

Portia

FEASIBILITY STUDY

FILE COPY
DO NOT REMOVE
FROM FILE

NC 66, Railroad Underpass at
Walkerstown, Forsyth County
U-2422

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

Marc S. Hamel

Marc Hamel

Project Planning Engineer

R. G. Dawson, Jr.

R. G. Dawson, Jr., P. E.

Head of Feasibility & Special
Studies Unit

7/5/89

Date

J. M. Greenhill

J. M. Greenhill, P. E.

Manager, Planning and Research

NC 66, Railroad Underpass at
Walkertown, Forsyth County
U-2422

I. DESCRIPTION

This report covers a preliminary study of the proposed replacement of the NC 66 underpass of Norfolk and Western Railroad at Walkertown. This project is included in the 1988-1996 Transportation Improvement Program (T.I.P.) for feasibility study and/or right-of-way protection. It is not currently funded. Location of the project is shown on Figure 1.

II. PURPOSE OF PROJECT

Existing Conditions

NC 66 passes through the Walkertown area on an east-west alignment, and is shown as a major thoroughfare on the Winston-Salem/Forsyth County Thoroughfare Plan (mutually adopted in 1987). The pavement width in Walkertown is variable, predominantly 22-foot with segments of 18 and 20-foot cross sections. Shoulders vary from 4-foot to a predominant 6-foot width. At the underpass, NC 66 has a pavement width of 20-feet, with two-foot paved shoulders between the bridge abutments. Immediately north of the bridge is a 24° curve that hinders travel speeds and reduces sight distances to less than 100 feet.

US 311 crosses NC 66 approximately 1600 feet to the southeast of the subject project. US 311 passes through downtown Walkertown in a north-south direction and also appears as a major thoroughfare on the above thoroughfare plan. It is a 2-lane facility with 18 to 24 feet of pavement with 6 to 9-foot grassed shoulders and a riding surface in poor condition. US 311 in Madison, Forsyth, Stokes, and Rockingham Counties is the subject of T.I.P. project number R-2313 mentioned later.

The NC 66 underpass carrying the Norfolk and Western railroad was constructed in 1922. It is a concrete slab type structure with a vertical clearance of 13.7 feet and a horizontal clear width of 24.0 feet. The total length of the existing bridge is 29.0 feet.

The Norfolk and Western railroad track over the subject bridge in good condition with a volume of 7 trains per day. Just north of the overpass, a spur track separates and serves a large automobile storage area south of the bridge and has a volume of 1 train per day. The railroad has at-grade road crossings 0.5 mile east and 0.4 mile west of the existing bridge.

Traffic Volumes, Capacity, and Accident Record

The present annual average daily traffic on NC 66 at the railroad underpass is approximately 8000 vehicles per day (vpd). On US 311 in Walkertown, the traffic ranges from a low of 2000 vpd just north of NC 66 to 4200 vpd north of Walkertown.

Present capacity along the two-lane NC 66 operating under rural conditions is approximately 4,700 vpd at level of service C. Thus, capacity is exceeded by current traffic volumes on NC 66. Capacity is further diminished at the existing underpass due to the severe 24° curve to the north, narrow bridge clearance, and limited sight distance.

A total of 8 accidents were reported on NC 66 at the underpass in a recent 3-year period. The predominant accident type was rear-end collisions (50%).

Need for Project

The purpose of this project is to provide additional bridge clearances at the NC 66 underpass and improve the related road alignment. This will provide improved traffic operation, improved curve alignment and sight distance related safety, and provide for future expansion of NC 66 to insure an adequate level of service.

The recommended improvements are also situated to accommodate a US 311 bypass of Walkertown proposed in a feasibility study for T.I.P. project R-2313.

III. RECOMMENDATIONS AND COST

A replacement of the NC 66 underpass at Walkertown is feasible and immediately warranted. It is recommended the bridge replacement be located immediately north of existing structure. It is also recommended NC 66 be realigned for approximately 0.4 mile to the north (see Figure 2) to provide a better and safer approach to the new bridge.

The recommended bridge structure should provide an 80-foot clear horizontal width to accommodate a future 5-lane section on NC 66. The proposed bridge would relocate 0.5 mile of main line railroad track, and 0.1 mile of spur track. The fill for this railway necessitates the construction of a 0.4-mile access road northeast of the project for ~~the residences along existing SR 1986 which must be removed between NC 66 and SR 2091 due to the railroad relocation.~~

The NC 66 realignment north of the underpass is shown on Figure 2. The recommended cross section is a two-lane, 24-foot pavement with 10-foot usable shoulders of which 2 feet is paved. Sufficient right-of-way should be acquired to accommodate an ultimate 5-lane urban section.

