FEASIBILITY STUDY

US 64
Asheboro Southern Bypass
Randolph County
R-2536

Prepared by
Planning and Environmental Branch
Division of Highways
N. C. Department of Transportation

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Date

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Planning and Environmental Branch

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I. DESCRIPTION

This report covers a preliminary study of the proposed 13.5-mile Asheboro Southern Bypass including a 2.1-mile connector to the N. C. Zoological Park (see Figure 1). This project is included in the 1990-1996 Transportation Improvement Program for feasibility study and/or right-of-way protection, and is not currently funded. Although the recommended alignment for the bypass presented in this report does not follow the Asheboro Thoroughfare Plan adopted in 1986, action is presently being taken by the City of Asheboro to request an amendment to the current Thoroughfare Plan to reflect the modified alignment and design standards.

II. PURPOSE OF PROJECT

The proposed facility would serve as a major part in the development of any Asheboro Thoroughfare Plan and is designated as a rural principal arterial on the County Functional Classification Plan. US 64 is on the Intrastate Corridor Network in North Carolina. In a larger sense, it serves the southern central Piedmont and is of critical importance to economic development. This segment of US 64 connects Asheboro with nearby urban centers such as Lexington, Pittsboro, and Raleigh. In addition, improvement of US 64 to a high type facility would provide some relief to the heavy I-40/85 corridor traffic.

Asheboro has a current population of over 16,000. The traffic volumes on existing US 64/NC 49 are expected to rise quickly with the completed improvements of US 64 from Siler City to Asheboro and future improvements to the remaining unimproved roadway from Asheboro to Lexington (R-2220) and from Ramseur to US 1 near Raleigh (R-2217, R-2218, R-2219, and R-2318). US 64/NC 49 (Dixie Drive) presently serves over 23,000 vehicles per day (vpd). In addition, traffic is expected to further increase as a result of the planned expansion of the Zoo. Approximately 700,000 visitors per year attend the Zoo and are expected to increase to over a million visitors with the opening of the North American Continent in late 1993.

Accident data for a recent 3-year period shows a total of 427 accidents on a 5.5-mile section of existing US 64/NC 49 through Asheboro. This yields an accident rate of 335 accidents per hundred million vehicle miles, which is less than the statewide average of 413 accidents per hundred million vehicle miles for multi-lane undivided US urban routes. Rear-end (32%) and angle (23%) collisions were the predominant accident types.

Need for Project

Presently, US 64/NC 49 is at operating capacity. The bypass would alleviate increasing periods of congestion and safety problems on the existing 5-lane, 64-foot curb and gutter section of US 64/NC 49. A fully controlled access freeway type facility would provide a higher and safer level of service for through traffic desiring to avoid numerous travel restrictions through Asheboro such as signals, lower speeds, periods of congestion, and roadside interference and would be in keeping with standards desired for an Intrastate Highway.

The proposed four-lane access to the Zoo would replace the winding existing 2-lane NC 159 to the Zoo. It was initially intended when the present Zoo entrance at NC 159 was built that the existing half diamond interchange would eventually be completed and a connector built to extend to the future Asheboro Bypass.

III. RECOMMENDATIONS AND COSTS

Because of increased development in the area, the western half of the existing Thoroughfare Plan location is no longer a feasible alternative (see Figure 3).

The projected traffic on the proposed Bypass in the year 2010 is expected to reach up to 15,000-20,000 vehicles per day (vpd). Estimated year 2010 traffic on the proposed Zoo connector is 5,000 vpd. However, traffic on the connector may increase dramatically if full development of the park materializes.

The recommended location for the bypass is based on consideration of overall existing development in the area, route directness, the relationship to the ultimate thoroughfare system, and proximity to the Zoo.

The recommended cross section for the bypass is a 4- lane divided facility with full control of access on an estimated 300 feet of right-of-way. In keeping with desirable standards for a strategic route and to ensure long term high level of traffic operation, a freeway type facility is recommended. Access to the bypass would be allowed only at interchanges.

Interchanges are anticipated to be located at US 64 west, NC 49, SR 1144 (Mack Road), US 220 Bypass, proposed Zoo access road, SR 2830, NC 42, and at US 64/NC 49 east.

