

FEASIBILITY STUDY

US 74, Shelby Bypass
FROM US 74 Business West of Shelby
To US 74 Business East of Shelby
Cleveland County
R-2222

Prepared By
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7-5-88
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I. DESCRIPTION

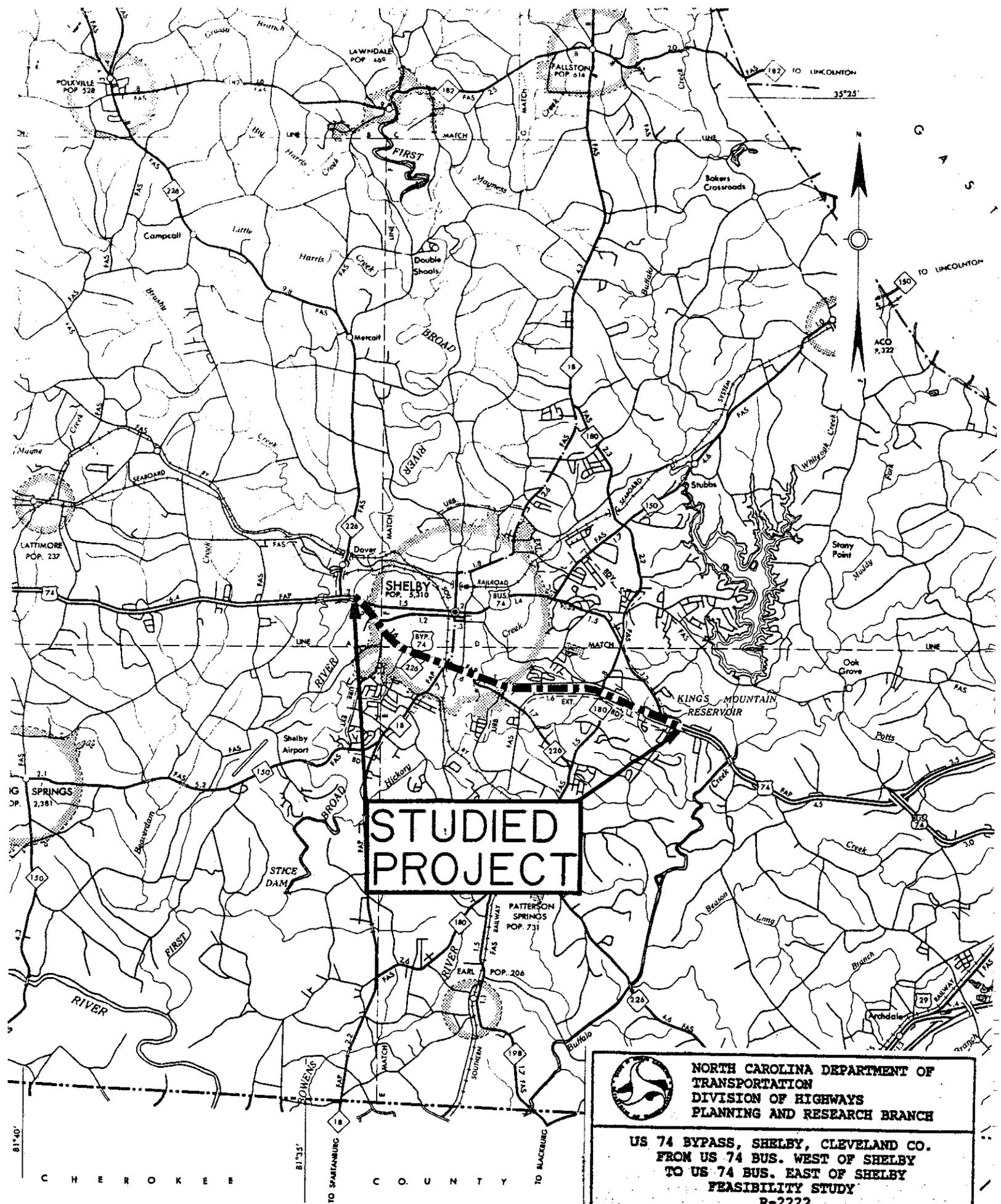
This report covers a preliminary study of the proposed widening of the subject road to a six-lane divided facility (adding one lane to the outside in each direction) for a distance of approximately 5.5 miles. This project is included in the 1988-1996 Transportation Improvement Program for feasibility study and/or right of way protection. It is not currently funded. Location of the studied road segment is shown on Figure 1.

II. PURPOSE OF PROJECT

Existing Road Characteristics

US 74 Bypass is designated a major thoroughfare in the Shelby Thoroughfare Plan and functions as an east west crosstown route on the south side of Shelby's central business district. US 74 Bypass is intersected by numerous cross streets affording accessibility to the central business district. Strip commercial development such as fast food restaurants have appeared along the facility.

