FEASIBILITY STUDY

Concord
SR 1394 (Poplar Tent Rd.)
from SR 1445 (Derita Rd.) to US 29-601 Bypass
Cabarrus County
U-3415

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

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Date

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I. General Description

This feasibility study describes widening SR 1394 (Poplar Tent Rd.) from SR 1445 (Derita Rd.) to US 29-601 Bypass, a distance of 6.1 miles (9.8 km). The project location is shown on Figure 1. From SR 1445 to SR 1305 (Pitts School Rd.), the recommended cross-section is a five-lane curb and gutter section, 68 feet (20.7 m) wide from face-to-face with 8-foot (2.4-m) berms. From SR 1305 to US 29-601 Bypass, the recommended cross-section is a five-lane curb and gutter section, 64 feet (19.5 m) wide from face-to-face with 8-foot (2.4-m) berms. The recommended right-of-way is 100 feet (30.5 m) wide with no access control. It is anticipated that there will be no residences and one businesses relocated due to this project. The total cost of the project, including construction and right-of-way, is estimated to be $16,000,000.

This study is the initial step in the planning and design process for this project and is not the product of exhaustive environmental or design investigations. The purpose of this study is to describe the proposed project including costs, and to identify potential problems that may require consideration in the planning and design phases.

II. Need for Project

The purpose of this project is to improve access from Concord to the newly constructed Cabarrus Regional Airport. This project will also improve safety conditions along SR 1394. This project is supported by the KANLACON Transportation Advisory Committee.

SR 1394 is designated as a major thoroughfare in the Concord-Kannapolis Thoroughfare Plan and as a minor urban arterial in the North Carolina Statewide Functional Classification System.

From SR 1445 (Derita Rd.) to east of SR 1305 (Pitts School Rd.), development is mostly industrial. Vulcan Quarry and Blythe Industries are located on the north side of the roadway between SR 1442 (Odell School Rd.) and I-85. The Cabarrus Regional Airport is located on the south side of the roadway in this area. From east of SR 1305 to US 29-601 Bypass, development

is a mix of residential housing, subdivisions and small businesses. Cabarrus Academy is a private school located west of the Coddle Creek bridge. SR 1429 (International Dr.) serves as an access to the International Business Park. There are several businesses in the vicinity of the intersection with US 29-601 Bypass, including a shopping center with a Super K-Mart.

SR 1394 is currently a two-lane, two-way roadway with a pavement width of 22 feet (6.7 m) and soil shoulders. Between 0.2 miles (0.4 km) east of SR 1519 (Woodhaven Dr.) and the bridge at Coddle Creek, existing SR 1394 has been widened to a three-lane 33-foot (10.1-m) roadway with soil shoulders on 80 feet (24.4 m) of right-of-way. east of US 29-601, SR 1394 is renamed McGill Street and is a five-lane curb and gutter section.

There are two structures within the project limits. Bridge No. 51 is a reinforced concrete deck on steel I-beams that carries SR 1394 over I-85. Built in 1968, this bridge is 257 feet (78.4 m) long and has a clear deck width of 34 feet (10.4 m). This bridge currently has a sufficiency rating of 84.0. Bridge No. 2 carries SR 1394 over Coddle Creek and is located 0.6 miles (0.97 km) west of SR 1430 (Crisco Rd.). This bridge is a steel plank deck on I-beams that is 141 feet (43.0 m) long and has a clear deck width of 28 feet (8.5 m). This bridge was built in 1954 and currently has a sufficiency rating of 54.2.

Four intersections within the project limits are currently signalized. There are signals at the intersections with SR 1305 (Pitts School Rd.), SR 1429 (International Dr.), SR 1414 (Rock Hill Church Rd. / Eva Rd.), and at US 29-601 Bypass.

TIP Project R-2246 will construct the Westside Bypass, a four-lane divided facility, which will cross SR 1394 at the intersection with SR 1430 (Crisco Rd.). This project is scheduled for right-of-way acquisition in FY1998 and for construction in FY2000.

SR 1394 is designated as Bicycle Route NC 6 from west of SR 1445 (Derita Rd.) to SR 1305 (Pitts School Rd.). This portion of the project is part of the Piedmont Spur Bicycling Highway, and the recommended improvements include provisions for bicycle traffic. SR 1305 also serves as an alternate route of access to the Charlotte Motor Speedway and has bad horizontal alignment near SR 1394.

The 1994 Average Daily Traffic (ADT) along SR 1394 varies from 8,500 to 14,900 vehicles per day (vpd). For the design year 2020, the estimated traffic volume on SR 1394 will range between 20,100 and 26,900 vpd. Truck traffic is estimated to make up 7% of daily traffic.

Currently SR 1394 is operating at Level of Service (LOS) E. If no improvements are made, it is projected that the roadway will operate at LOS F in the design year 2020. If SR 1394 is widened to a five-lane curb and gutter section, the facility will operate at LOS B in the current year and at LOS C in the design year 2020.

During the three-year period from April 1992 to March 1995, there were 175 accidents reported on SR 1394 within the project limits. These accidents produced 126 injuries; no fatalities were reported. The accident rate along SR 1394 within the project limits is 320.28 accidents per 100 million vehicle miles (acc/100mvm). This compares with the 1994 statewide rate of 340.50 acc/100mvm for North Carolina urban secondary routes.

