

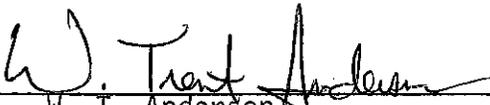
R-2594

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FEASIBILITY STUDY

NC 215  
From US 64 to SR 1379  
Transylvania County  
R-2594

Prepared by  
Division 14 Construction Branch  
Division of Highways  
N. C. Department of Transportation

  
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## I. GENERAL DESCRIPTION

This report covers the upgrading of NC 215 to an improved two-lane highway from US 64 near Rosman to SR 1379 near Balsam Grove (See Figures 1 and 2). Three alternatives have been considered on this project with lengths of 3.5, 5.8, and 6.0 miles respectively with all alternatives located in Transylvania County. This project is included in the 1990-1996 Transportation Improvement Program for feasibility study and/or right-of-way protection.

## II. PURPOSE OF PROJECT

### Existing Route Characteristics

NC 215 serves as a collector route in the primarily rural area of west central Transylvania County. It also serves as the main connector road linking Balsam Grove, the Blue Ridge Parkway, and the northwest Transylvania County area to Rosman and US 64. NC 215 is classified as a Rural Major collector in the North Carolina Functional Classification System and is a Federal Aid Secondary route.

The existing cross section on the studied section of NC 215 consists of a 16-foot paved roadway with unpaved shoulders varying from 3 to 4 feet in width. The vertical alignment is generally good considering the rugged terrain of this mountainous area. However, the horizontal alignment is poor with safe operating speeds of only 20 to 35 miles per hour. There are many high degree curves throughout the 6.0-mile studied section. All of the intersections along the project are at grade and all are stop sign controlled. The right-of-way throughout the project length is a claimed 60 feet and is symmetrical about the existing centerline except in areas where the cut or fill slopes extend beyond the right-of-way limits.

Roadside development is moderate along the studied section of NC 215 with much of the existing alignment being bounded by the North Fork French Broad River on one side and steep mountains on the other (see Figure 2). The primary type of development is residential with a few businesses interspersed along the route. Overhead power and underground telephone lines were observed along portions of the route.

### Traffic Volumes, Capacity, and Accident Record

The current traffic volume on NC 215 is 1400 vehicles per day (vpd). This volume is projected to increase to approximately 2300 vpd in the year 2010. Current traffic volumes include 1 percent TTST and 3 percent dual tired trucks. With the current traffic volumes and the existing roadway characteristics, NC 215 is operating at a Level of Service D or E throughout the project length. The proposed improvements to NC 215 recommended in this report will elevate the level of traffic service to Level of Service C or better throughout the planning period.

During the period from January 1, 1987 to February 28, 1990 a total of 34 accidents were reported on the studied portion of NC 215. This resulted in an accident rate of 485.71 accidents per 100 million vehicle miles (acc/100 mvm) compared to a statewide average of 214.2 acc/100 mvm for all two-lane, rural NC routes over a similar period. There was one fatality during the period, and 14 of the accidents resulted in injuries. The two primary accident types involved vehicles running off the road and sideswipes. These two types of accidents accounted for 64.7 percent of the recorded accidents. Alternates A and B of the proposed project would reduce the potential for these types of accidents due to their wider pavement and shoulder widths and improved alignments.

### Need for Project

The widening of the pavement and shoulders along with re-alignment of the higher degree curves of NC 215 will enhance the capacity, safety, and driver comfort along the highway. The existing 16-foot paved roadway has several blind curves, and the shoulders throughout the studied portion are too narrow for disabled vehicles to pull off onto in case of an emergency.

### III. ALTERNATIVES

Three alternates (Figure 2) were considered for improving NC 215. Alternate A utilizes a total relocation of NC 215 from SR 1379 near Balsam Grove to US 64 at Cherryfield and has a cross-section consisting of a 24-foot paved roadway with 2-foot paved and 6-foot graded usable shoulders. Alternate B utilizes improvement of the existing alignment and has a cross-section consisting of a 22-foot paved roadway with 2-foot paved and 4-foot graded usable shoulders. Alternate C utilizes the existing alignment in all sections and involves widening of the existing 16-foot pavement to 20 feet with 4-foot graded shoulders.