The studied section of road was initially construction in 1951 as a 24-foot pavement with 10-foot shoulders. In 1958 two new lanes at 24-feet were added from NC 18 to US 74 Bus. and in 1964 two new lanes at 24-feet from SR 1313 to NC 18. These improvements provided for a 30-foot depressed grassed median. Between Grove Street and US 74 Bus. parallel service roads provide access to adjacent property. From NC 226 west to the First Broad River access to adjacent roadside development is provided by individual driveways and extensive channelization. In recent years the roadway has been widened in the median to provide left turn lanes and signals at Charles Road, Gold Street, NC 226, Dekalb Street, NC 180 and



**STUDIED
PROJECT**



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

**US 74 BYPASS, SHELBY, CLEVELAND CO.
FROM US 74 BUS. WEST OF SHELBY
TO US 74 BUS. EAST OF SHELBY
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3/88

FIG. 1

US 74 Bus. At US 74 Bus. east left turn lane east bound only is provided and at Elm Street left turn west bound only is provided. The Hamrick Street intersection is signalized with right and left turn lanes.

Based on available information, the right of way width on US 74 Bypass is 150 feet from US 74 Bus. West to just beyond NC 226 where the parallel service roads begin. At this point the right of way widens to 200 feet.

Present speed limit along this section of the US 74 Bypass is 45 MPH except between NC 180 and US 74 Bus the speed limit is 55 MPH.

Traffic Volumes, Capacity, and Accident Record

Current Average Daily traffic volumes on US 74 Bypass range from approximately 14,000 to 25,000 vehicles per day (see Figure 2). The projected traffic range in twenty years is 22,400 to 40,000 vpd.

Presently the existing signalized intersections along US 74 Bypass are beginning to experience operational delays. Thus the capacity of the intersections will deteriorate as traffic increases. Operating speeds will decrease to the 35 MPH range. The effectiveness of the route to function as a bypass for through traffic will continue to decrease.

A total of 586 accidents were reported for this section of the bypass in a recent three year period. This yielded an accident rate of 5.77 accidents per million vehicles miles, more than the 1987 statewide average of 4.36 acc/mvm for urban four lane divided US routes. The predominant pattern of the accident history involved rear-end collisions. They constituted 40 percent of the total accidents.

Need for Project

Purpose of the project is to provide additional lanes to improve capacity and safety deficiencies along this section of US 74 Bypass. In recent years the intensity of commercial development adjacent to the bypass has resulted in increasing number of major driveways and signalized intersections which generate disruptive turning traffic.

The intermixing of through traffic with an increasing proportion of local traffic has resulted in an ineffective bypass route. The need for additional lanes will not eliminate future bypass considerations. The Shelby Thoroughfare Plan recommends that a Northern Bypass route with full control of access be implemented to ensure a high level of service to an important state arterial route.

III. RECOMMENDATIONS AND COST

Improvement of the studied segment of roadway to a six-lane divided facility is feasible and warranted. The numerous signalized intersections with left turns lanes constructed in the median has precluded that an additional lane in each direction be constructed within the existing median. Therefore, the preliminary design has addressed the construction of an outside lane in each direction. It appears that the existing 150 and 200 foot right of way is adequate with construction easement where necessary.

However, adding the additional lanes to the outside will require that design standards relating to horizontal clearances at the underpasses of NC 18 and the Southern Railroad be compromised. This study considered the use of New Jersey concrete type barriers and possible "necking down" of the lane width at the underpass structures to accommodate the additional lane. Replacement or widening the existing structures was considered an unjustifiable cost in relation to the deteriorating function of US 74 as a bypass route for Shelby.

Estimated cost of the recommended improvements is as follows:

Roadway Construction	\$7,000,000
Engineering and Contingencies	700,000
Right of Way Easements & Utility Adjustments	<u>715,000</u>
Total	\$8,415,000

IV. ALTERNATIVES

The alternative of widening the roadway within the median was investigated but rejected because of the numerous turn lanes already constructed within the narrow median. The only other alternative considered was the recommendation by State Wide Planning to build the Northern Bypass with control of access. This alternative is considered a future bypass route to replace the inadequate existing US 74 Bypass of Shelby. Improvements to the existing route is still needed to serve local development in the area and improve the level of service to a major State arterial route.

The Town Manager and Division Engineer have expressed their support for the proposed widening improvements.

IV. Possible Environmental Impacts

No significant environmental impacts are foreseen for this project. There are no sensitive environmental areas along the roadway. There will be an increase in traffic noise levels along the project.

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

HFV/plb



18,200
29,120

25,000
40,000

18,400
30,400

14,000
22,400



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