FEASIBILITY STUDY

NC 55

From Mount Olive to Kinston
Wayne, Duplin & Lenoir Counties

FS 53-94-003

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

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8/17/94
Date

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I. GENERAL DESCRIPTION

This is a feasibility study identifying potential improvements to NC 55 from US 117 in Mount Olive to US 70 at Kinston (see Figure 1). The studied improvements include upgrading the roadway, partially on a new location, to a freeway with a bypass of Seven Springs (The favored study corridor is identified as Corridor 1 in Figures 2-A, 2-B, & 2-C). The studied typical cross-section is two 24-foot (7.3-meter) pavements with 10-foot (3.0-meter) outside paved shoulders separated by a 46-foot (14.0-meter) median including 4-foot (1.2-meter) inside paved shoulders. Estimated length of the studied improvement is 27.4 miles (44.2 km).

The studied right-of-way width is 250 feet (76.2 meters) with full control of access. Estimated total project cost is $168,200,000 ($55,000,000 for right-of-way, and $113,200,000 for construction).

This study does not include recommendations regarding project funding, or programming, and is not a detailed planning/environmental investigation. A feasibility study presents 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 study was conducted to identify a preliminary corridor for a freeway from US 117 and I-40 to Kinston. The favored study corridor (Corridor 1) would provide the Global Transpark at Kinston with a direct freeway link to US 117 and I-40. The freeway would mainly serve through traffic between I-40 and the Mount Olive area and the Global Transpark. The project would also enhance safety for NC 55 corridor users and shorten travel times.

NC 55 is classified as a rural Minor Arterial in the statewide functional classification system. The studied

portion of NC 55 is a two-lane, 22 to 24-foot (6.7 to 7.3-meter) pavement with 6 to 10-foot (1.8 to 3.0-meter) usable shoulders. Claimed right-of-way width is estimated at 60 feet (18.3 meters). Access is not controlled on this portion of NC 55.

Detailed traffic and turning-movement estimates were not available for this study. However, based on earlier traffic counts, it is estimated that the average daily traffic (ADT) in 1994 for the studied corridor varies from 4,200 vehicles per day (vpd) near Kinston, to 2,600 vpd near Mount Olive. Traffic volumes are estimated to grow to 10,500 vpd and 6,700 vpd, respectively, by 2014. These traffic projections are based on the anticipated development at the Global Transpark through the year 2014.

Under existing conditions, it is estimated that the subject roadway is offering a level-of-service (LOS) B, and is expected to reach LOS C near Mount Olive and LOS D near Kinston by the year 2014. With the studied improvements, the roadway would offer LOS A throughout the 20-year design period.

During the period beginning in April, 1991, through March, 1994, a total of 243 accidents, including four fatal accidents were reported on the studied portion of NC 55. The resulting total accident rate was 270.0 accidents per 100 million vehicle-miles, compared to a statewide average of 198.5 accidents per 100 million vehicle-miles on similar routes. These accidents included 55 involving rear-end collisions, 51 involving angle collisions, 40 involving vehicles that ran off the road, and 33 involving turning vehicles.

III. STUDIED IMPROVEMENTS

This study identifies potential improvements to NC 55 between Mount Olive and Kinston. The studied improvements do not appear to merit a high priority based solely on current and projected traffic demands and estimated cost. However, the continuing development of the Global Transpark at Kinston will impose increasing traffic demand on NC 55. The studied improvements would be appropriate if future traffic volumes warrant a new freeway along this corridor.

The studied improvements would provide the NC 55 corridor with a four-lane freeway from US 117 south of Mount Olive to US 70 west of Kinston (see Figure 1). The favored study corridor begins with a new interchange at US 117 approximately 0.6 mile (1.0 km) south of the Mount Olive town limits (the favored study corridor is identified as Corridor 1 on Figure 2-A, 2-B, & 2-C)). The corridor runs

southeast crossing over US 117-A and the CSX railroad, then curves eastward to intersect existing NC 55 approximately 1.8 miles (2.9 km) west of NC 403/SR 1745 in Wayne County (see Figure 2-A). This portion of the study corridor would minimize relocations by bypassing Mount Olive and offering access to I-40 via the four-lane divided US 117 connector (Project R-606).