The total estimated cost of the recommended improvements is \$3,050,000 including \$1,950,000 for construction cost, and \$1,100,000, for right-of-way. Cost estimates were prepared by the Preliminary Estimate Engineer and the Right-of-Way Branch.

IV. ALTERNATIVES

Consideration was given to a US 311 bypass of Walkertown as proposed in a feasibility study for T.I.P. project R-2313. This bypass would cross the Norfolk and Western railroad in the vicinity of the proposed railroad separation project. The proposed width and location of the new railroad underpass will allow the US 311 bypass, if implemented, to utilize the proposed underpass. If the US 311 bypass does not utilize the studied bridge, the recommended horizontal clearance of the structure under the railroad will allow for NC 66 widening in the future, assuring a continuing desirable level of service.

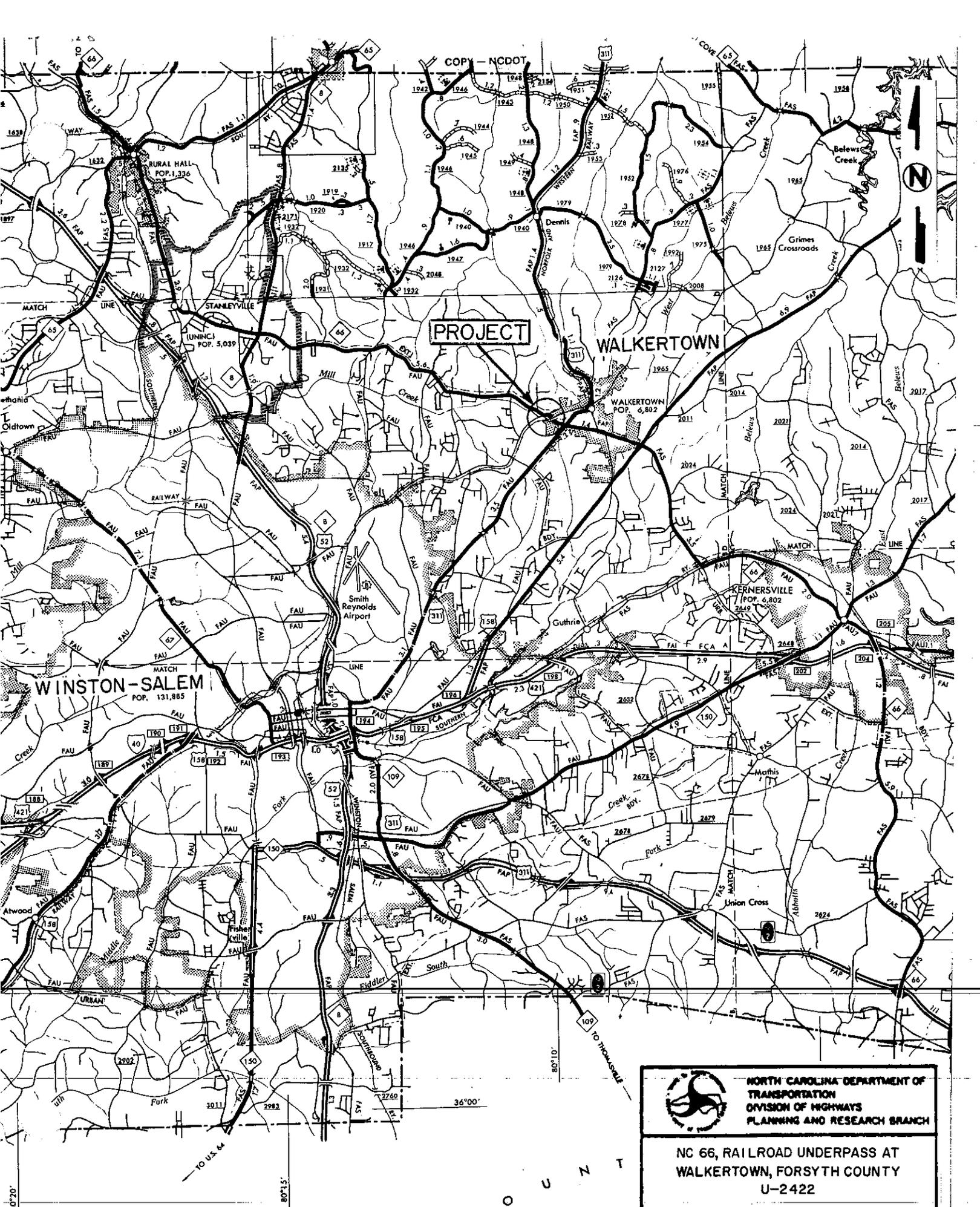
V. OTHER COMMENTS

Negative environmental impacts of the project are: (1) loss of some woodland; (2) loss of some wetland at stream crossing; (3) relocation of approximately 4 residences businesses; (4) possible increased noise levels for remaining residences.

