FEASIBILITY STUDY

US 64
Brevard Bypass
Transylvania County

R-2702

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

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Mohammed B. Mustafa
Highway Planning Engineer

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Whitmel H. Webb, III, P.E.
Head of Feasibility Studies

Date

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I. GENERAL DESCRIPTION

This is a Feasibility Study for the construction of a US 64 bypass of the city of Brevard in Transylvania county. The recommended study corridor is labeled as Alternative 3-A on the attached maps. The recommended corridor bypasses Brevard on a new location east of the city, and is approximately 4.8 miles in length. The recommended typical cross-section is a four-lane roadway divided by a 30-foot median on 250-foot wide right-of-way.

The preliminary estimated total cost of the project is $24,800,000 ($7,100,000 for right-of-way, and $17,700,000 for construction).

This study is not a detailed planning/environmental investigation. A feasibility study presents recommended typical cross sections, general alignments, and estimated cost of the improvement. The study also attempts to provide an early identification of potential environmental, permitting, or other issues which deserve consideration in the planning and construction stages.

II. EXISTING CONDITIONS & NEED FOR PROJECT

This project was requested by the City of Brevard and the Land-of-Sky Regional Council. The project is included in the mutually adopted Brevard Thoroughfare Plan.

The project is needed to provide through motorists on US 64 and US 276 with an efficient alternative to going through the Brevard central business district, and its associated delays and slow travel speeds. The recommended bypass would also serve as a loop for inner city traffic, and carry the majority of truck traffic from US 276 around Brevard. The existing US 64 (Broad Street) through Brevard serves commercial development in the city center, and contains four signalized intersections. It is expected to reach its traffic carrying capacity by the year 2005.

Detailed traffic and turning-movement estimates were not available for this study. However, based on earlier traffic studies, it is estimated that the average daily traffic (ADT) in the year 2005 for the recommended bypass corridor (Alternative 3-A) would be 19,200 vehicles per day (vpd). Traffic volume is estimated to grow to 22,300 vpd by 2011. These volumes would result in a level of service (LOS) C for the proposed 4-lane, median divided roadway.

Estimated average daily traffic on the existing US 64 Bypass (Broad Street) through the Brevard central business district is 15,000 vpd for the year 1991, this results in a LOS E during the peak hours of traffic. Without constructing a new US 64 bypass of Brevard, traffic demand is expected to grow to 26,000 vpd by the year 2005, and to 30,000 by the year 2011. Construction of the bypass is expected to reduce traffic demand on the existing roadway to 13,000 by the year 2005, and to 16,000 by 2011.

The south terminal of the recommended corridor (3-A) is at US 64 (Rosman Highway) approximately 0.25 mile south of the Brevard corporate limits (see Figures 1 & 2). At that location, existing US 64 consists of a 5-lane, 64-foot curb and gutter section.

The north terminal of the recommended corridor is at US 64\US 276 (North Broad Street) between SR 1515 and SR 1516. The existing US 64 \US 276 at this location is a 4-lane, median divided highway (2-lane, 24-foot pavement per travel direction divided by a 30-foot median, with 10-foot shoulders).

Brevard is bounded by mountainous terrain in the north, and the French Broad River and flood plain in the south. Land use in the vicinity of the studied alternative include upland woods, urban\residential, and agricultural fields. It should be noted that Alternatives 3-A (the recommended corridor), and 3-B would border the Transylvania Community Hospital, Brevard High School, and Brevard Elementary School.

With the exception of a short (1.3 mile) section just south of Brevard, the remainder of US 64 in Transylvania County west of Brevard, consists of a 2-lane roadway with pavement width varying from 18 to 24 feet and adverse alignment in rugged, mountainous terrain.

III. RECOMMENDATIONS

It is recommended that the US 64 bypass of Brevard be located along the corridor identified as Alternative 3-A on the attached Figures 1 and 2. The recommended typical cross-section for the bypass is a 4-lane, median-divided roadway, consisting of two 24-foot pavements with 10-foot usable outside shoulders (including 2-ft. paved shoulders), divided by a 30-foot median (including 2-ft. inside paved shoulders). Recommended right-of-way width is 250 feet, with full control of access to adjacent properties.