III. Recommendations / Description of Project

It is recommended to widen SR 1394 (Poplar Tent Rd.) from SR 1445 (Derita Rd.) to US 29-601 Bypass, a distance of 6.1 miles (9.8 km). The project location is shown on Figure 1. From SR 1445 to SR 1305 (Pitts School Rd.), the recommended cross-section is a five-lane curb and gutter section, 68 feet (20.7 m) wide from face-to-face with 8-foot (2.4-m) berms in order to accommodate bicycle traffic. From SR 1305 to US 29-601 Bypass, the recommended cross-section is a five-lane curb and gutter section, 64 feet (19.5 m) wide from face-to-face with 8-foot (2.4-m) berms. The recommended right-of-way is 100 feet (30.5 m) wide with no access control.

It is recommended to realign SR 1305 (Pitts School Rd.) in order to improve its bad horizontal alignment adjacent to the project. A new signal is recommended at the intersection with SR 1445 (Derita Rd.).

It is anticipated that no residences and one business will be relocated due to the project.

The total cost is as follows:

Construction	$ 14,000,000
Right-of-way	$ 2,000,000
Total Cost	$ 16,000,000

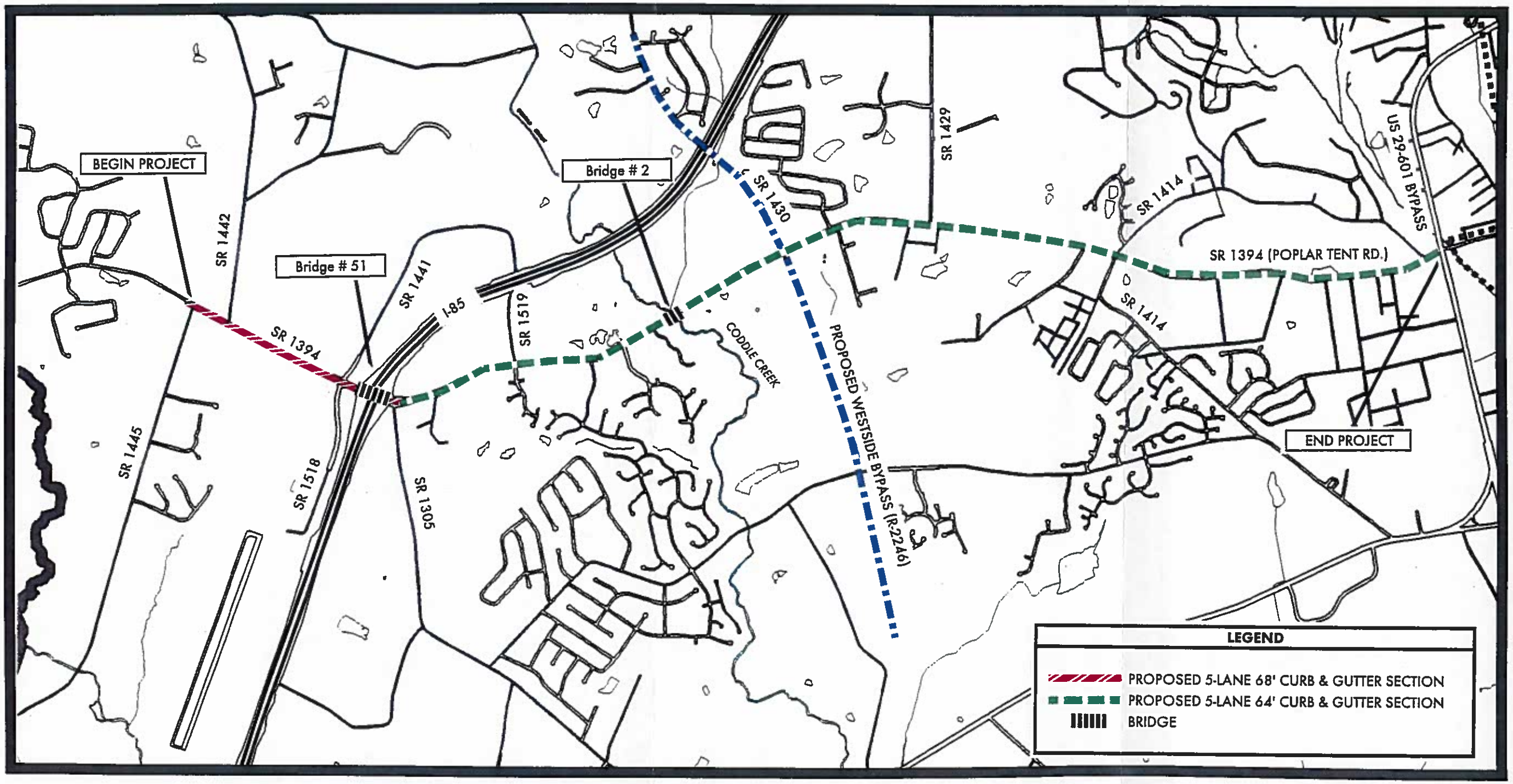
IV. Other Comments

An environmental screening was not conducted for this study. However, no impacts to historic properties or wetlands are anticipated. Poplar Tent Presbyterian Church is a candidate for the National Register of Historic Places. and is located adjacent to the project.

US Tire Recycling, located west of the Coddle Creek bridge, is permitted for tire disposal and recycling (permit # 13-03).

Based on maps at the Department of Environment, Health & Natural Resources - Natural Heritage Section, no threatened or endangered species were identified in the project corridor.

The section of Coddle Creek within the project corridor is classified C and is part of the Pee Dee River Basin.



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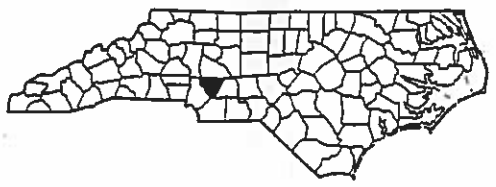

FEASIBILITY STUDIES UNIT

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CONCORD

DIVISION 10	CABARRUS COUNTY	FIGURE 1