

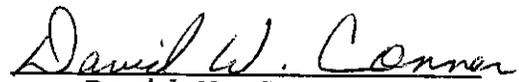
FEASIBILITY STUDY

NC 211
From NC 73 in West End
to SR 1208 in Pinehurst
Moore County
R-2812

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



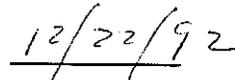
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I. GENERAL DESCRIPTION

This preliminary study describes proposed improvements to NC 211 between West End and Pinehurst in Moore County. It is proposed to widen NC 211 from NC 73 in West End to SR 1208 (Page Road) in Pinehurst, a total distance of approximately 7.2 miles. The project location is shown on Figure 1.

From NC 73 in West End eastward for a distance of approximately 0.7 mile a four lane curb and gutter section (48 feet wide from face to face of curbs) is proposed. From the east end of this segment to SR 1208 in Pinehurst, a distance of approximately 6.5 miles, a four lane undivided rural shoulder section with a 56 foot pavement width including four foot paved shoulders is proposed. The overall shoulder width is 10 feet on each side. The required right of way width is 120 feet for the shoulder section and 100 feet for the curb and gutter section, and both are generally symmetrical to the centerline of the existing roadway. The estimated total cost of these improvements is \$9,800,000. No business and two residential relocations are anticipated.

This study is the initial step in the planning and design process for this project and is not the product of exhaustive environmental or design investigations. The purpose of this study is to describe the problem, develop a treatment including cost estimates, and identify potential problem areas that require consideration in future planning and design phases.

II. NEED FOR PROJECT

The purpose of these improvements is to improve the traffic carrying capacity of NC 211 between Pinehurst and West End in Moore County.

NC 211 is designated a Major Thoroughfare on the Moore County Thoroughfare Plan and a Major Collector on the North Carolina Statewide Functional Classification System. From the western terminal of the project to NC 5, development on NC 211 is light, characterized by heavily wooded and undeveloped property with some single family residences scattered along the length. Development increases from NC 5 to the eastern project terminal to include commercial and institutional properties immediately adjacent to the roadway. New residential developments in this area feed traffic into this road segment. A large commercial development is under construction on the north side of NC 211 opposite the NC 5 intersection.

NC 211 is generally a two lane roadway with a pavement width of 24 feet and two foot wide paved shoulders. Capacity of the roadway in the project area is diminished due to the vertical and horizontal alignment which results in limited sight distance and lack of adequate passing zones. It is estimated that only about five percent of this section of roadway has passing zones.

From NC 73 in West End eastward for approximately 0.7 mile NC 211 parallels closely, and north of, the tracks of the Aberdeen and Briar Patch Railroad. Within this segment the distance between the NC 211 south edge of pavement and the railroad centerline is as little as 54 feet.

The 1991 Average Daily Traffic (ADT) on NC 211 varies from approximately 6,400 vehicles per day (vpd) to approximately 9,400 vpd. The ADT estimates for the year 2015 vary from 9,700 vpd to 15,900 vpd.

It is estimated that NC 211 is currently operating at a Level of Service (LOS) that varies from a high "D" to a low "E". If the roadway is upgraded to a four lane cross section as proposed, it is anticipated that it will be operating at a LOS "A" upon completion of construction and at a LOS "B" in the year 2015.

During the period from September 1, 1989 through August 31, 1992 there were 75 accidents reported on NC 211 between NC 73 in West End to SR 1208 in Pinehurst. This resulted in an accident rate of 103 accidents per 100 million vehicle miles (Acc/100 MVM), compared to a state wide average of 193.8 Acc/100 MVM for all two lane undivided rural NC routes during 1991. There were no fatalities reported during the period; however, 42 of the accidents resulted in 70 persons being injured. The most prevalent accident types were ran off road (29%), rear-end (21%), and left turn (20%). Upgrading NC 211 to a four lane facility should reduce the potential for these types of accidents.

III. RECOMMENDATIONS

It is recommended to widen NC 211 from approximately 150 feet east of NC 73 in West End to SR 1208 (Page Road) in Pinehurst, a total distance of approximately 7.2 miles. The project location is shown on Figure 1.

From NC 73 in West End eastward for a distance of approximately 0.7 mile a four lane curb and gutter section (48 feet wide from face to face of curbs) is recommended. From the east end of this segment to SR 1208 in Pinehurst, a distance of approximately 6.5 miles, a four lane undivided rural shoulder section with a 56 foot pavement width including four foot paved shoulders is proposed. The overall shoulder width is 10 feet on each side. The required right of way width is 120 feet for the shoulder section and 100 feet for the curb and gutter section, and both are generally symmetrical to the centerline of the existing roadway. The estimated total cost

of these improvements is \$ 9,800,000. No business and two residential relocatees are anticipated.

Additional widening to accommodate exclusive left turn lanes, and the installation of traffic signals is recommended at the NC 5 intersection and at the Rattlesnake Trail/Gun Club Road intersection.

At the western project terminal the widening will tie into the existing curb and gutter section (44 feet wide from face to face of curbs) approximately 150 feet east of NC 73. At the eastern project terminal (immediately west of SR 1208) the proposed widening will tie into the existing NC 211, maintaining the existing lane configuration at the intersection of NC 211 and SR 1208.

