3,000,000 for roadway construction and \$1,300,000 for right-of-way. Cost estimates were prepared by the Preliminary Estimate Engineer and the Right-of-Way Branch.

#### V. OTHER COMMENTS

Negative environmental impacts of the project and improvements to the supplementary section are: (1) relocation of approximately 3 residences and no businesses (4 and 2, respectively, on the supplementary section); (2) increased noise levels for the remaining development; (3) loss of a small amount of wetlands at the Long Creek stream crossing.

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**

**DALLAS**  
POP. 3,340

**SPRINGDALE**  
(UNINC.)  
POP. 2,443

**RANLO**  
POP. 1,774

**JENKINS HEIGHTS**  
(UNINC.)  
POP. 1,156

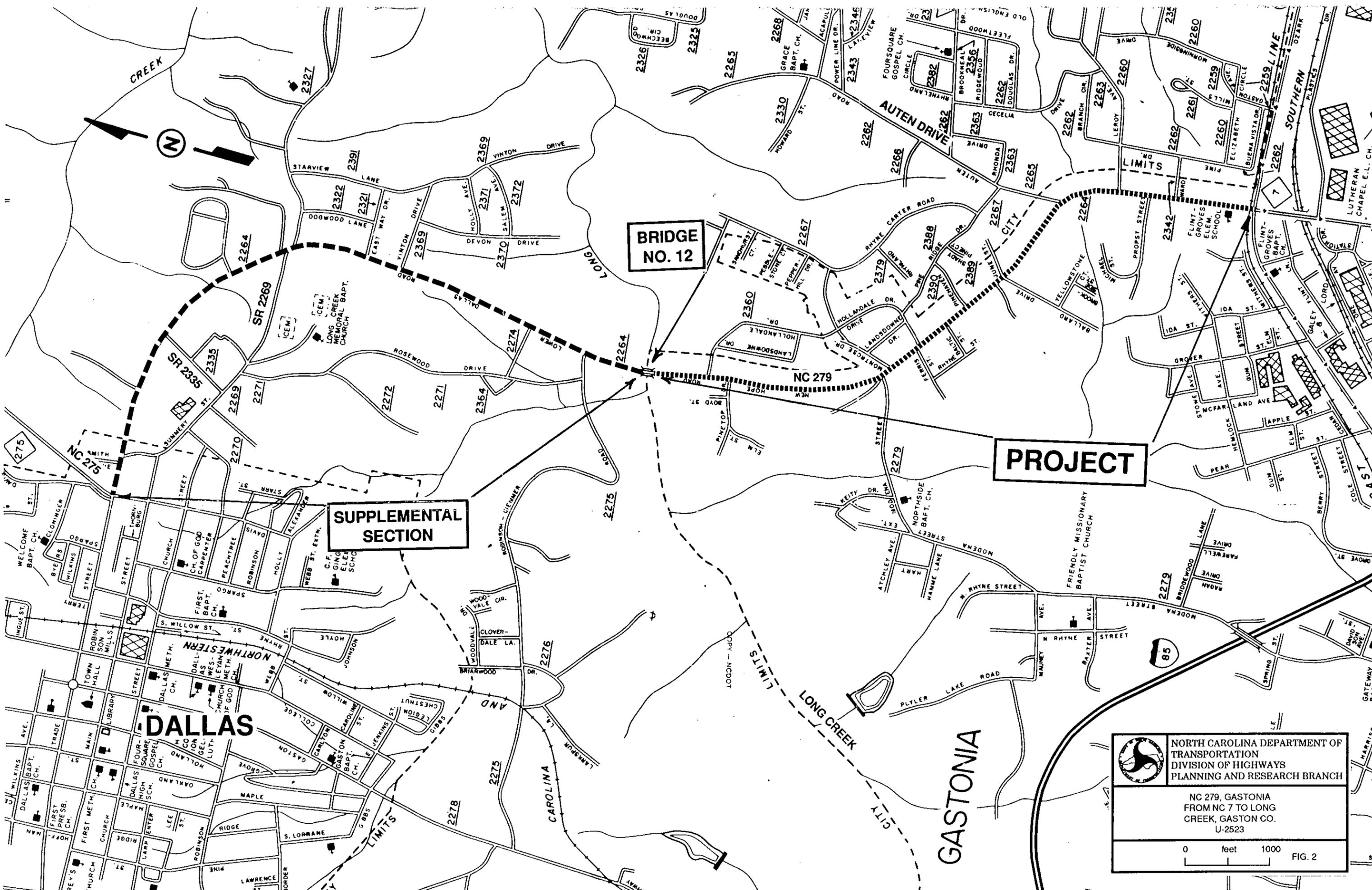
**GASTONIA**  
POP. 47,333



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

**NC 279, GASTONIA**  
**FROM NC 7 TO LONG CREEK**  
**GASTON COUNTY**  
**U-2523**

0      mi      1      FIG. 1



**PROJECT**

**BRIDGE NO. 12**

**SUPPLEMENTAL SECTION**

**DALLAS**

**GASTONIA**

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

NC 279, GASTONIA  
FROM NC 7 TO LONG  
CREEK, GASTON CO.  
U-2523

0 feet 1000 **FIG. 2**