FEASIBILITY STUDY

Rutherfordton

Interchange Reconstruction at US 64 and US 221

Rutherford County

U-3458

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 is a feasibility study for the reconstruction of the existing diamond interchange at US 64 and US 221 in Rutherfordton (See Figure 1). This reconstruction would consist of reconstructing Bridge Number 17, shifting the ramps outward, and widening US 64. The estimated cost of the project is $5,500,000 ($2,200,000 for right-of-way and $3,300,000 for construction).

II. NEED FOR PROJECT

Bridge Number 117, which carries US 64 over US 221, has a substandard vertical clearance of approximately 14.1 feet (4.3 m) (See Figure 2). The NCDOT Bridge Policy requires a minimum vertical clearance of 16.5 feet (5.0 m) for this location. The existing structure requires vehicles exceeding the 14.1-foot (4.3-m) clearance to use the ramps for access to the other side of the bridge. Raising the bridge to a vertical clearance of at least 16.5 feet (5.0 m) should eliminate this problem.

US 64 and US 221 are classified as minor arterials on the Statewide Functional Classification System and major thoroughfares on the Rutherford County Thoroughfare Plan.

US 64 is a two-lane, 22 to 26-foot (6.7 to 7.9-m) roadway with 6-foot (1.8-m) shoulders. US 221 is a two-lane, 24-foot (7.3-m) roadway with 10-foot (3.0-m) shoulders. Land use in this area is residential and commercial.

Bridge Number 117 has a sufficiency rating of 66.8 out of 100. The existing bridge is 126 feet (38.4 m) long with a deck width of approximately 36 feet (11.0 m). The two-lane, bridge roadway width is approximately 28 feet (8.5 m) wide.

There were 18 accidents reported between April, 1992, and March, 1993, in the vicinity of this interchange. Recommended improvements are expected to reduce the number of accidents.

The following table is a summary of the traffic analysis for the studied corridor:

Route/Description	Estimated ADT		% Trucks	Level of Service	
	1995	2015		1995	2015
US 64 (2-lane unsignalized)	12,000	20,000	8 %	E	F
US 64 (3-lane signalized)	12,000	20,000	8 %	A	B
US 221 (2-lane)	8,500	15,940	3 %	E	E
Ramps				C	D

III. RECOMMENDATIONS

It is recommended that the existing diamond interchange at US 64 and US 221 be reconstructed. Bridge Number 117 would be reconstructed to a deck width of approximately 54 feet (22.6 m) wide. The bridge profile would be raised approximately 4 feet (1.2 m) to allow for at least a 16.5-foot (5.0-m) vertical clearance. US 64 would be widened to a three-lane, 36-foot wide pavement with 8-foot (2.4-m) shoulders, including 4-foot (1.2-m) paved shoulders. The single-lane ramps would be shifted outward to provide adequate sight distance. Signals would be provided at each ramp terminal.

US 221 is capacity deficient; however, TIP Project Number R-2233, which proposes a multi-lane US 221 Bypass of Rutherfordton on new location, should reduce the traffic volumes on the existing US 221 and improve the overall operation of the interchange.

During construction traffic will be rerouted to other roads. An on-site detour will not be provided due to the nature of the work required.

The recommended interchange reconstruction would increase safety and improve truck access through this interchange.

Moderate utility conflicts are expected.

The estimated project costs for the recommended interchange are as follows:

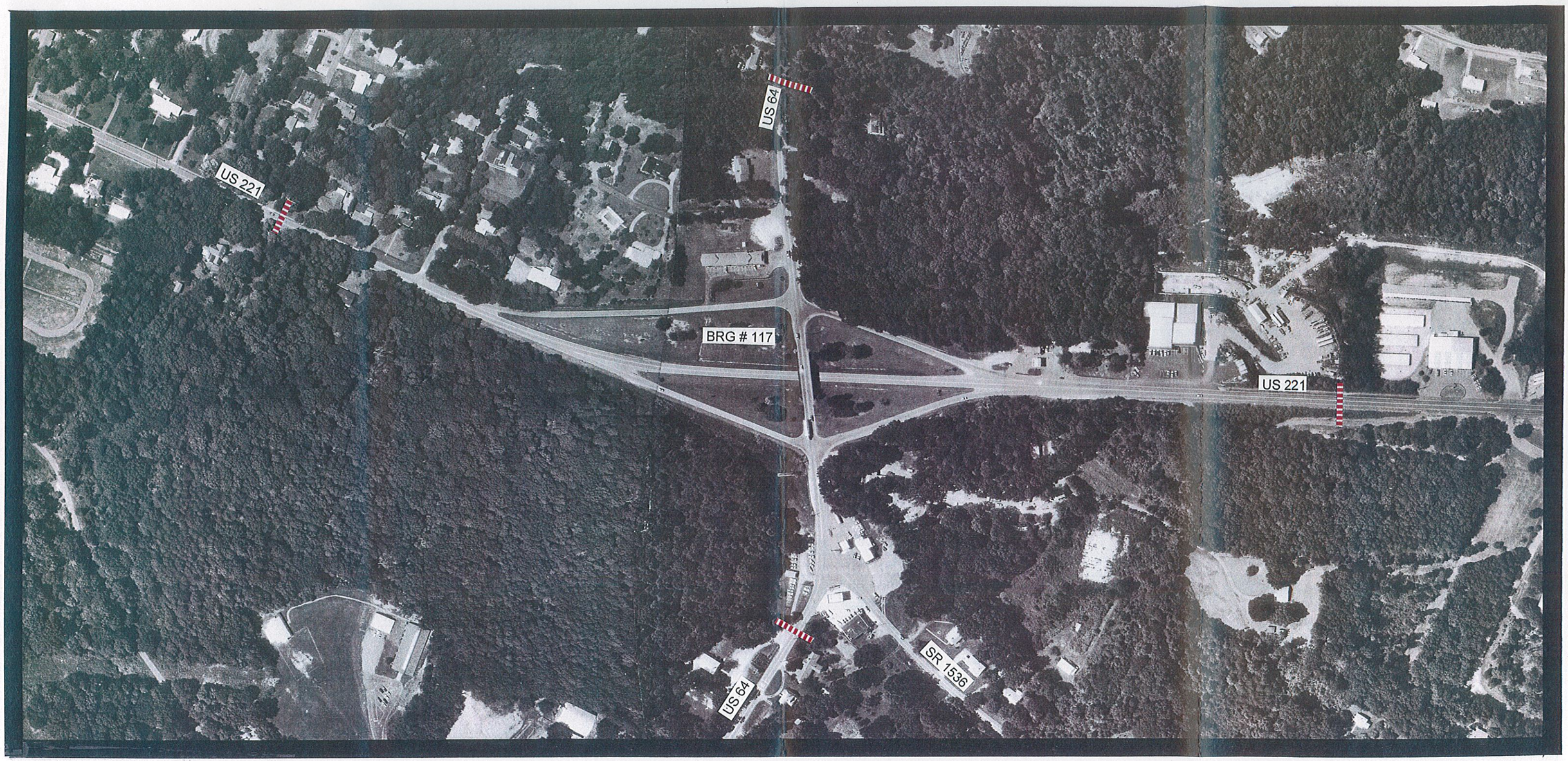
Construction	$ 3,300,000
Right-of-way	$ 2,200,000
Project Total	$ 5,500,000

IV. OTHER COMMENTS AND CONCERNS

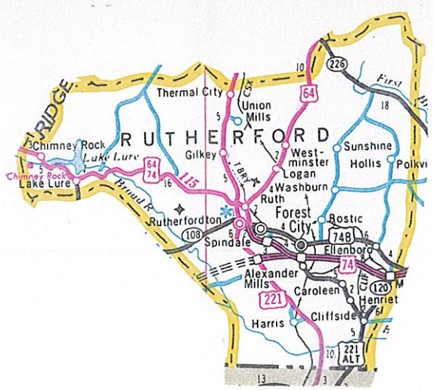
It is estimated that this project would require the relocation of 15 residences and 9 businesses.

This study is not a detailed planning/environmental investigation. A feasibility study presents studied cross-sections for improvements, general corridors of improvements, and estimated costs of construction and right-of-way. This study attempts to identify any potential environmental, permitting, or other observed issues that deserve consideration in the planning and construction stages.

No historical or architecturally significant sites have been identified in the project corridor.



APPROXIMATE SCALE: 1" = 250'



APPROXIMATE PROJECT LIMITS

North Carolina Department of Transportation
Program Development Branch

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Rutherfordton
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Division 13 Figure 1

Bridge Number 17 - Northbound on US 221

Bridge Number 17 - Southbound on US 221

North Carolina Department of Transportation Program Development Branch	
U-3458 Rutherfordton Interchange Reconstruction at US 64 and US 221 Rutherford County	
Division 13	Figure 2