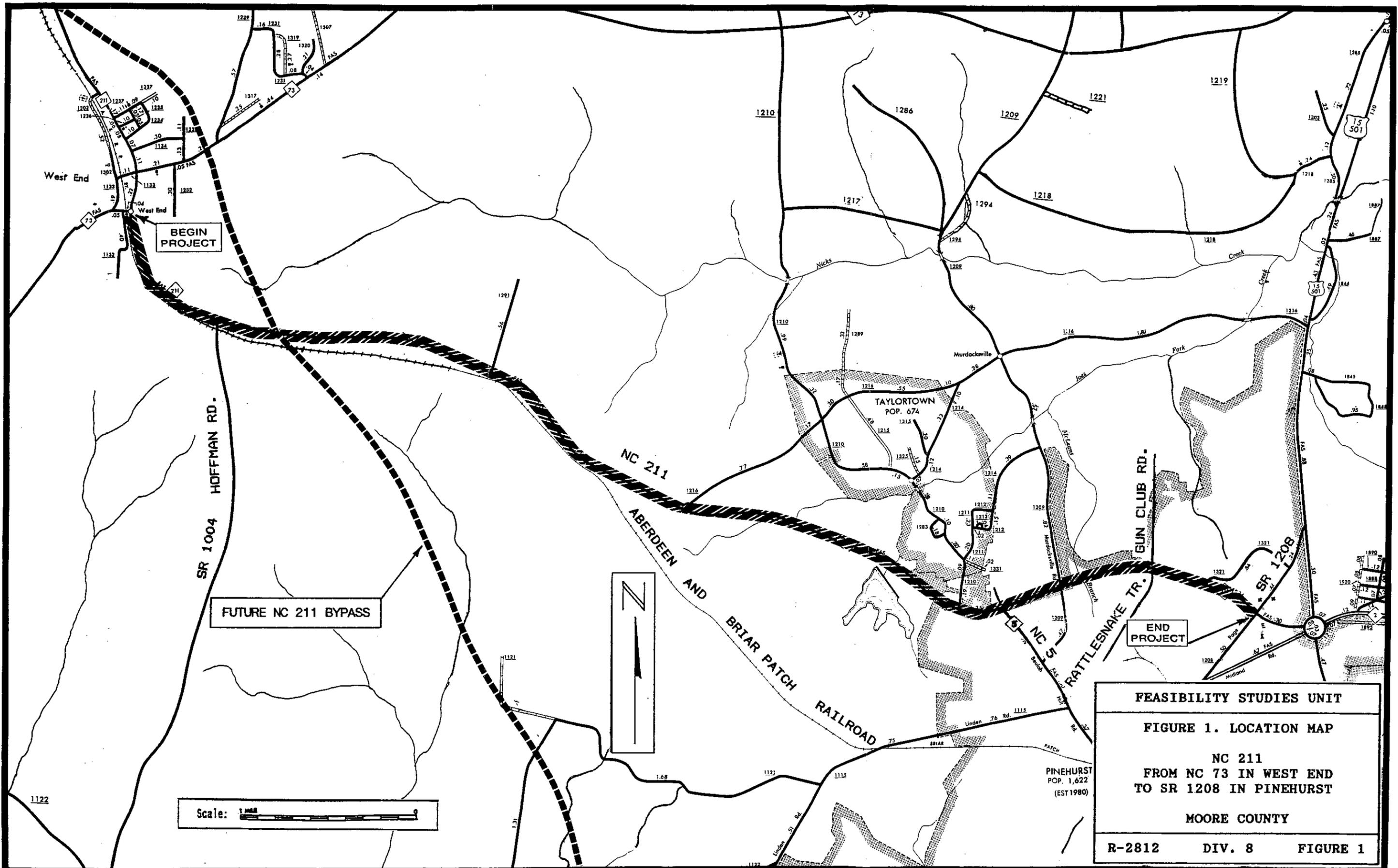
The total cost for construction and right of way is estimated to be \$ 9,800,000 as follows:

Construction :	\$ 8,100,000
Right of Way :	1,700,000
Total Cost :	\$ 9,800,000

IV. OTHER COMMENTS

Consideration was given to extending the proposed widening on NC 211 to the traffic circle in Pinehurst. This was not recommended because the traffic circle can not accept two lanes.

Also, consideration was given to widening NC 211 to a three lane facility and/or improving the vertical alignment in order to increase passing opportunities. The benefits from either of these treatments appear to be marginal. With regard to the three lane section; this would add little to the roadway capacity, particularly west of NC 5, where intersection and driveway spacing is great and left turning vehicles do not constitute a serious impediment to traffic flow. With regard to improving passing opportunities through revised vertical alignment, few locations were found that did not also require considerable improvement in the horizontal alignment.



FEASIBILITY STUDIES UNIT

FIGURE 1. LOCATION MAP

NC 211
FROM NC 73 IN WEST END
TO SR 1208 IN PINEHURST

MOORE COUNTY

R-2812 DIV. 8 FIGURE 1