

FEASIBILITY STUDY

High Point
SR 1113 (Kivett Drive)
from Brentwood Street to US 29-70
Guilford County
U-2717

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



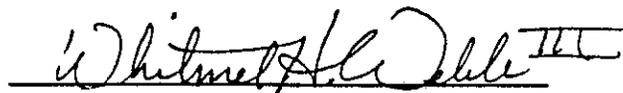
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I. GENERAL DESCRIPTION

This is a feasibility study for the widening of SR 1113 (Kivett Drive), for 2.5 miles from Brentwood Street to the interchange with US 29-70 (See Figure 1). The recommended typical cross section is a five-lane, 64-foot curb and gutter section on 100 feet of right-of-way. Recommended improvements to the US 29-70 interchange include signaling ramp termini, providing left-turn lanes on ramps, and replacing Bridge #218 which carries Kivett Drive over US 29-70. Total project cost is estimated at \$9,010,000 (\$3,780,000 for right-of-way, and \$5,230,000 for construction)

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

II. NEED FOR PROJECT

The City of High Point requested that the studied section of SR 1113 be widened to a five-lane section (See Figure 2). Since Kivett Drive is already a five-lane section to the west of Brentwood Street, this project would complete the five-laning of Kivett Drive to US 29-70. Kivett Drive is functionally classified as "Other Urban Principal Arterial" in the Statewide Functional Classification System, and as a "Major Thoroughfare" on the 1989 mutually adopted High Point Thoroughfare Plan.

A 0.2 mile portion of this project, from SR 1355 (Harvey Road) to the east-side ramps of the US 29-70 and Kivett Drive interchange, is on the "Mountains to Sea" bicycle route. The North Carolina Bicycle Program has requested wider outside lanes to accommodate bicycle traffic in this section.

The studied section consists of a two lane road with pavement width varying from 22 to 40 feet with 6-foot unpaved shoulders, on 60 feet of right-of-way with no control of access. Kivett Drive serves eastern High Point, providing access to US 29-70. Dense residential and small business development has occurred on both sides of SR 1113, with many driveways located throughout the section. Congestion occurs near some industrial complexes, particularly the Hatteras Yacht Factory near the western end of the studied section. This project is needed to relieve traffic congestion and to safely accommodate turning traffic.

Project R-609 will affect Section A of this project, from Brentwood Street to Pendleton Street, as shown in Figure 2. Project R-609 is the US 311 Bypass of High Point, which will intersect Kivett Drive approximately 1000 feet east of Brentwood Street. A partial cloverleaf interchange with Kivett Drive is included in the cost of R-609.

The 1990 Average Daily Traffic (ADT) is 11,600 vehicles per day (vpd) traveling through the section, with an estimated 23,200 ADT in the design year. The current road configuration experiences a Level Of Service (LOS) D now, and is expected to experience a LOS F before the design year of 2011. If Kivett Drive is widened to a five-lane curb and gutter section and left turn lanes are provided on approach streets at signalized intersections, level of service at current traffic demand should increase to a LOS B rating, with a LOS D expected in the design year.

As traffic increases, the US 29-70 interchange with Kivett Drive will also diminish in capability to handle traffic flows at an acceptable level of service. Off-ramps can be expected to develop long queues if not provided with signals or left turn lanes at the termini with SR 1113. Traffic at intersections with ramp termini experiences a LOS D now, and is expected to experience a LOS F before the design year of 2011. If SR 1113 is widened to a five-lane curb and gutter section, 150-foot left-turn lanes are provided on off-ramps, and the intersections at ramp termini are signalized, level of service at current traffic demand should increase to a LOS B rating. An estimated 23,200 ADT in the design year will result in a LOS C. Existing Bridge #218 carries Kivett Drive over US 29-70. It is 191 feet long, and has a clear roadway width of 26 feet. The bridge has a sufficiency rating of 51.

During the period from June 1, 1988 through May 31, 1991, a total of 106 accidents were reported (including two that resulted in fatalities) along the studied portion of SR 1113. This resulted in an accident rate of 335 accidents per 100 million vehicle miles, slightly higher than the statewide average of 329. The most prevalent accident types were rear-end slow or stop (39%) and left-turn crossing traffic (16%). The recommended cross-section and center left-turn lane will reduce accident rates.

III. RECOMMENDATIONS

A five-lane, 64-foot curb and gutter section with 8-foot berms, on 100 feet of right-of-way is recommended from Brentwood Street to the US 29-70 interchange, with the exception of a 68-foot curb and gutter section for 0.2 mile from SR 1355 to the US 29-70 interchange to accommodate bicycles (See Figure 2). The typical section is to contain a center 12-foot left-turn lane and four 12-foot travel lanes. This five-lane section will accommodate turning traffic into adjacent development, offer left turn lanes at signals, needs no median maintenance, and provides needed capacity for through traffic. No control of access is recommended.

Widening should occur both symmetrically and asymmetrically from the current alignment as deemed desirable to minimize adverse impacts. The alignment of the existing roadway is to be retained and utilized to the extent possible.

In addition, the US 29-70 interchange with Kivett Drive will need upgrading to handle future traffic. The interchange off-ramps are to be signalized and provided with left turn lanes. The existing bridge should be replaced with a 210-foot structure (to accommodate a possible future acceleration lane passing under the bridge onto northbound US 29-70) with a clear roadway width of 68-feet. The bridge is to carry a five-lane section with a 12-foot center left-turn lane, 12-foot inside travel lanes, and 14-foot outside travel lanes to accommodate bicycle traffic. These improvements to the interchange should not require any additional right-of-way.

Consideration should be given to staging construction of this project. Project R-609 may cause considerable disruption of Kivett Drive during construction of the interchange of the US 311 Bypass and Kivett Drive. Therefore, Section A of this project, from Brentwood Street to Pendleton Street, should be considered for construction simultaneously with construction of the interchange.

