

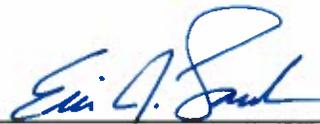
FEASIBILITY STUDY

**Kannapolis
NC 136
From the Westside Bypass (U-2009) to SR 1691 (Loop Rd.)
Cabarrus County
FS# 12-95-007**

Prepared by
Program Development Branch
Division of Highways
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Date

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I. General Description

This feasibility study describes roadway improvements near Kannapolis in Cabarrus County. It is recommended to widen NC 136 (Mooresville Road) from the proposed Westside Bypass (U-2009) to SR 1691 (Loop Road), a distance of 2.5 miles (4.0 km). The proposed cross-section is a five-lane curb-and-gutter section, 64 feet (19.5 m) wide from face to face of curbs with 8-foot wide berms. The proposed right-of-way will vary from 80 to 100 feet (24.4 - 30.5 m). The project location is shown on Figure 1. The existing bridge over Irish Buffalo Creek should be replaced with a new bridge with a clear deck width of 68 feet (19.5 m). It is anticipated that there will be 12 residences and 3 businesses relocated due to this project. The total cost of the project including construction and right-of-way is estimated to be \$ 7,000,000.

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 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 the traffic capacity of NC 136. This project was requested by the KANLACON Transportation Advisory Committee and is strongly supported by the City of Kannapolis and by Cabarrus County.

NC 136 is designated as a Minor Arterial on the North Carolina Statewide Functional Classification System and as a Major Thoroughfare in the KANLACON Urban Area Thoroughfare Plan.

Development along the project varies from light to heavy density residential with small businesses scattered throughout the project. The segment from the Pine Street intersection to SR 1691 is heavily developed with residences along both sides of the road.

The cross-section of NC 136 from the proposed Westside Bypass to the Pine Street intersection is currently a two-lane, two-way roadway with a pavement width of 20 feet (6.1 m) and soil shoulders 6 feet (1.8 m) wide. The right-of-way on this section varies between 80 and 100 feet (24.4 - 30.5 m) wide. From the intersection of Pine Street to SR 1691, NC 136 is a two-lane, two-way curb-and-gutter section that is 37 feet (11.3 m) wide from face to face of curbs. The existing right-of-way is 60 feet (18.3 m) wide on this section.

There is a bridge located 0.2 miles (0.3 km) west of SR 1642 (Rock Quarry Rd.) that crosses Irish Buffalo Creek. Built in 1946, this bridge (No. 36) is 120 feet (36.6 m) long with a clear deck width of 29.5 feet (8.9 m), and currently has a sufficiency rating of 69.4.

The intersection of NC 136 and SR 1643 (Rainbow Drive) is currently controlled by a flashing signal. The intersection with SR 1691 is currently fully signalized.

The proposed Kannapolis Westside Bypass (U-2009) will be a multilane highway on new location that will intersect NC 136 at grade at the western terminus of the project. It is scheduled for right-of-way acquisition in July, 1996, and construction should begin in January, 1998.

Assuming construction of the Westside Bypass, the 1994 Average Daily Traffic (ADT) along NC 136 varies from 6200 to 11600 vehicles per day (vpd). For the design year (2020), the estimated traffic volumes on NC 136 will range between 11800 and 12800 vpd. Truck traffic is estimated to make up 3% of daily traffic.

NC 136 is currently operating at a Level of Service (LOS) of D, and will reach LOS E by the year 2020. By constructing the proposed project, LOS will improve to A, which will prevail through the design year.

During the three-year period from September 1, 1991, to August 31, 1994, there were 80 accidents reported on NC 136 within the project limits. Seventy seven injuries were reported as a result of these accidents. The accident rate from the proposed Westside Bypass to Pine Street is 543.48 accidents per 100 million vehicle miles (ACC/100MVM). The accident rate from the Pine Street intersection to SR 1691 is 502.87 accidents per 100 million vehicle miles (ACC/100MVM). These rates compare with the 1993 statewide rate of 311 ACC/100MVM for North Carolina urban secondary roads. Twenty-four of the accidents occurred at the intersection with Rainbow Drive. A wider cross-section, a center turn-lane and improved intersection controls should help reduce the accident potential for NC 136.

III. Recommendations

This project should be considered in two segments. Segment 1 runs from the proposed Westside Bypass to the intersection with Pine Street. It is proposed to widen NC 136 along Segment 1 to a 64-foot (19.5 m) wide face-to-face curb-and-gutter cross-section with 8-foot wide berms supporting four lanes of traffic and a center turn lane. A right-of-way width of 100 feet (30.5 m) is recommended for Segment 1. The existing structure at Irish Buffalo Creek should be replaced with a new bridge with a 68-foot (19.5-m) clear deck width. Symmetrical widening is proposed along this segment; however, asymmetrical widening should be considered just west of the Pine Street intersection, where a large cut section would be created by symmetrical widening.

Segment 2 consists of the roadway between the Pine Street intersection and SR 1691 (Loop Rd.). It is proposed to widen this segment of NC 136 to a 64-foot (19.5 m) wide face-to-face curb-and-gutter cross-section with 8-foot wide berms supporting four lanes of traffic and a center turn lane. Widening should be done asymmetrically to the north side of the street in order to minimize right-of-way impact. A right-of-way of 80 feet (24.4 m) is recommended for this segment.

Signal improvements will be required at the intersection of SR 1643 (Rainbow Drive) and at the intersection with SR 1691 (Loop Road).

It is anticipated that 12 residences and 3 businesses will be relocated due to the project.

The total cost is as follows:

Construction.....	\$ 5,200,000
Right-of-way.....	\$ <u>1,800,000</u>
Total Cost	\$ 7,000,000

IV. Other Comments

This project is strongly supported by local agencies in Cabarrus County. They have all recommended that this project be constructed before the Westside Bypass in order to better handle the increase in traffic and to prevent congestion.

The use of a three-lane section was examined for this project. This cross-section will operate at an adequate level of service in the design year. A right-of-way of 100 feet (30.5 m) would be required from U-2009 to the Pine Street

intersection. The existing 60-foot (18.3-m) wide right-of-way could be used from Pine Street to SR 1691. The total cost of a three-lane section is as follows:

Construction.....	\$ 3,000,000
Right-of-way.....	<u>\$ 1,900,000</u>
Total Cost	\$ 4,900,000

This project may require a Section 404 Corps of Engineers Nationwide Permit for the replacement of the structure at Irish Buffalo Creek.

An environmental screening was not conducted for this study.

No special accommodation for bicycles is recommended on this project.