The studied freeway corridor bypasses the Town of Seven Springs on new location. The Seven Springs bypass corridor (see Figure 2-B) begins near SR 1746 in Wayne County, west of Seven Springs and bypasses the Town to the south. The studied bypass corridor joins SR 1300 in Lenoir County approximately 0.5 mile (0.8 km) east of NC 903. The corridor follows SR 1300 to the east for approximately 5.0 miles (8.0 km), then curves to the north to intersect the proposed US 70 bypass of Kinston (Project R-2553). The corridor terminates by forming the southern leg of the intersection of the proposed Crescent Road (Project R-2719) and US 70 at Kinston (see Figure 2-C).

The studied typical cross-section is two 24-foot (7.3-meter) pavements with 10-foot (3.0-meter) outside paved shoulders separated by a 46-foot (14.0-meter) median including 4-foot (1.2-meter) inside paved shoulders. Where the studied corridor shares the existing NC 55 alignment, the existing pavement and alignment are to be retained and utilized to the extent possible. The widening is to be accomplished by constructing the median and the new pavement adjacent to the existing roadway. The existing pavement would be widened and resurfaced. The side of the roadway on which the new lanes would be constructed, would be identified at the planning/preliminary design phase. This study is based on eliminating all at-grade crossings. The design and exact locations of the necessary interchanges and grade-separations would also be identified at the planning/design phase.

The following is a list of potential locations for new structures that were included in the cost estimate:

Interchanges:	Grade Crossings:	Bridges:
US 117	US 117A & CSX RR	Dalys Creek (Lenoir Co.)
NC 55	SR 1318 (Duplin Co.)	Neuse River (Lenoir Co.)
NC 403	SR 1306 (Duplin Co.)	
NC 111	SR 1004 (Duplin Co.)	
NC 903	SR 1948 (Wayne Co.)	
US 70 Bypass	SR 1746 (Wayne Co.)	
	SR 1739 (Wayne Co.)	
	NC 55 (south of Seven Springs)	
	SR 1152 (Lenoir Co.)	
	SR 1306 (Lenoir Co.)	

Minimum right-of-way width needed to accommodate the new freeway is 250 feet (76.2 meters) with full access control. Therefore, along existing roadway alignments, right-of-way would be acquired asymmetrically about the centerline of existing roadways to minimize impacts, and utilize existing alignments to the extent possible.

Estimated costs of the studied improvements:

Right-of-Way & Utilities	$ 55,000,000
Construction	$113,200,000
Total	$168,200,000