The main justification for the interchange at SR 1144 is SR 1144 will be cut off from US 220 Bypass by the proposed interchange. There is a notable amount of traffic along SR 1144 (even though it is not on the thoroughfare plan for future improvement). In addition to the interchange at SR 1144, it is recommended SR 1144 be realigned at SR 1145 to give a safer, more direct access to the interchange (see Figure 2).

The recommended Bypass route is approximately 11.4 miles long, and the recommended connector from the Bypass to the Zoo is approximately 2.1 miles long. The new facility would tie into an existing 4-lane divided section on US 64/NC 49 to the east, and to a proposed 4-lane divided section on US 64 to the west.

For purposes of cost estimation and possible staging of construction due to fund limitations, the project has been broken into stages. A brief description of each stage is as follows:

Stage 1: A 2.8-mile section from US 220 Bypass to NC 159. This stage includes one half of the US 220 Bypass interchange, the grade separation with US 220 Business, and one half of the NC 159 interchange. This section should have first priority for construction, because it would provide needed improved access to the Zoo. Most of the Zoo traffic originate from points north and west of Asheboro.

Stage 2: A 4.4-mile section from NC 159 to US 64 east. This stage includes the other half of the NC 159 interchange, the SR 2824 grade separation, the NC 42 interchange, the SR 2604 grade separation, and the flyover interchange with US 64 east. This section is the logical second priority for construction, since it would also provide improved access to the Zoo and connect US 64 east with the US 220 freeway.

Stage 3: A 4.2-mile section from US 64 west to US 220 Bypass. This stage includes a flyover interchange with US 64 west, a grade separation at SR 1193, interchanges at NC 49 and at SR 1144, and the realignment of a section of SR 1144. This section would complete the construction of the entire Bypass.

Stage 4: A 2.1-mile section from Asheboro Bypass to the Zoo entrance. This stage includes the flyover interchange with the Asheboro Bypass, the grade separation at SR 2839, and the other half of the interchange at the Zoo. This connector should be the last stage of construction, since the present routing of NC 159 to the Zoo could suffice for an extended period of time.

Estimated Costs

The estimated costs of providing the proposed facility are as follows:

	Construction Cost	Right-of-Way Cost	Total Cost
Stage 1	$16,700,000	$ 4,650,000	$21,350,000
Stage 2	$28,800,000	$ 3,850,000	$32,650,000
Stage 3	$32,000,000	$ 4,450,000	$36,450,000
Stage 4	$16,100,000	$ 1,050,000	$17,150,000

The total project cost is $107,600,000. Cost estimates were prepared by the Preliminary Estimate Engineer and the Right-of-Way Branch.