All intersecting roads are to join the proposed bypass at grade, and be stop sign controlled, except for the two intersections with the existing US 64, and the US 276 intersection which are anticipated to be signalized. These three intersections are to be at grade, channelized and the approaches widened to provide enough lanes for minimum delay and a high level of service. Priority of movement should be given to bypass traffic in the design of all intersections.

The preliminary estimated cost of the recommended improvements:

Right-of-way & Utilities	$ 7,100,000
Construction	$ 17,700,000
Total	$ 24,800,000

V. OTHER COMMENTS & CONCERNS

It is estimated that the project as recommended would require the relocation of 21 residences. Two recorded archaeological sites (31Tv12 and 31Tv15) are located near the recommended corridor. If the project is federally funded, coordination with the Eastern Tribe of the Cherokee Indians may be required. A substantial portion of the recommended corridor is located on farmland within the floodplain of the French Broad River. The recommended corridor may require consideration of noise abatement in the vicinity of the Transylvania Community Hospital, Brevard High School, and Brevard Elementary School. Additionally, the Transylvania County Board of Education is opposed to the recommended corridor (Alternative 3-A), and Alternative 3-B due to their proximity to the schools.

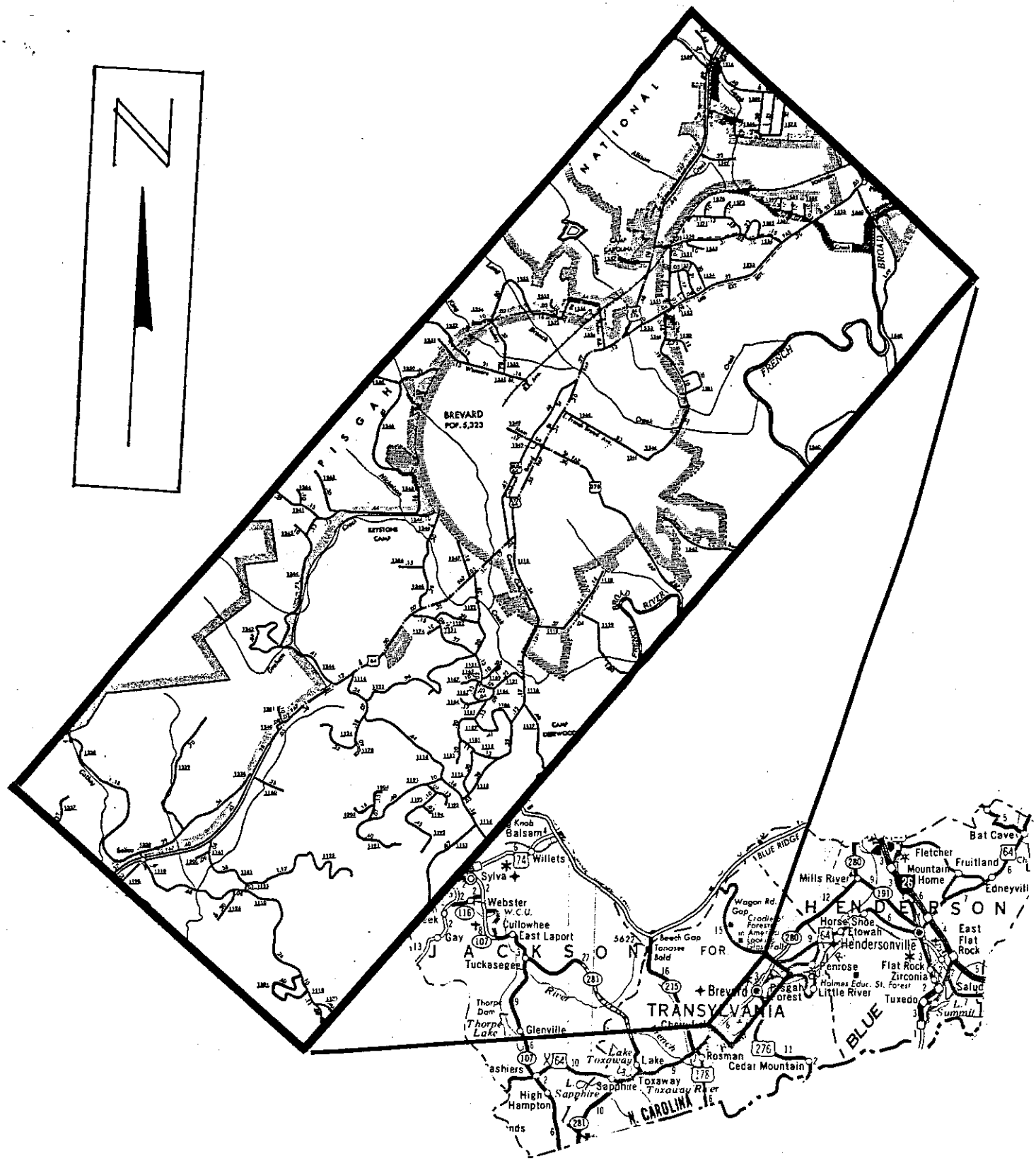
The permitting requirements, and compliance with Section 106 of the National Historic Preservation Act, or GS 121-12(a) would depend on the assessed impacts of the final design, and type of funding for the project.

