

FEASIBILITY STUDY

Twin Oaks
Intersection of NC 93 and US 221
Alleghany County
R-2711

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


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Date

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I. GENERAL DESCRIPTION

This preliminary study describes two alternatives for the relocation of NC 93 at US 221 near Twin Oaks in Alleghany County. The location of both alternates is shown as Figure 1. Alternate A is to relocate NC 93 to intersect US 221 about 1000 feet west of the existing intersection and Alternate B is to relocate NC 93 about 1000 feet east of the existing intersection. Each alternate calls for a 28 foot wide pavement on a 100 foot wide right of way and in each case the length of roadway on new location is approximately 1000 feet. The total estimated cost for Alternate A is \$225,000 and for Alternate B is \$250,000.

This is not an exhaustive environmental or design investigation but a preliminary study to define feasible project alternatives and determine estimated right-of-way and construction costs for these alternatives.

II. NEED FOR PROJECT

The purpose of this project is to reduce the accident potential at the intersection of NC 93 and US 221. This project was requested by the Division Engineer. This intersection currently is controlled by a stop sign on NC 93. Sight distance for NC 93 traffic entering the intersection is extremely poor due to a steep grade on NC 93 and due to a severe horizontal curve on US 221 immediately west of the intersection.

US 221 at this location has a 20 foot wide pavement and 4 foot wide grass shoulders on a 60 foot wide right of way, and NC 93 has an 18 foot wide pavement, 4 foot wide grass shoulders on a 60 foot wide right of way. The posted speed limit on both routes is 55 MPH.

The Average Daily Traffic (ADT) volumes on NC 93 for 1991 and 2011 are estimated to be 1200 vehicles per day (vpd) and 2100 vpd respectively. For US 221 west of NC 93 the ADT volumes for 1991 and 2011 are estimated to be 1100 vpd and 1900 vpd respectively, while east of NC 93 the volumes are 2300 vpd and 3800 vpd respectively.

Development on both routes is rural/residential and the terrain is rolling, mountainous foothills.

During the period 12-01-87 through 11-30-90 there were

no accidents reported at this intersection, however the potential for a serious accident is evident.

III. RECOMMENDATIONS

It is recommended to relocate NC 93 from its existing intersection with US 221 either to the east or west in accordance with either Alternate A or Alternate B as shown on Figure 1. The difference in the estimated cost for the two alternates is only \$25,000 , therefore it is recommended that these estimates be refined in the planning or design phase and the least cost alternate be selected. Each alternate calls for a 28 foot wide pavement on a 100 foot wide right of way and in each case the length of roadway on new location is approximately 1000 feet.

For Alternate A the northern project terminal is a point on NC 93 approximately 1200 feet north of US 221. The new alignment of NC 93 will bear to the west of the existing roadway and intersect US 221 approximately 1000 feet west of the existing intersection. Under this alternate the proposed roadway will be built predominantly in cut sections and on a significant positive (in southbound direction) grade.

For Alternate B the northern project terminal is a point on NC 93 approximately 600 feet north of US 221. The new alignment will bear to the east of existing NC 93 and intersect US 221 approximately 1000 feet east of the existing intersection. Under this alternate the relocated roadway will be built entirely on fill and the grade will be essentially "flat".

Neither alternate will likely require any residential or business relocatees.

Estimated cost for each alternate is shown below:

Alternate A

Construction	\$ 228,000
Right of Way	42,000
Alternate A Total	\$ 270,000

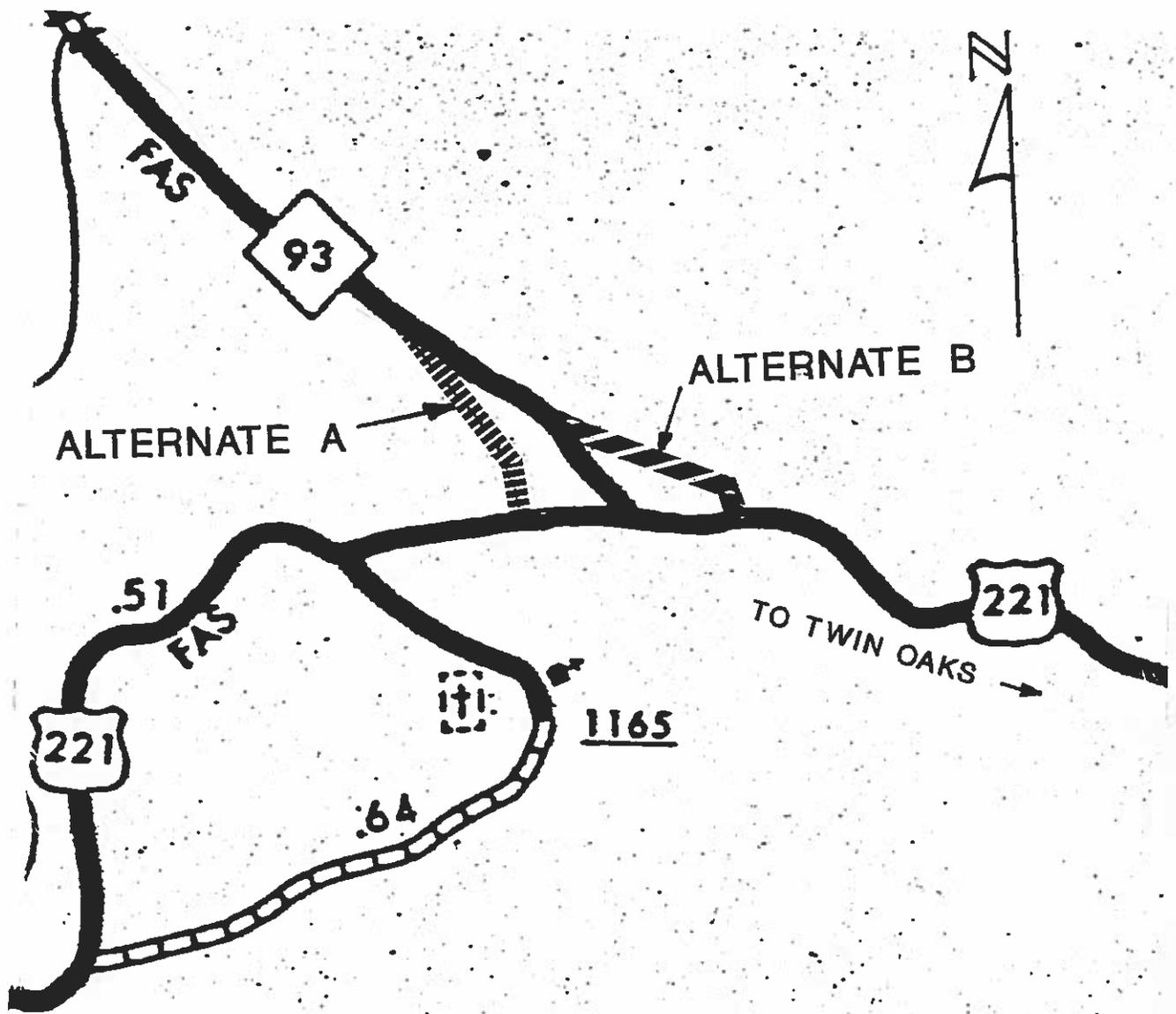
Alternate B

Construction	\$ 253,000
Right of Way	42,000
Alternate B Total	\$ 295,000

V. OTHER COMMENTS

An environmental screening was not conducted, however no significant environmental problems are anticipated.

This project is not recommended for inclusion in the Transportation Improvement Program because of its small scale. It is recommended that this project be undertaken by Division 11.



SCALE



FEASIBILITY STUDIES UNIT NCDOT		
RELOCATION OF NC93 AT THE INTERSECTION OF NC93 & US221		
TWIN OAKS	ALLEGHANY CO.	DIV. 11

FIGURE 1