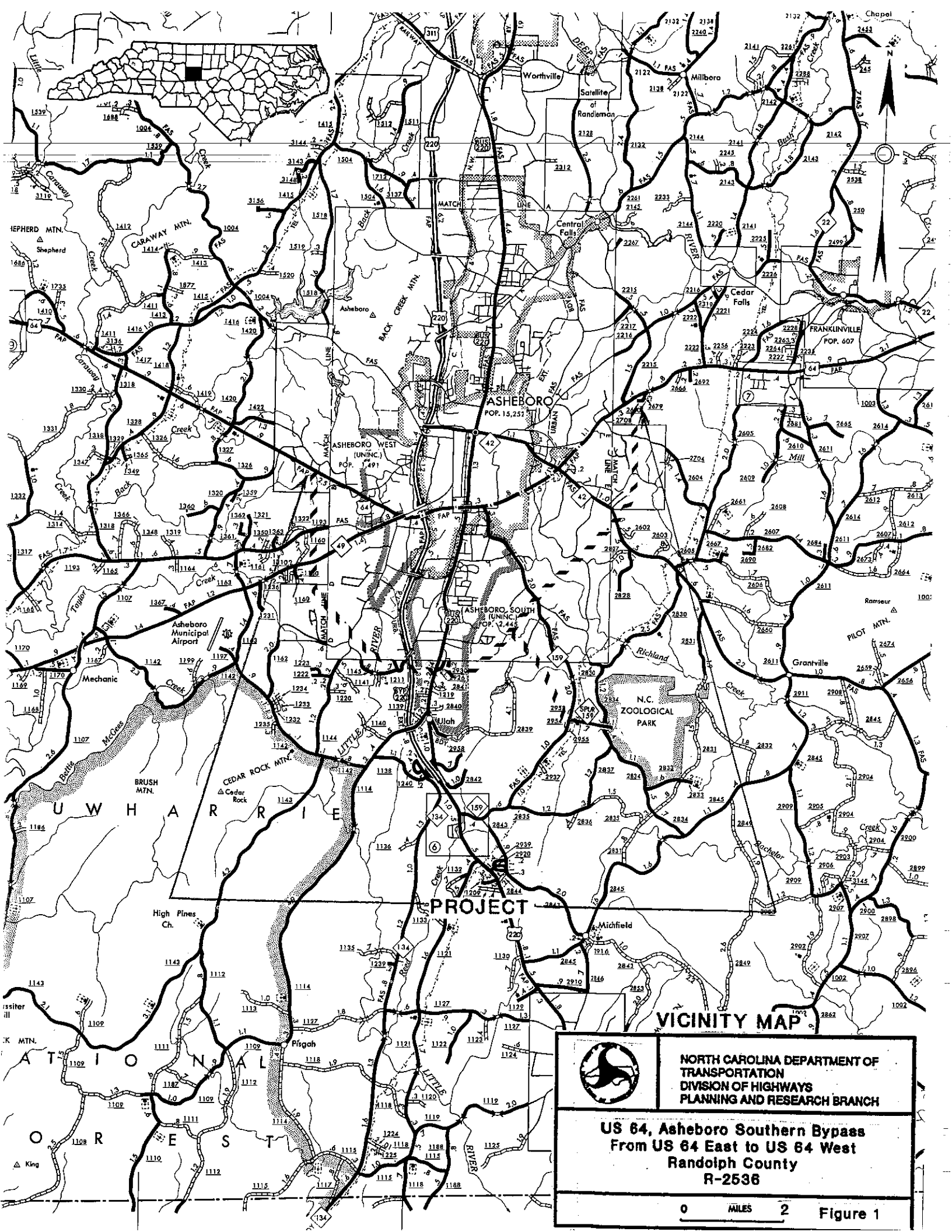
IV. COMMENTS

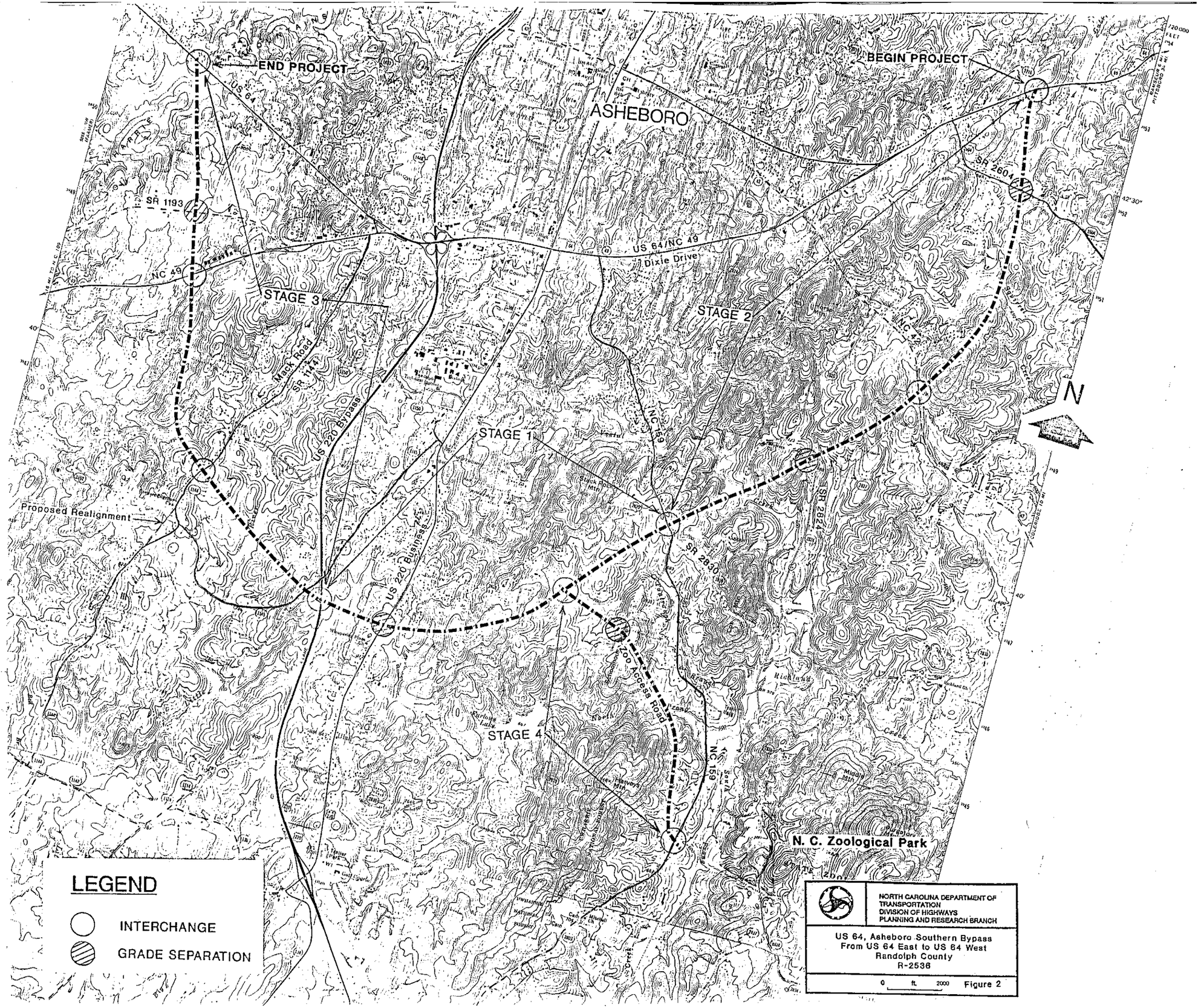
No other alternative corridors were considered for this project because of the heavy development north of the proposed project area. Moving the corridor further south would not be feasible, because it would then fail to meet the