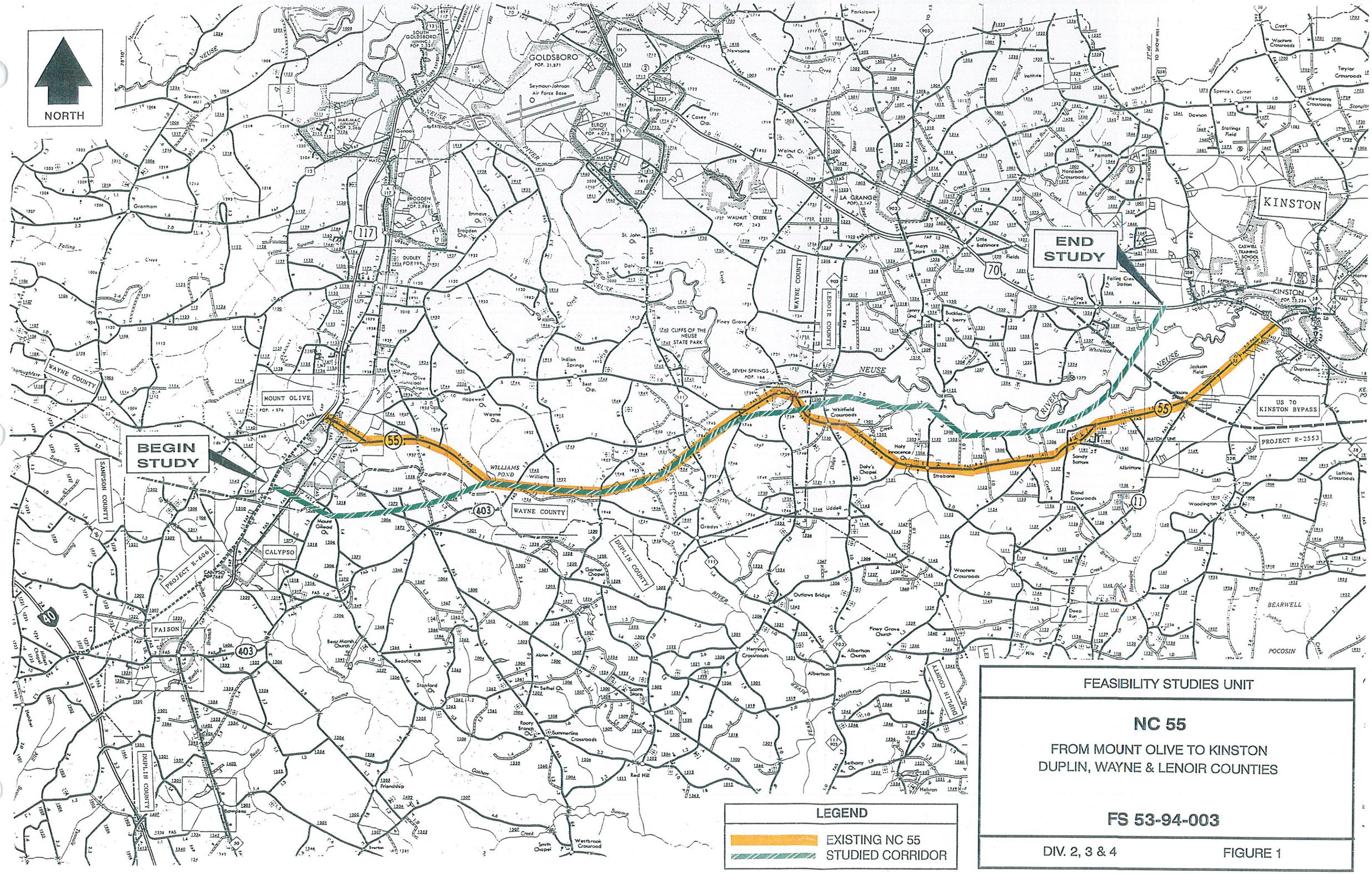
V. OTHER COMMENTS & CONCERNS

It is anticipated that the studied improvements would impact a substantial acreage of wetlands and require the relocation of approximately 63 residences and 12 businesses. An environmental screening has not been conducted for this study. The following are two additional corridors that were studied, but are not recommended. The two additional corridors (Corridors 1-A & 1-B) are variations of the favored study corridor (Corridor 1) west of NC 403 only (see Figure 2-A). From east of NC 403 to the east terminal of the study at Kinston, only one common corridor (Corridor 1) was studied (see Figures 2-A, 2-B & 2-C).

Corridor 1-A (see Figures 2-A) is identical to the favored studied corridor (Corridor 1) except for the portion west of NC 403. Corridor 1-A begins at the US 117 interchange with NC 55 in Mount Olive, and follows the existing NC 55 alignment. The studied typical cross-section from US 117 to the east approach of the bridge over the CSX railroad is a five-lane, 64-foot (19.5-meter) curb and gutter section on 100-foot (30.5-meter) wide right-of-way without access control. From the east approach of the bridge over the CSX railroad to SR 1744 the studied typical cross-section is a five-lane, 60-foot (18.3-meter) pavement with 10-foot (3.0-meter) shoulders including 4-foot (1.2-meter) paved shoulders. The studied right-of-way width is 150 feet (45.8 meters) with partial access control. East of SR 1744 the studied typical cross-section, right-of-way width, and access control are identical to those for Corridor 1. Estimated cost of Corridor 1-A is $148,700,000 ($56,600,000 for right-of-way, and $92,100,000 for construction). It is estimated that this corridor would require the relocation of 58 residences and 12 businesses. Corridor 1-A is not recommended since it does not provide a continuous freeway between US 117 and Kinston. The widening of the segment of NC 55 between US 117 and SR 1744 to five lanes without full

access control would improve access to the adjacent commercial and industrial sites.