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/rm





PROJECT

WALKERTOWN

WINSTON-SALEM
POP. 131,885

KERNERSVILLE
POP. 6,802



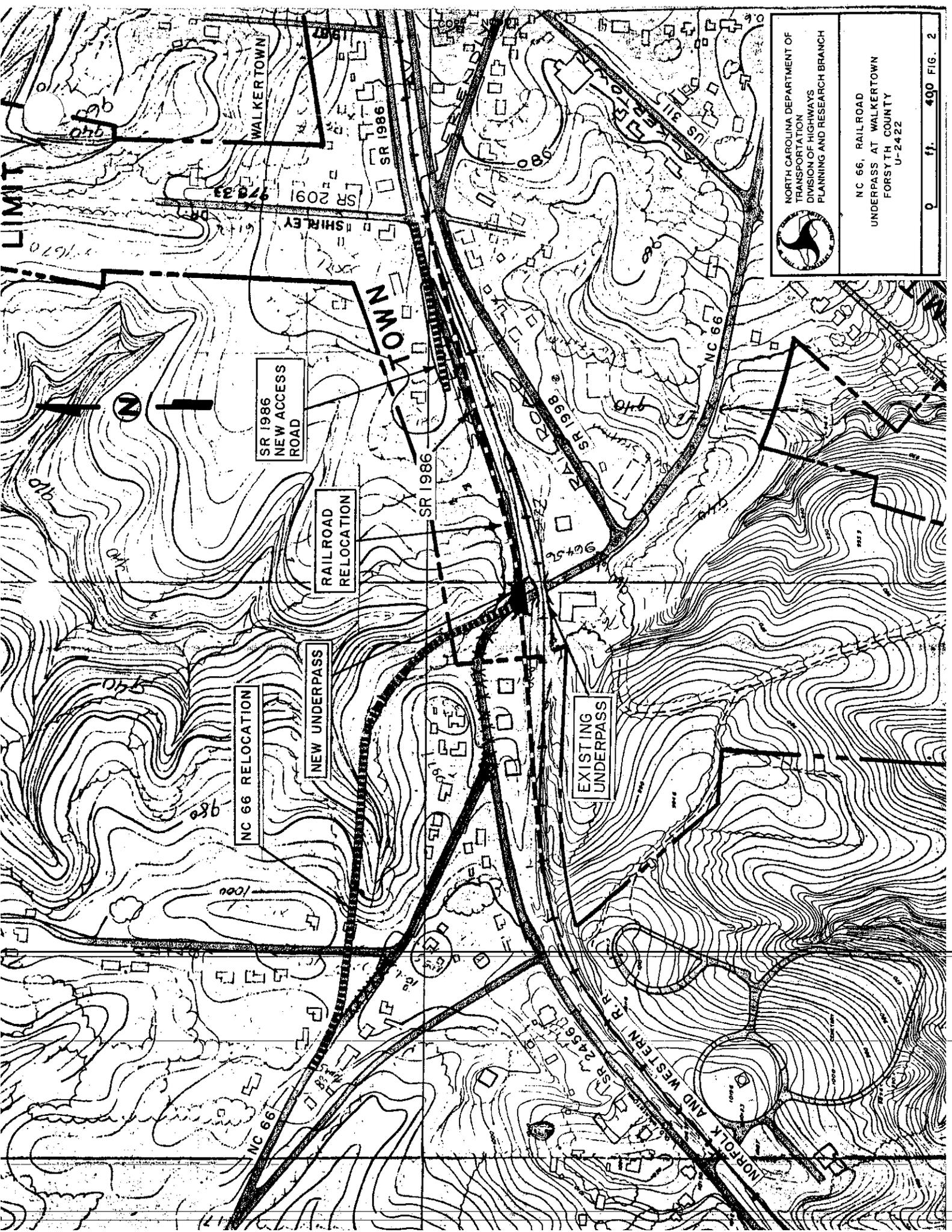
**NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND RESEARCH BRANCH**

**NC 66, RAILROAD UNDERPASS AT
WALKERTOWN, FORSYTH COUNTY
U-2422**

0 2 mile FIG. 1

DAVIDSON

C O U N T Y



	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANNING AND RESEARCH BRANCH
	NC 66, RAILROAD UNDERPASS AT WALKERTOWN FORSYTH COUNTY U-2422
0 1/4" = 490' FIG. 2	