fundamental function of a bypass which is to provide a more efficient route.

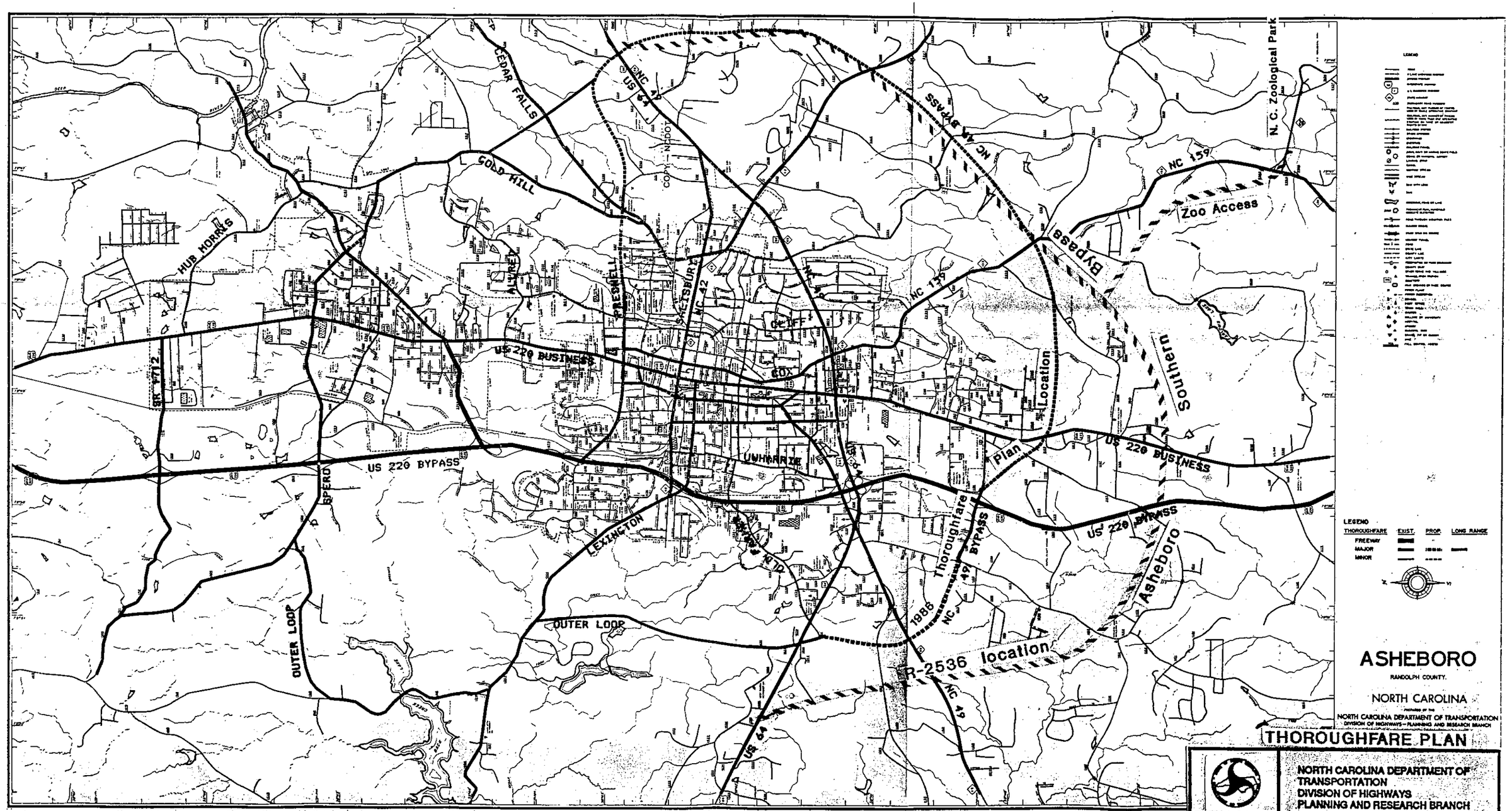
Noticeable negative environmental impacts of the proposed project are: (1) loss of forested land and wildlife habitat; (2) loss of wetlands at Vestal Creek; and (3) relocation of 44 residences and 5 businesses.