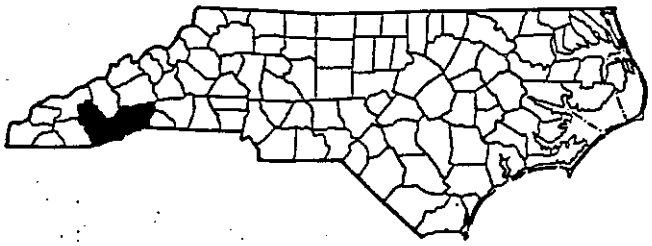
In addition to the recommended corridor (Alternative 3-A), the following three alternative corridors to accommodate the recommended typical cross-section (see Figures 1 & 2) were considered and rejected:

Alternative 1: This corridor would bypass Brevard to the north on a new location. This corridor may encroach on the Pisgah National Forest. The estimated length of this corridor is 5.4 miles. Due to the topography of the area, any alignment north of Brevard would traverse rugged mountainous terrain, requiring extensive earthwork, and associated impacts. A 300-foot wide right-of-way was assumed for this corridor. The preliminary estimated cost of this alternative is $52,840,000 ($10,640,000 for right-of-way, and $42,200,000 for construction). It is estimated that this alternative would require the relocation of 32 residences. Alternative 1 corridor is not recommended because it would not provide US 276 traffic with a bypass of Brevard, its extensive earthwork and impacts due to the wider cut and fill areas, and its higher cost.

Alternative 2: Would be constructed on a 200-foot wide right-of-way, utilizing the right-of-way containing the abandoned Southern Railroad tracks through Brevard to the extent possible. Estimated length of this alternative corridor is 2.2 miles, the majority of which would be within Brevard's corporate limits. The preliminary estimated cost of this corridor is $16,800,000 ($9,780,000 for right-of-way, and $7,100,000 for construction). It is estimated that this corridor would require the relocation of 30 residences and 17 businesses. This corridor was not recommended because it would not provide US 276 traffic with a bypass of Brevard, it would pose as a physical barrier that bisects the city, and prevent converting the abandoned railroad right-of-way to a greenway, which is desired by the City.

Alternative 3-B: This corridor is identical to the recommended corridor, except for its south terminal. The south terminal for this corridor is at US 64 (Rosman Highway) approximately 0.2 mile north of SR 1114. The estimated length of this corridor is 5 miles, and the preliminary estimated cost is $27,560,000 ($9,560,000 for right-of-way, and $18,000,000 for construction). This corridor is estimated to require the relocation of 34 residences and 2 businesses. Alternative 3-B was not recommended because of its higher cost, and greater number of relocations.





