

FEASIBILITY STUDY

Raleigh  
New Hope Road (SR 2036)  
From Willow Oak Road (SR 2906) to Buffalo Road (SR 2215)  
Wake County  
U-2920

Prepared by  
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I. GENERAL DESCRIPTION

This preliminary study describes proposed improvements to New Hope Road (SR 2036) in Raleigh. It is proposed to widen New Hope Road from Willow Oak Road (SR 2906) to Buffaloe Road (SR 2215), a distance of approximately 1.7 miles. Please see Figure 1 for the project location. A five lane curb and gutter cross section (64 feet wide from face to face of curbs) is recommended on a 100 foot wide right of way for the entire length.

Between Willow Oak Road and Buffaloe Road, the existing right of way appears to vary in width from 60 feet to 80 feet.

The total estimated cost including construction and right of way is \$ 4,400,000. It is estimated there will be no residences or businesses relocated due to this project.

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 the study is to describe the problem, recommend a treatment 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 carrying capacity and accident experience of New Hope Road. The project was requested by the City of Raleigh and has strong local support.

Construction was recently completed, by the City of Raleigh, that realigned and widened New Hope Road both north and south of this project. The cross section for those improvements is curb and gutter, 64 feet wide from face to face of curbs.

This proposed project is the final link in a major circumferential route in the City of Raleigh's road network and is needed to accommodate north-south traffic east of Raleigh.

New Hope Road is designated a Major Thoroughfare on the Greater Raleigh Urban Area Thoroughfare Plan. Within the study limits it is classified a Minor Arterial in the North Carolina Statewide Functional Classification System. Development on New Hope Road is primarily single family residential from Willow Oak Road to Buffaloe Road with large areas of undeveloped land on the east side between Willow Oak Road and Easthampton Drive.

The existing cross section of New Hope Road is a two way, two lane paved road. The pavement width is generally 24 feet with 1 foot to 2 foot wide grass shoulders. At the Easthampton Drive and Marsh Creek Road intersections, New Hope Road has been widened to provide left turn lanes. The intersections with Willow Oak Road, Marsh Creek Road, and Buffalo Road are controlled with traffic signals.

At the New Hope Road - Willow Oak Road intersection (this project's south terminal) the west leg of Willow Oak Road is a two lane, two way, 20 foot wide road with soil shoulders. The east leg of Willow Oak Road is a 40 foot wide (face to face) curb and gutter facility that also provides two lanes in each direction.

At the north project terminal, Buffalo Road is a two lane, two way, 18 foot wide road with grassy shoulders and has been widened at the New Hope Road intersection to provide a left turn lane onto New Hope Road.

The Average Daily Traffic (ADT) on New Hope Road, between Willow Oak Road and Buffalo Road for the years 1991 and 2015 are estimated to be approximately 14,800 vehicles per day (vpd) and 24,000 vpd respectively.

New Hope Road is currently operating at a Level of Service (LOS) E based on the 1991 peak traffic hour, and by the year 2015 (the design year) will be operating at LOS F. With the proposed improvements, a LOS B will be attained and will prevail through the design year.

During the period from July 1, 1989 through June 30, 1992 there were 86 accidents reported on New Hope Road within the project terminals. This resulted in an accident rate of 305 accidents per 100 million vehicle miles (Acc/100MVM), compared to a statewide average of 295.0 Acc/100 MVM for all urban secondary routes during 1991. There were no fatalities reported during the period, but 44 of the accidents resulted in injuries. The most prevalent accident types were rear end (36%), left-turn (19%), and angle (13%). The wider cross section with center turn lane proposed for New Hope Road will reduce the potential for these types of accidents.

### III. RECOMMENDATIONS

It is proposed to widen New Hope Road (SR 2036) from Willow Oak Road (SR 2906) to Buffalo Road (SR 2215), a distance of approximately 1.7 miles. Please see Figure 1 for the project location. A five lane curb and gutter cross section (64 feet wide from face to face of curbs) is recommended on a 100 foot wide right of way for the entire length.

Minor revisions to the traffic signals at Willow Oak Road, Marsh Creek Road, and Buffalo Road will be required.

