

FEASIBILITY STUDY

US 19  
From Maggie Valley to Cherokee  
Haywood and Jackson Counties  
R-2209

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

was \$10.3M

Now \$16.0 - 16.6M

September, 1987

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150/930

US 19  
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The subject project is included in the 1987-1995 Transportation Improvement Program for a feasibility study and/or right-of-way protection. This report provides a brief initial analysis of possible improvements. The project is not currently funded.

I. GENERAL DESCRIPTION

The proposed project consists of improving the existing 2-lane US 19 from Maggie Valley to Cherokee, a distance of approximately 14.1 miles. The most desirable improvements would be to widen where possible and to add climbing lanes on the steeper grades. However, the addition of climbing lanes is impractical in many of the steeper sections due to the excessive earthwork and right-of-way which would be involved. The attached Figure 1 shows the location of the project.

II. PURPOSE OF PROJECT

This section of US 19 is classified as a rural minor arterial on the North Carolina Functional Classification System and is also classified as a Federal Aid Primary route. It functions as a connecting route and tourist route between the towns of Cherokee in Jackson County and Maggie Valley in Haywood County. The current traffic volumes range from 3300 vehicles per day (vpd) near Soco Gap to 6700 vpd at Maggie Valley to 9000 vpd near Cherokee. These volumes are very seasonal in nature due to the heavy tourist traffic during the summer months in the vicinity of Cherokee. These volumes are expected to increase to a range of 5800 vpd to 15700 vpd in 2007. An analysis of the subject section indicates that it is currently operating at Level of Service "E" near Cherokee and on the mountainous section. Based on traffic projections it will be operating at Level of Service "F" near Cherokee and Level of Service "E" on the mountainous section at the end of the 20 year planning period.

Existing pavement width is 20' throughout the project length. Horizontal and vertical alignments are generally very bad except in the section near Cherokee where the terrain is rolling. The balance of the proposed project is in mountainous terrain and has very steep grades and many sharp curves. The highway in the mountainous section is built in sidehill cut which will not permit any widening of the existing roadway except by the use of extensive additional cuts and fills. Existing right-of-way is 60' except for a short section near the Blue Ridge Parkway which is 100' wide.

The speed limit along the project ranges from 35 mph at Cherokee to 45 mph outside Cherokee to 55 mph along the balance of the project. All intersections are at-grade and will remain as they are now. Development

along the project is primarily residential and commercial uses near Cherokee and rural residential elsewhere.

A strip accident analysis of the studied section of US 19 was provided by the Traffic Engineering Branch. This study covered the period from January 1, 1984 through March 31, 1987. The following table gives a comparison between the accident rates for US 19 and the statewide accident rates for US primary highways:

Accident Rates

Jackson County

	<u>US 19</u>	Statewide Average US Primary Routes (1986)
Total Accidents (Accidents per million vehicle miles)	0.86	1.49
Fatal Accidents (Accidents per 100 million vehicle miles)	0.72	2.7
Non-Fatal Injury Rate (Accidents per 100 mvm)	6.46	69.9
Night Accident Rate (Accidents per 100 mvm)	2.15	45.4
Wet Accident Rate (Accidents per 100 mvm)	1.44	32.9

Haywood County

	<u>US 19</u>	Statewide Average US Primary Routes (1986)
Total Accidents (Accidents per million vehicle miles)	0.97	1.49
Fatal Accidents (Accidents per 100 million vehicle miles)	3.88	2.7
Non-Fatal Injury Rate (Accidents per 100 mvm)	42.69	69.9

Night Accident Rate (Accidents per 100 mvm)	19.40	45.4
Wet Accident Rate (Accident per 100 mvm)	15.52	32.9

A total of 37 accidents occurred on this section of US 19 during the stated time period. Twelve occurred in Jackson County and 25 in Haywood County. This total included 2 fatal accidents. No particular accident patterns stand out other than the fact that the highest percentage of accidents were running off the road to the right. This can probably be attributed to the narrow pavement and narrow shoulders.

### III. PROPOSED IMPROVEMENTS

The following improvements are recommended for this project:

Section 1 (from US 441 Business at Cherokee northward for 3.3 miles to Happy Holiday Campground) - Widen the existing 20' pavement to a 40' face-to-face curb and gutter section. This will require a 10' construction easement on each side.

Section 2 (from Section 1 northward for 2.1 miles) - Widen the existing 20' pavement to 24' with 10' shoulders. This will require an average 30' easement on each side.

Section 3 (from Section 2 northward for 6.1 miles) - Resurface the existing pavement. The pavement in this section is too narrow, guardrail exists only in spot sections, curves are sharp and grades are steep. However, no improvements are recommended in this section because the steep terrain would make widening the shoulders and/or the pavement impractical due to the excessive earthwork and right-of-way involved. There is an existing 1000' climbing lane located 2.1 miles into this section.