BREVARD

US 64 BYPASS
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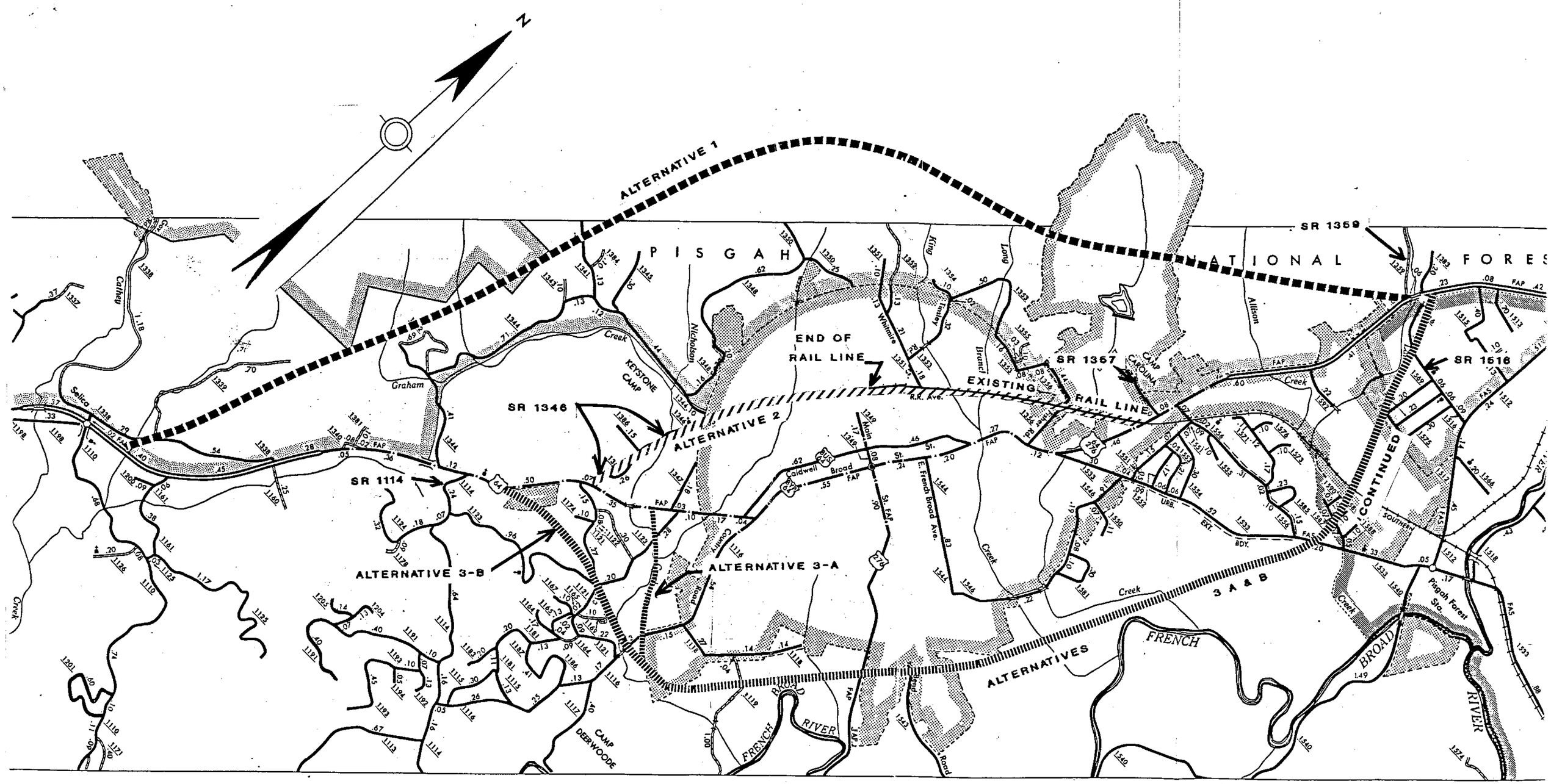
VICINITY MAP