Corridor 1-B (see Figure 2-A) is also identical to Corridor 1, except for the portion west of NC 403. Corridor 1-B begins at a new interchange with I-40 approximately 2.5 miles (4.0 km) south of the US 117 interchange. With a northeast heading, the corridor bypasses Faison to the southeast, and intersects NC 403 approximately 1.5 miles (2.4 km) east of Faison. From that location to the existing NC 55, Corridor 1-B utilizes the existing NC 403 alignment to the extent possible. The studied typical cross-section, right-of-way width, and access control are identical to those for Corridor 1. Estimated cost of Corridor 1-B is $215,800,000 ($77,800,000 for right-of-way, and $138,000,000 for construction). It is estimated that Corridor 1-B would require the relocation of 72 residences and 16 businesses. Corridor 1-B is not recommended due to its higher cost and greater adverse impacts, including relocations and construction in wetlands.



FEASIBILITY STUDIES UNIT

NC 55

FROM MOUNT OLIVE TO KINSTON
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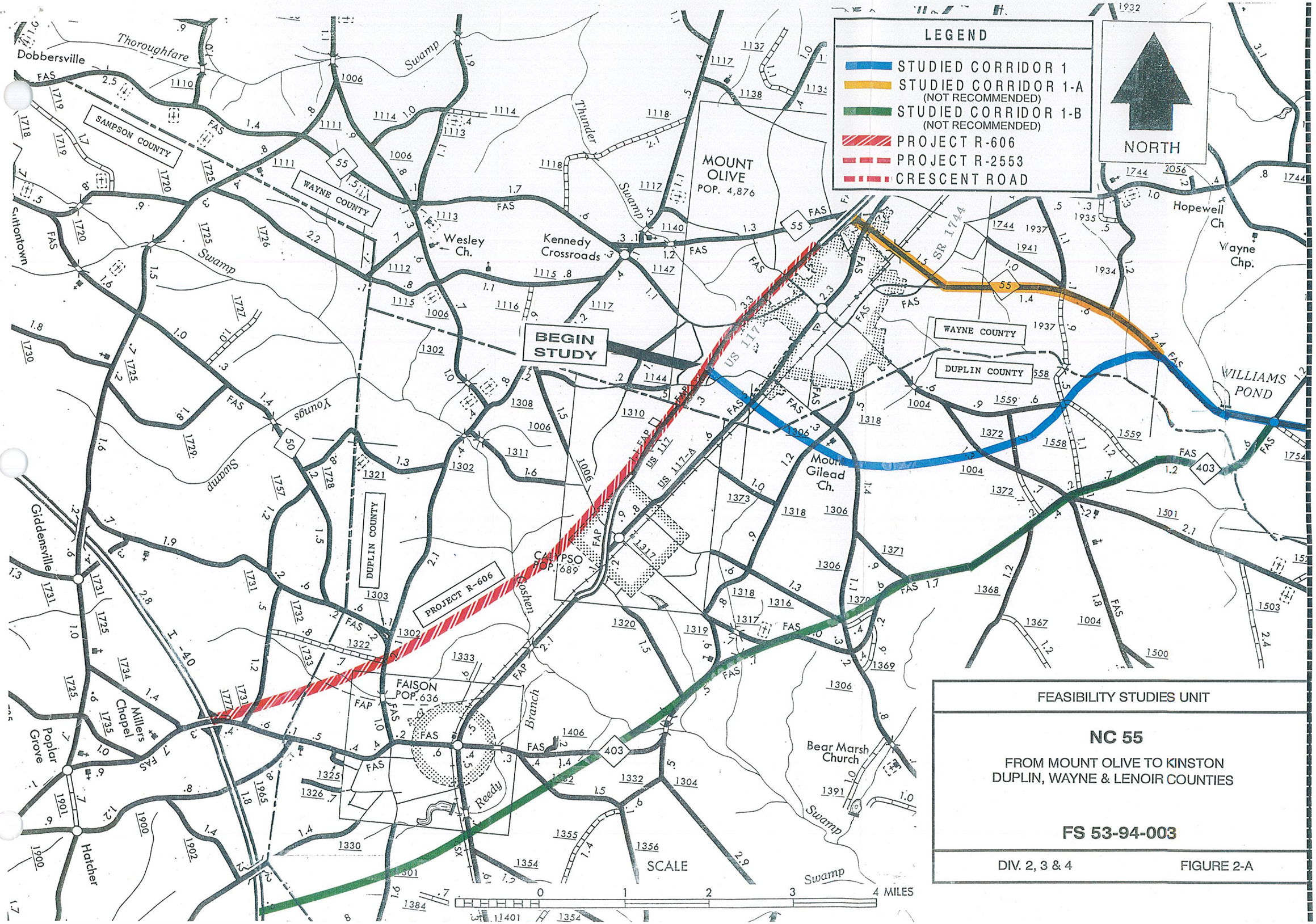
DIV. 2, 3 & 4

