

FEASIBILITY STUDY

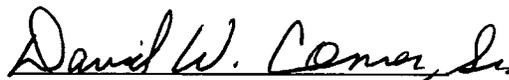
Sanford

**Tramway Road/West Main Street (NC 78)
from Hickory House Road (SR 1157)
to Caroline Drive (SR 1217)
Lee County**

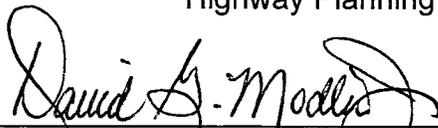
Division 8

R-3831

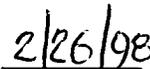
Prepared by the
Program Development Branch
Division of Highways
N. C. Department of Transportation



David W. Conner, Sr., P.E.
Highway Planning Engineer



David G. Modlin, Jr., Ph.D., P.E.
Head of Feasibility Studies



Date

R-3831

Sanford

Tramway Road/West Main Street (NC 78)
from Hickory House Road (SR 1157)
to Caroline Drive (SR 1217)
Lee County

Division 8

I. General Description

This preliminary study describes recommended improvements to Tramway Road/West Main Street (NC 78), just southwest of the Sanford City Limits. It is recommended that Tramway Road/West Main Street be widened from Firetower Road (SR 1152) to Caroline Drive (SR 1217). The project length is approximately 1.8 miles (2.9 km). For a location map, please see Figure 1.

The recommended cross section is a 40-foot (12.2-m) wide (face-to-face), curb-and-gutter section with one travel lane in each direction, a center turn lane, and 10-foot (3.0-m) wide berms.

The widening should retain and utilize the existing alignment to the extent possible and should be generally symmetrical to the centerline of the existing roadway. The recommended right-of-way width is 80 feet (24.4 m).

It is estimated that the recommended right-of-way for this project will not result in the relocation of any residences or businesses.

The total cost for right-of-way and construction is estimated to be \$5,100,000 as follows:

Right-of-way	\$1,900,000
Construction	3,200,000
-----	-----
Total	\$5,100,000

This study is the initial step in the planning and design process for this project and is not to be considered the product of exhaustive environmental or design investigations. The purpose of the study is to describe the problem, recommend a treatment including costs, and identify potential problem areas that deserve consideration in the planning and design phases.

II. Need For Project

The purpose of this project is to improve the traffic carrying capacity and accident experience of Tramway Road/West Main Street .

Tramway Road/West Main Street is designated a major thoroughfare on the Sanford Thoroughfare Plan. It is designated as a minor arterial on the North Carolina Statewide Functional Classification System.

From Caroline Drive, to Courtland Drive (SR 1122), existing development is a mix of residential and commercial. At the Courtland Drive intersection, the northeast quadrant is commercially developed and the remaining three quadrants are residentially developed. West, from Courtland Drive , the roadway is heavily developed residentially. There are densely populated mobile home parks located on both sides of the roadway immediately west of Courtland Drive and around CSX Railroad. West of the railroad, the roadway is heavily developed with single family conventional type housing. The Sanford Airport is located on the southeast side of the roadway and is accessed by Airport Road (SR 1213), located approximately 0.6 miles (1.0 km) northeast of SR 1157.

During the period from August 1, 1994, through July 31, 1997, there were 65 accidents reported on Tramway Road/West Main Street, within the study termini. This resulted in an accident rate of 237 accidents per 100 million vehicle miles (Acc/100MVM), compared to a statewide average of 288 Acc/100 MVM for all urban NC routes during 1996. There were no fatalities reported during the period, and 32 of the accidents resulted in injuries. The most prevalent accident types were rear end (41.5%) and left turn (16.9%). Twenty-eight percent of the accidents reported within the study area occurred away from intersections with the majority involving left-turn movements. The wider cross section with center turn lane will reduce the potential for these types of accidents.

From approximately 0.1 miles (0.2 km) northeast of Firetower Road (SR 1152), to west of the study area, Tramway Road/West Main Street is bounded by the Dignus Rural Historic District (State Historic Site LE 790).