The estimated costs of the alternatives are as follows:

ALT.	LENGTH (Miles)	RELOCATION		COSTS		
		Res.	Bus.	Construction	Right-of-Way	Total
A	3.5	1	0	\$ 8,200,000	\$ 350,000	\$ 8,550,000
B	5.8	16	3	19,100,000	1,370,000	20,470,000
C	6.0	14	3	3,700,000	1,280,000	4,980,000

The construction cost includes engineering and contingencies and the right-of-way cost includes relocation, acquisition and utility costs.

### IV. RECOMMENDATIONS

It would be desirable to improve NC 215 to a good two-lane road with adequate shoulders and good alignment. Alternate A is recommended over Alternates B and C for several reasons. It has the most desirable cross

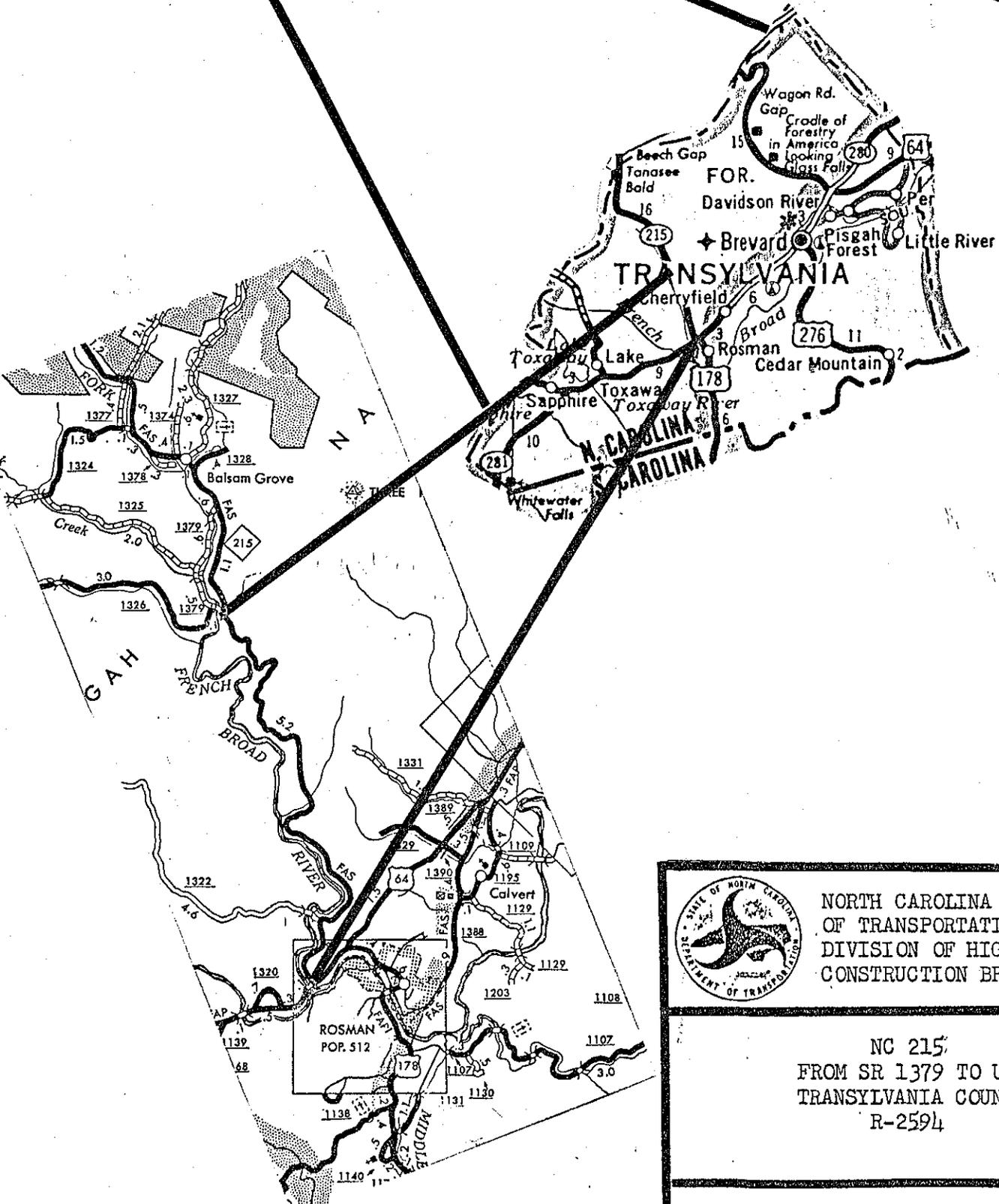
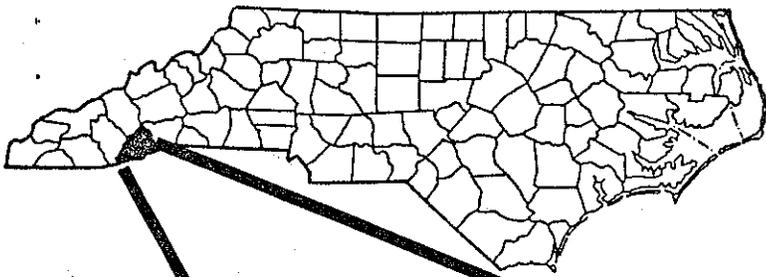
section with wider travel lanes and shoulders than the other alternatives. Alternate A also provides the most desirable horizontal alignment and requires the fewest number of relocatees. It is also estimated to be significantly less costly than improving NC 215 to an adequate facility along the existing alignment as with Alternate B. Alternate A, with its much more desirable alignment, should help Transylvania County as a whole due to easier access to and from the Blue Ridge Parkway and would reduce the isolation of the west-central area of the county. Alternate C was explored but is not recommended because the poor horizontal alignment of the roadway would not be corrected. As shown in the table above, the total cost of the recommended improvement is \$8,550,000.