FIGURE 1



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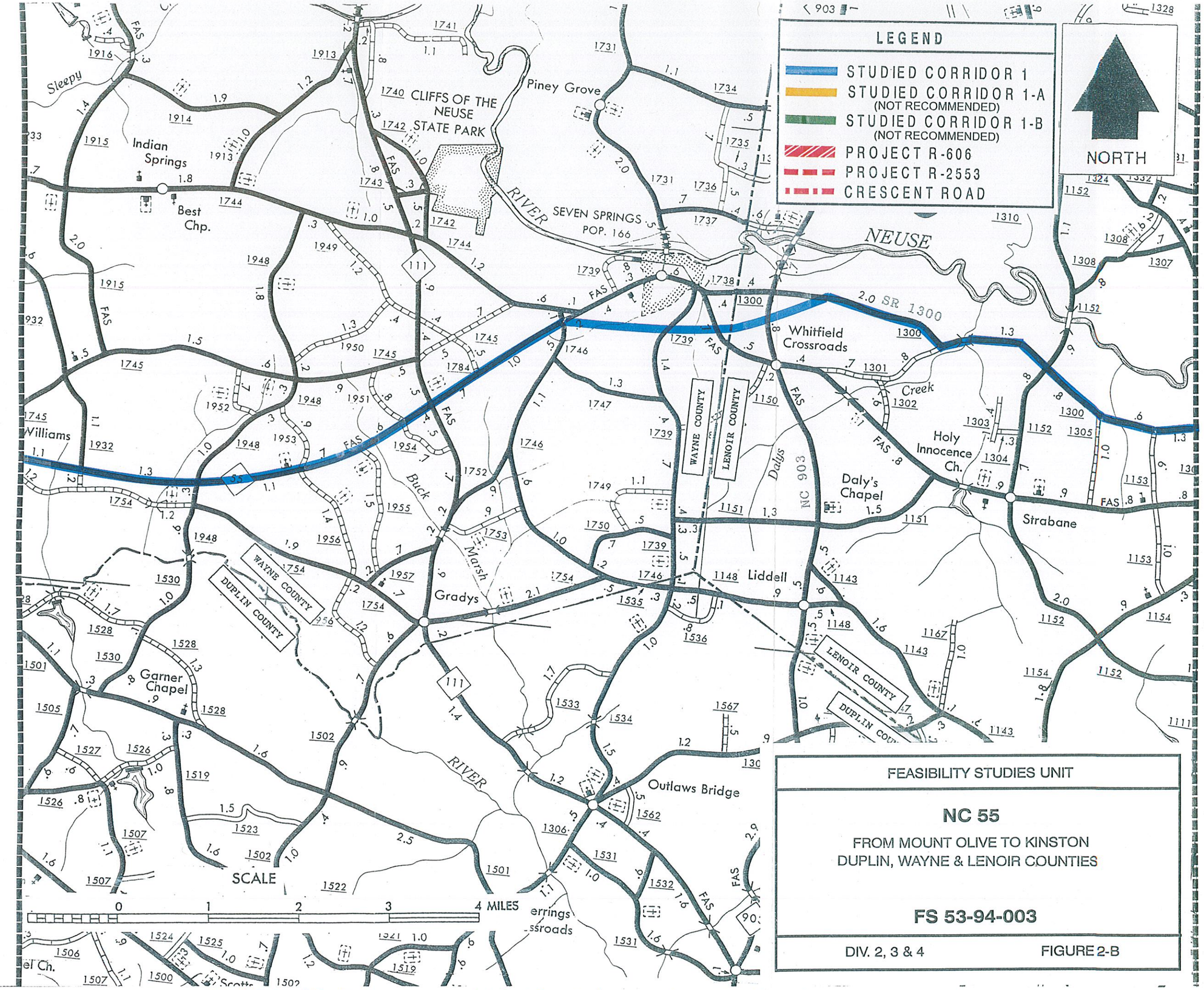
DIV. 2, 3 & 4 FIGURE 2-A