It is estimated there will be no residences or businesses relocated due to this project. The total estimated cost including construction and right of way is \$ 4,400,000 as follows:

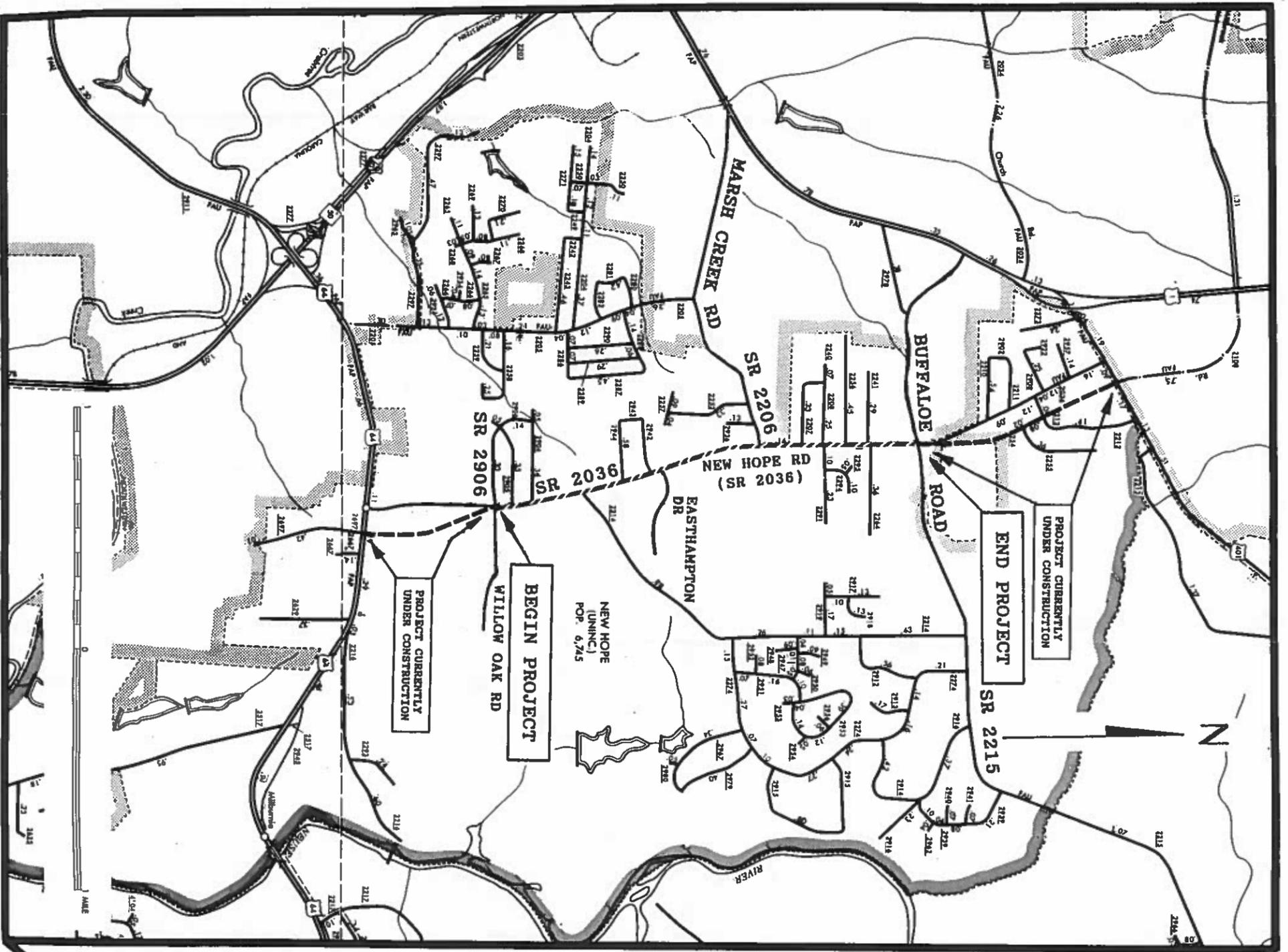
Construction .....	\$ 2,300,000
Right of Way .....	2,100,000
Total Cost .....	\$ 4,400,000

V. OTHER COMMENTS

An environmental screening was not conducted for this study.

The Office of Bicycle and Pedestrian Transportation requested that this project include 14-foot outside lanes to accommodate motorists and bicyclists in the same lane. However, this accomodation for bicycles is not recommended because neither of the adjacent projects under construction by the City of Raleigh provide this extra width for bicycles.





FEASIBILITIES STUDIES UNIT

FIGURE 1. LOCATION MAP

SR 2036 (NEW HOPE ROAD)  
 FROM SR 2906 (WILLOW OAK ROAD)  
 TO SR 2215 (BUFFALO ROAD)

RALEIGH, WAKE COUNTY

U-2920 DIV. 5 FIGURE 1