Total project cost is estimated at \$9,010,000:

	Section A	Section B
Right-of-way	\$ 190,000	\$ 3,590,000
Construction	\$ 700,000	\$ 4,530,000
Total Cost	\$ 890,000	\$ 8,120,000

Medium utility conflicts are expected.

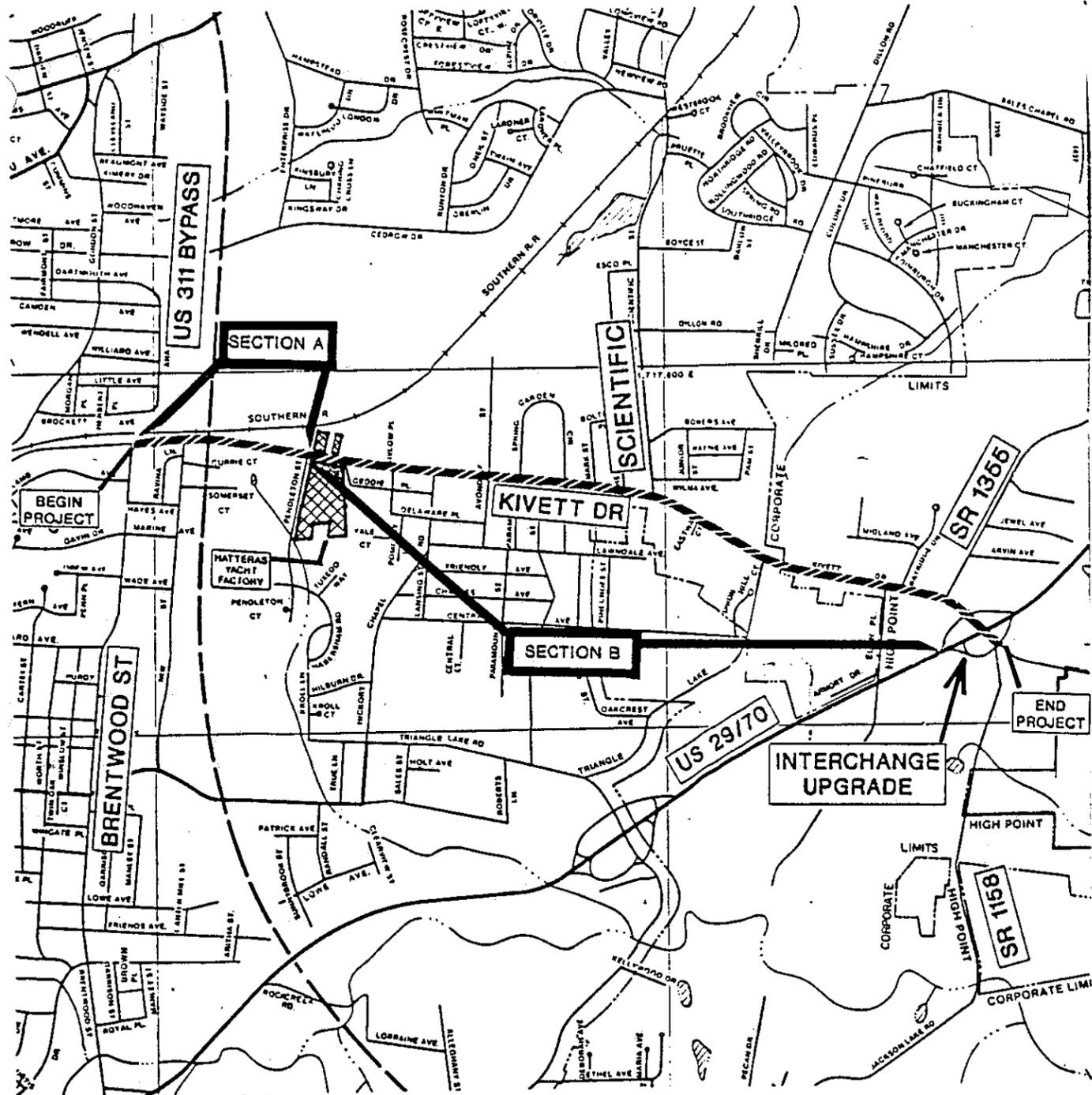
IV. OTHER COMMENTS AND CONCERNS

This report is written without benefit of an environmental screening.

Widening may affect some woodland along the section studied. No public parks are affected. This project will cause the relocation of approximately three residences and four businesses. A Corps of Engineers Nationwide Permit may be required due to the alignment crossing a small creek near the Hatteras Yacht Factory.

Division 7 is considering improvements to SR 1158, (Jackson Lake Road), which terminates at the Kivett Drive interchange with US 29-70, on the northbound US 29-70 off-ramp. If Jackson Lake Road is widened, its terminus should be realigned from the interchange off-ramp, to SR 1113 east of the interchange. However, these improvements are beyond the scope of this project.

The existing on and off-ramps at the US 29-70 interchange with Kivett Drive are substandard. Existing on-ramps to US 29-70 do not have acceleration lanes and are controlled with yield signs. Off-ramps do not have deceleration lanes. The cost to add two 1200-foot acceleration lanes and two 800-foot deceleration lanes is estimated at \$370,000. This improvement is deemed to be beyond the scope of this project, however any future improvements to US 29-70 in this area should consider upgrading this interchange.




VICINITY MAP
FEASIBILITY UNIT
HIGH POINT
 SR 1113 (KIVETT DRIVE) FROM
 BRENTWOOD STREET TO US 29-70
 GUILFORD COUNTY
 U-2717
 SCALE: 1" = 2000' DATE: JULY 1991

FIGURE 2