Section 4 (from Section 3 northward for 1.6 miles) - Widen the existing 20' pavement to 24' with 10' shoulders. This will require an average 30' construction easement on each side.

Section 5 (from Section 4 northward for 1.0 mile to the 5-lane section in Maggie Valley) - Widen the existing 20' pavement to a 40' face-to-face curb and gutter section. This will require an average 10' construction easement on each side.

US 19 between Cherokee and Maggie Valley is a heavily traveled tourist route from late spring through early fall. Therefore, the Division Engineer requested that consideration be given to providing climbing lanes in the mountainous sections to give an opportunity for trailing vehicles to pass slower moving vehicles. There are two areas in Section 3 that might be suitable from a terrain standpoint. The first is located 1 mile into Section 3 and the second is located 2.7

miles into Section 3. These locations were not considered practical due to their proximity to the existing 1000' climbing lane. The mountain crest is 5.2 miles into Section 3. A third location which is 1 mile into Section 4 was not considered practical because it is within 2 miles of the mountain crest. For these reasons no additional climbing lanes are recommended at this time.

The estimated costs of the project are:

Construction - \$ 5,975,000	<sup>Now</sup> 10.4M - - 11.0M
Right-of-way - \$ 4,281,000	5.6M
Total - <u>\$10,256,000</u>	<u>16.0M - 16.6M</u>

#### IV. POSSIBLE ENVIRONMENTAL IMPACTS

Any environmental impacts are expected to be minor as the majority of the proposed improvements will be made within the existing right-of-way.