#### V. ENVIRONMENTAL EFFECTS

The implementation of the proposed project is not expected to result in any significant impact on the environment. The construction of the recommended alternative will require the relocation of one residence, but no business relocations will be required. All of the studied alternatives are located near freshwater streams. Alternate A crosses or runs adjacent to several small streams which include Beasley Branch, Cherryfield Creek, Sawmill Creek, Big Mountain Branch, and Jason Branch. These streams will be impacted by the construction of this alternative but measures such as aligning the roadway away from the adjacent streams and the use of stringent erosion control measures at the crossings when implemented will minimize the effects on these streams. Alternates B and C run adjacent to and cross several streams as well. They include North Fork French Broad River, Little Bearwallow Creek, Big Bearwallow Creek, Big Mountain Branch, and Jason Branch. The North Fork French Broad River is classified as a trout stream and runs adjacent to NC 215 for approximately 2.5 miles. This river as well as the other smaller streams will be impacted by the improvements to NC 215 but stringent erosion control measures would minimize the adverse effects on them. However, erosion control would be much more costly than in Alternate A. Increased noise levels from construction machinery will effect the environment around the project but will cease upon completion of construction. There will be some delay and inconvenience to motorists on NC 215 if either Alternate B or C is implemented.

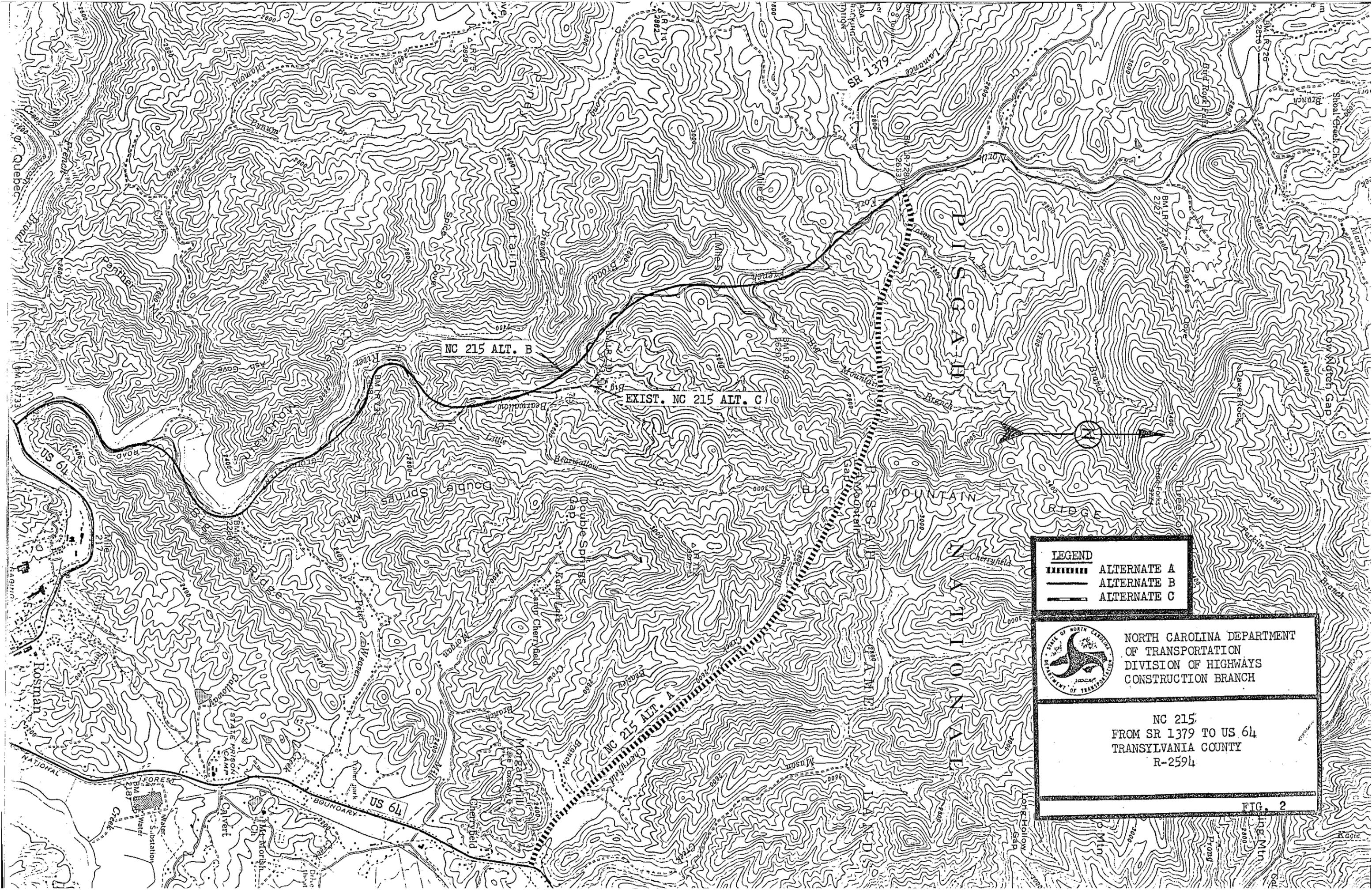
#### VI. FUTURE ACTIVITIES

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 final decision made as to the most appropriate improvement.



NORTH CAROLINA DEPARTMENT  
OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
CONSTRUCTION BRANCH

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NC 215 ALT. B

EXIST. NC 215 ALT. C

512 ALT. A

LEGEND	
	ALTERNATE A
	ALTERNATE B
	ALTERNATE C



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FIG. 2