SCALE

0 0.5 1 MILE

BREVARD

US 64 BYPASS

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FIG. 1

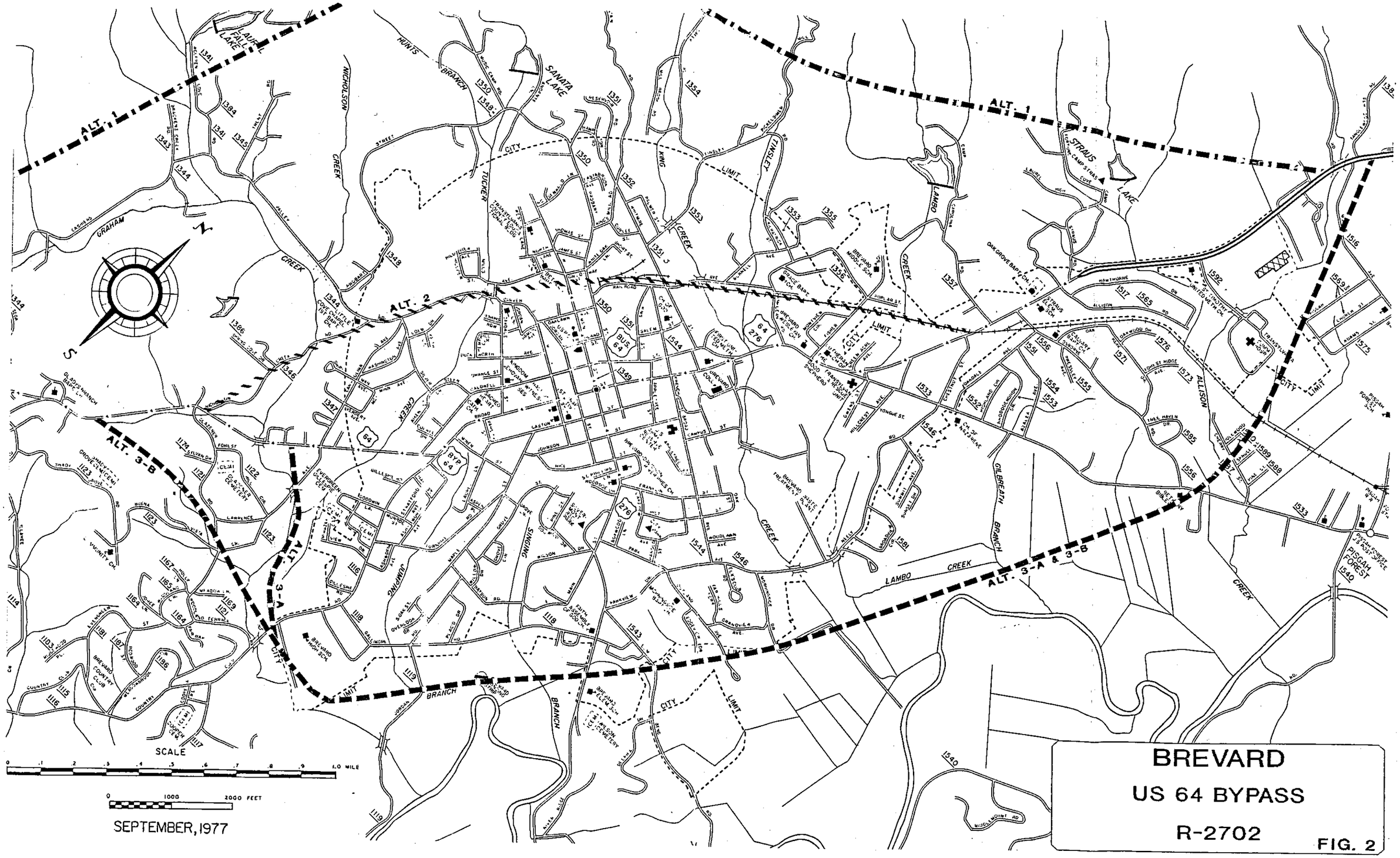

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FIG. 2