Within the study area, Tramway Road/West Main Street is generally a 2-lane rural section with 12-foot (3.6-m) wide travel lanes, and soil shoulders. The Courtland Drive intersection is signalized.

Northeast of Caroline Drive, NC 78 is a 3-lane, 40-foot (12.2-m) wide curb-and-gutter section.

There is one structure located within the study boundaries. CSX Railroad is grade separated by Bridge # 19. The bridge is 127 feet (38.7 m) long, has a clear deck width of 24 feet (7.3 m), and was constructed in 1936. It has a sufficiency rating of 40, out of a possible 100 points, and is scheduled for replacement in 1999 (Project B-2843). It is presently planned to replace the bridge with a new bridge having a clear deck width of 40 feet (12.2 m).

The 1997 Average Daily Traffic (ADT), within the study limits, was estimated to range from a low of approximately 9,600 vehicles per day (vpd) to a high of approximately 12,300 vpd. The design year (2020) estimates are from 9,800 vpd to 13,600 vpd.

The current estimated Level Of Service is Level D and it is anticipated that even with the recommended improvements, the Level D will prevail through the design year. However, the recommended improvements should reduce problems created by left-turn movements and should significantly improve traffic flow.

III. Recommendations

It is recommended that Tramway Road/West Main Street (NC 78), in the Sanford area, be widened from Firetower Road (SR 1152) to Caroline Drive (SR 1217). The project length is approximately 1.8 miles (2.9 km). For a location map, please see Figure 1.

The recommended cross section is a 40-foot (12.2-m) wide (face-to-face), curb-and-gutter section with one travel lane in each direction, a center turn lane, and 10-foot (3.0-m) wide berms.

The widening should retain and utilize the existing alignment to the extent possible and should be generally symmetrical to the centerline of the existing roadway. The recommended right-of-way width is 80 feet (24.4 m).

At the northeast project terminus, the widened section should connect to the existing 3-lane section. At the southwestern terminus, the project should include a right-turn lane to Firetower Road and two opposing through travel lanes.

The existing traffic signal at Courtland Drive (SR 1122) should be upgraded.

It is estimated that the recommended right-of-way for this project will not result in the relocation of any residences or businesses.

The total cost for right-of-way and construction is estimated to be \$5,100,000 as follows:

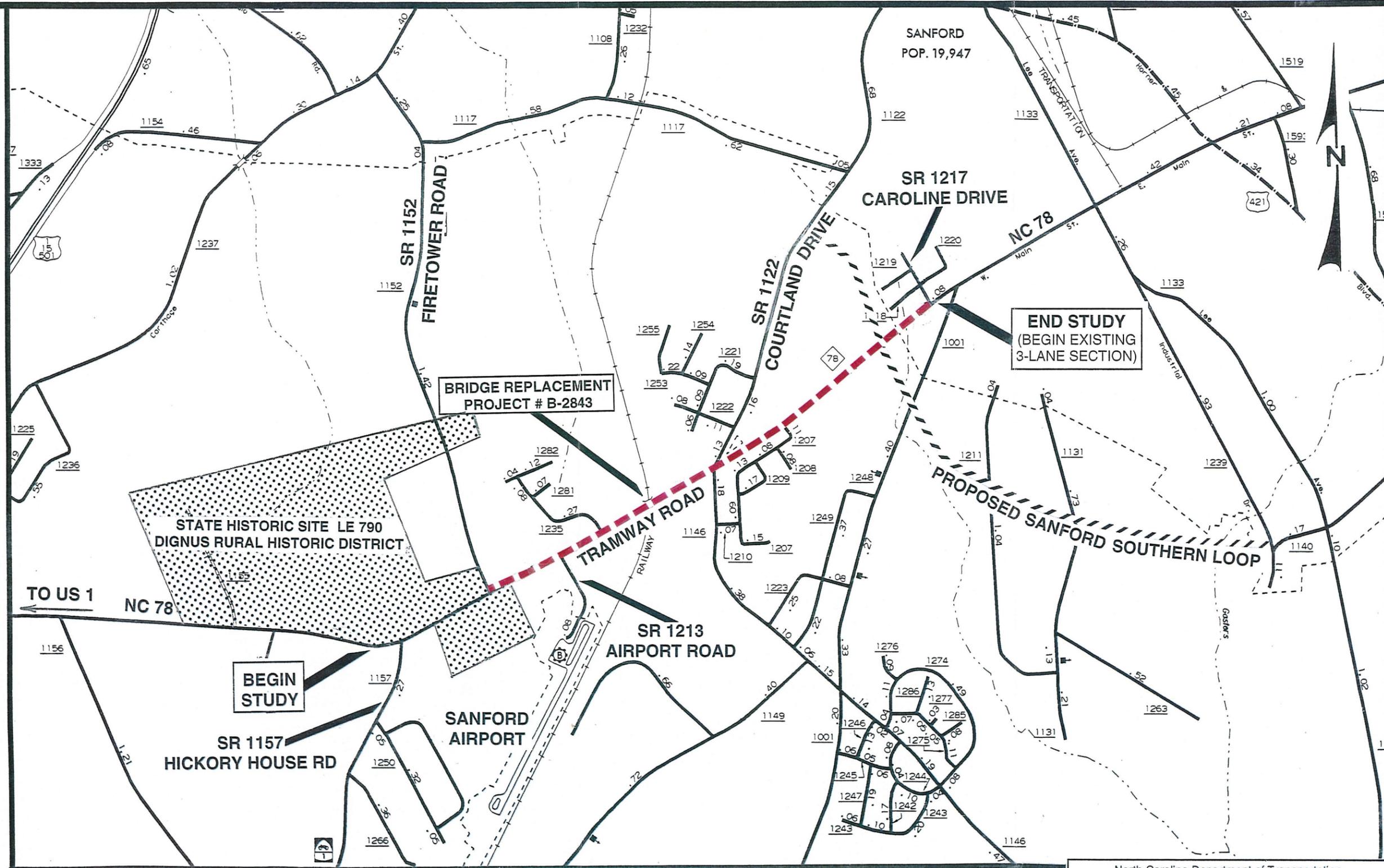
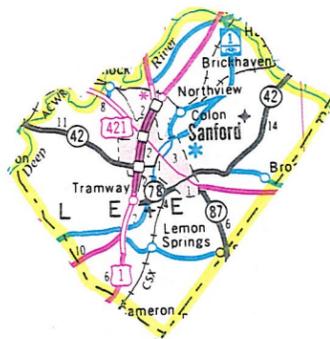
Right-of-way	\$1,900,000
Construction	3,200,000
-----	-----
Total	\$5,100,000

IV. Other Comments

An environmental screening was not conducted for this study.

Based on maps at the Department of Environment, Health & Natural Resources - Natural Heritage Section, no threatened or endangered species were identified in the project corridor and no wetlands are expected to be encountered.

No provisions for bicycles have been included in this report.



TO US 1

NC 78

SR 1157
HICKORY HOUSE RD

BRIDGE REPLACEMENT
PROJECT # B-2843

STATE HISTORIC SITE LE 790
DIGNUS RURAL HISTORIC DISTRICT

SANFORD
AIRPORT

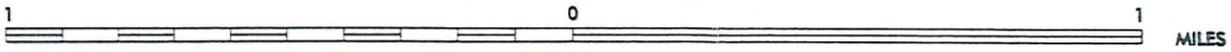
SR 1213
AIRPORT ROAD

SR 1217
CAROLINE DRIVE

SR 1122
COURTLAND DRIVE

END STUDY
(BEGIN EXISTING
3-LANE SECTION)

PROPOSED SANFORD SOUTHERN LOOP



North Carolina Department of Transportation
Program Development Branch

R-3831
Tramway Road/West Main Street (NC 78)
from Hickory House Road (SR 1157)
to Caroline Drive (SR 1217)

Lee County

DIVISION 8 FIGURE 1