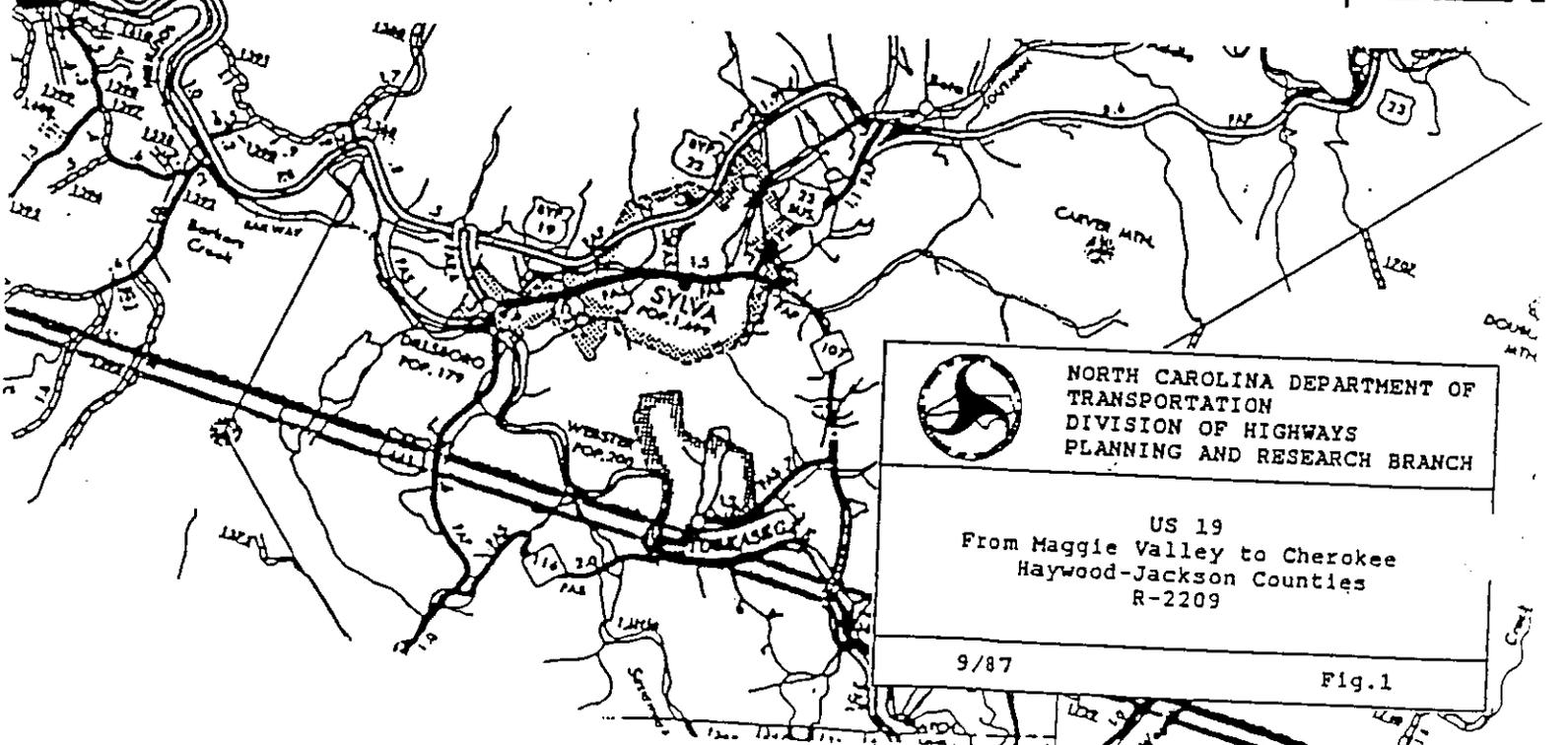
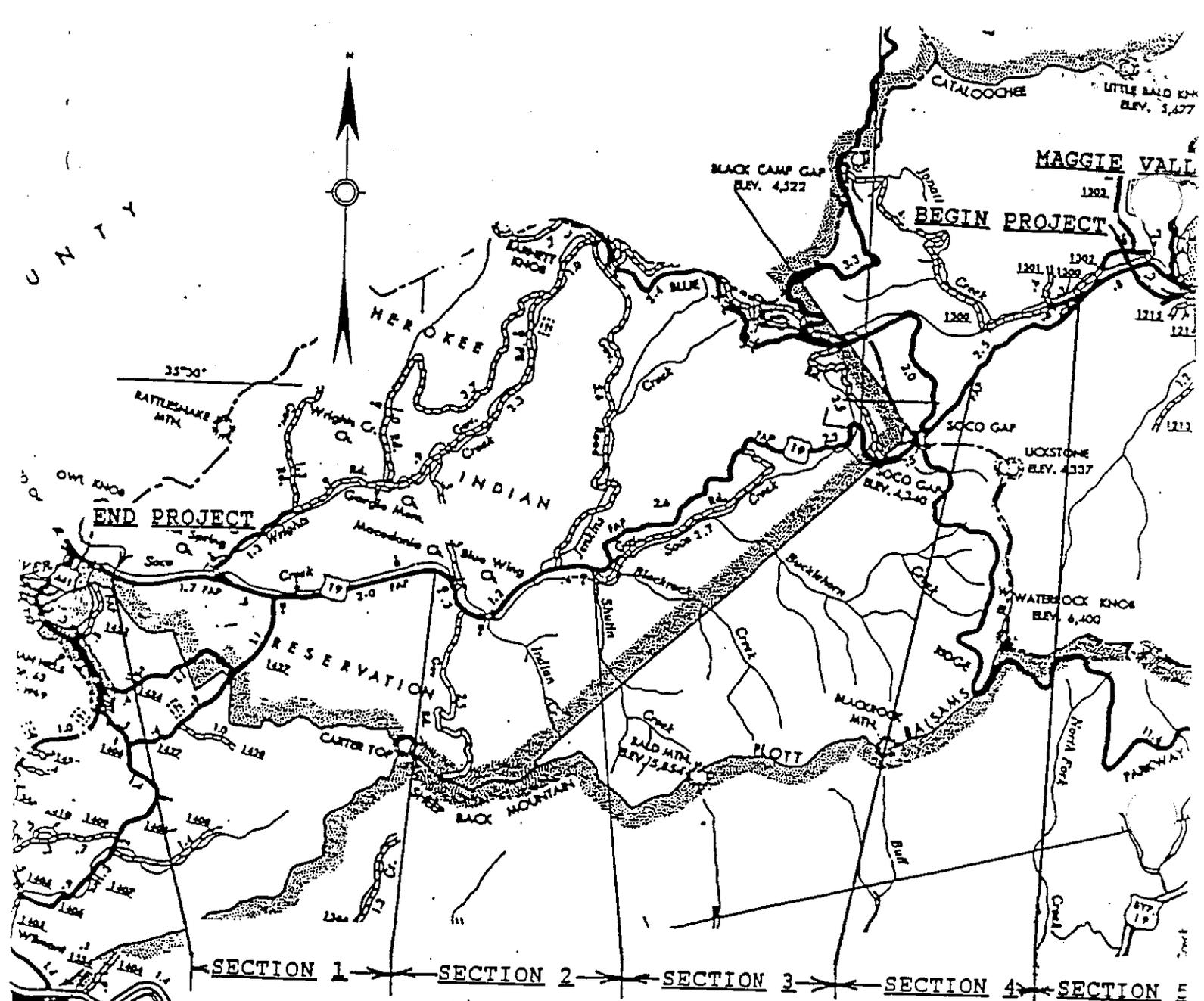
#### VI. SCOPE OF STUDY

Construction cost estimates were based on costs of comparable projects and were furnished by the Roadway Design Unit and the Design Services Unit. Right-of-way estimates were furnished by the Right-of-Way Branch following a field review.

The proposed improvements were based on input from field investigation, coordination with the Roadway Design Unit, input from the Division Engineer, and experience with planning for similar projects.

ASC/wp

Attachment




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

US 19  
 From Maggie Valley to Cherokee  
 Haywood-Jackson Counties  
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9/87 Fig. 1