MATCH LINE

FIGURE 2B

MATCH LINE

FIGURE 2A



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DIV. 2, 3 & 4 FIGURE 2-B

MATCH LINE

FIGURE 2C

FIGURE 2B

MATCH LINE

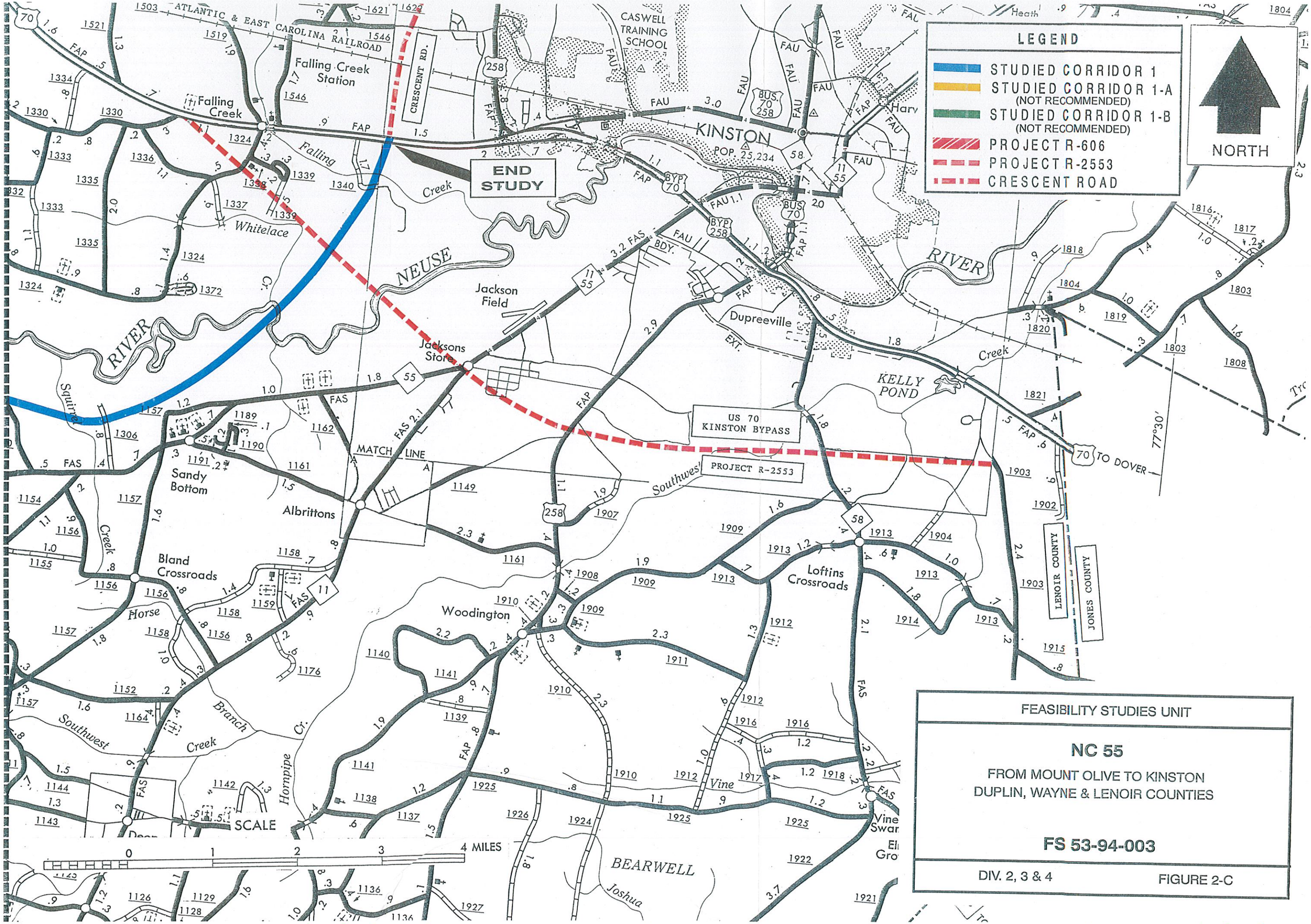

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FIGURE 2-C