If the project is implemented in the future, all feasible alternatives and their associated impacts will need to be evaluated in a planning and environmental document prior to that time, and a final decision make as to the most appropriate improvement.

AS/plr


VICINITY MAP
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND RESEARCH BRANCH
US 64, Asheboro Southern Bypass
From US 64 East to US 64 West
Randolph County
R-2536
0 MILES 2
Figure 1
PROJECT
ASHEBORO
POP. 15,252
ASHEBORO WEST (UNINC.)
POP. 1,491
ASHEBORO SOUTH (UNINC.)
POP. 2,445
FRANKLINVILLE
POP. 607
N.C. ZOOLOGICAL PARK
Asheboro Municipal Airport
Worthville
Satellite of Randleman
Millboro
Central Falls
Cedar Falls
Grantville
Ulah
Michfield
Pisgah
Mechanic
Asheboro
Shepherd
Ramseur
Cedar Rock
High Pines Ch.
King
CARAWAY MTN.
BACK CREEK MTN.
CEDAR ROCK MTN.
BRUSH MTN.
PILOT MTN.
U W H A R R I E
A T I O N A L
O R E S T
LITTLE RIVER
Richland Creek
Bachelor Creek
Mill Creek
Back Creek
Caraway Creek
Taylor Creek
Bettie McGees Creek
Reed Creek
Bush Creek
Little Creek
Chapel


END PROJECT
BEGIN PROJECT
ASHEBORO
US 64
SR 1193
NC 49
US 64/NC 49
Dixie Drive
SR 2604
STAGE 3
STAGE 2
STAGE 1
STAGE 4
Mack Road
SR 1441
US 220 Bypass
US 220 Business
NC 159
SR 2821
SR 2830
100 Acres Road
Proposed Realignment
N. C. Zoological Park
N
LEGEND
INTERCHANGE
GRADE SEPARATION
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND RESEARCH BRANCH
US 64, Asheboro Southern Bypass
From US 64 East to US 64 West
Randolph County
R-2536
0 ft. 2000
Figure 2



THOROUGHFARE PLAN

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND RESEARCH BRANCH

US 64, Asheboro Southern Bypass
From US 64 East to US 64 West
Randolph County
R-2536

0 Miles 0.8

Figure 3