

FEASIBILITY STUDY

Raleigh
Strickland Road (SR 1829)
From Creedmoor Road (NC 50)
To Falls of Neuse Road (SR 2000)
Wake County
U-3455

Prepared by
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Date

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I. GENERAL DESCRIPTION

This preliminary study describes the proposed widening of Strickland Road (SR 1829) from Creedmoor Road (NC 50) to Falls of Neuse Road (SR 2000) in Raleigh, Wake County. Also, approximately 1,200 feet (366 m) of widening on Six Forks Road north of Strickland Road, and approximately 1,800 feet (550 m) of widening on Six Forks Road south of Strickland Road is proposed, as described below. The project location is shown on Figure 1. The total project length is approximately 3.9 miles (6.2 km). The total length of widening on Strickland Road is approximately 3.3 miles (5.3 km).

The proposed cross-section, from Creedmoor Road to Falls of Neuse Road (except immediately west and east of Six Forks Road where multi-lane curb-and-gutter sections exist), is a five-lane curb and gutter section, 68 feet (20.7 m) wide from face to face of curbs, with berms 8 feet (2.4 m) wide, on right of way 110 feet (33.5 m) wide.

No residential or business relocations are anticipated due to this project.

The total cost including construction and right-of-way is estimated to be \$ 17,300,000.

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 needs, recommend a treatment including costs, and identify potential problem areas that require consideration in the planning and design phases.

II. NEED FOR PROJECT

The purpose of this project is to increase the traffic carrying capacity and safety of Strickland Road in Raleigh. The project was requested by the City of Raleigh. This project is in an area of rapid growth. This growth will be accelerated by the proposed Northern Wake Expressway (Project R-2000), the proposed widening of Falls of Neuse Road (Project U-3453), and the annexation, by the City of Raleigh, of prime development land north of this project. Strickland

Road is an important commuter route linking the north Raleigh suburbs with the Research Triangle Park and Raleigh-Durham International Airport. Strickland Road is classified as an Urban Other Principal Arterial in the North Carolina Statewide Functional Classification System, and is a Major Thoroughfare on the Raleigh Thoroughfare Plan. Land use along the project corridor is mostly residential, however there is extensive commercial development at the Six Forks Road intersection.

Existing Strickland Road is generally a two-way, two-lane road with grass shoulders. The intersections with Creedmoor Road, Six Forks Road, and Falls of Neuse Road are controlled with traffic signals. Strickland Road has been widened at these intersections, and at the Lead Mine Road intersection to provide left-turn lanes. In some locations Strickland Road has been widened asymmetrically with respect to the existing center line, and curb and gutter installed in connection with development projects.

At the Strickland Road - Six Forks Road intersection the eastbound approach on Strickland Road provides 1 exclusive left-turn lane, 1 through lane, and 1 exclusive right-turn lane. There are 2 westbound lanes exiting the intersection.

The westbound approach to the intersection provides 1 exclusive left-turn lane, 2 exclusive through lanes, and 1 exclusive right-turn lane. There is 1 eastbound lane exiting the intersection.

The northbound approach on Six Forks Road provides 1 exclusive left-turn lane, 1 through lane, and 1 exclusive right-turn lane. There are 2 southbound lanes exiting the intersection.

The southbound approach to the intersection provides 1 exclusive left-turn lane, 1 exclusive through lane, and 1 combination through-right-turn lane. There are 2 northbound lanes exiting the intersection.

Traffic volume estimates on Strickland Road for the years 1995 and 2020 are 22,000 vehicles per day (vpd) and 28,200 vpd respectively. The Level of Service (LOS) without the proposed improvements is estimated to be Level E in 1995 and Level E in 2020. With the proposed improvements the LOS is estimated to be LOS B in 1995 and LOS C in 2020. The estimated future traffic volumes consider the Northern Wake Expressway (R-2000).

Estimated turning movement counts for the years 1995 and 2020 for the Strickland Road - Six Forks Road intersection are shown on Figure 2. The Level of Service (LOS) for this intersection without the proposed improvements is estimated to be LOS E in 1995 and LOS F in 2020. With the proposed

improvements the LOS for the intersection is estimated to be LOS C in 1995 and LOS D in 2020.

The intersection of Baileywick Road (SR 1830) and Six Forks Road will be eliminated as part of a future project by terminating Baileywick Road at Six Forks Road as a cul-de-sac. This future project will also extend Lead Mine Road north of Strickland Road to a point on Six Forks Road approximately 1,900 feet (580 m) north of Strickland Road. This improvement is in accordance with the Raleigh Thoroughfare Plan and is supported by the City of Raleigh. The elimination of the Baileywick Road - Six Forks Road intersection will enhance traffic flow at the Strickland Road - Six Forks Road intersection.

During the three year period beginning May 1, 1992, and ending April 30, 1995, there were 254 accidents reported on Strickland Road within the project limits. This resulted in a total accident rate of 385 accidents per 100 million vehicle miles (ACC/100MVM). This compares with the statewide average of 348 ACC/100MVM for all urban Secondary routes in North Carolina for 1994.

There was 1 fatal accident reported, and 97 accidents resulted in 159 injured persons. The most prevalent type accidents were Rear End (34%), Left Turn (23%), and Angle (13%). The proposed wider cross-section with a center turn lane will reduce the potential for these type accidents.

III. RECOMMENDATIONS

It is proposed to widen Strickland Road (SR 1829) from Creedmoor Road (NC 50) to Falls of Neuse Road (SR 2000) in Raleigh, Wake County. Also, approximately 1,200 feet (366 m) of widening on Six Forks Road north of Strickland Road, and approximately 1,800 feet (550 m) of widening on Six Forks Road south of Strickland Road is proposed, as described below. The project location is shown on Figure 1. The total project length is approximately 3.9 miles (6.2 km). The total length of widening on Strickland Road is approximately 3.3 miles (5.3 km).

The proposed cross-section, from Creedmoor Road to Falls of Neuse Road (except immediately west and east of Six Forks Road where multi-lane curb-and-gutter sections exists), is a five-lane curb and gutter section, 68 feet (20.7 m) wide from face-to-face of curbs, with berms 8 feet (2.4 m) wide, on right of way 110 feet (33.5 m) wide.

On Strickland Road, between Lead Mine Road and Six Forks Road, the existing multilane curb and gutter section should

be widened approximately 28 feet (8.5 m) on the south side to provide an additional travel lane in each direction.

Strickland Road, east of Six Forks Road, for a distance of approximately 1000 feet (305 m), should be widened to a 7-lane, curb and gutter section, 93 feet (28.3 m) wide from face-to-face of curbs.

Six Forks Road north of Strickland Road will be widened approximately 17 feet (5.2 m) on each side for a distance of approximately 1,200 feet (366 m) in order to provide an additional travel lane in each direction.

Six Forks Road south of Strickland Road will be widened approximately 14 feet (4.2 m) on each side for a distance of approximately 1,800 feet (550 m) in order to provide an additional lane in each direction.

The above described widening at the Strickland Road - Six Forks Road intersection will allow the establishment of the following lanes. Each intersection approach will provide 1 exclusive left-turn lane, 2 exclusive through lanes, and 1 combination through right-turn lane. Each leg of the intersection will have 3 lanes exiting the intersection.

No residential or business relocations are anticipated due to this project.

The total cost including construction and right-of-way is estimated to be \$ 17,300,000 as follows:

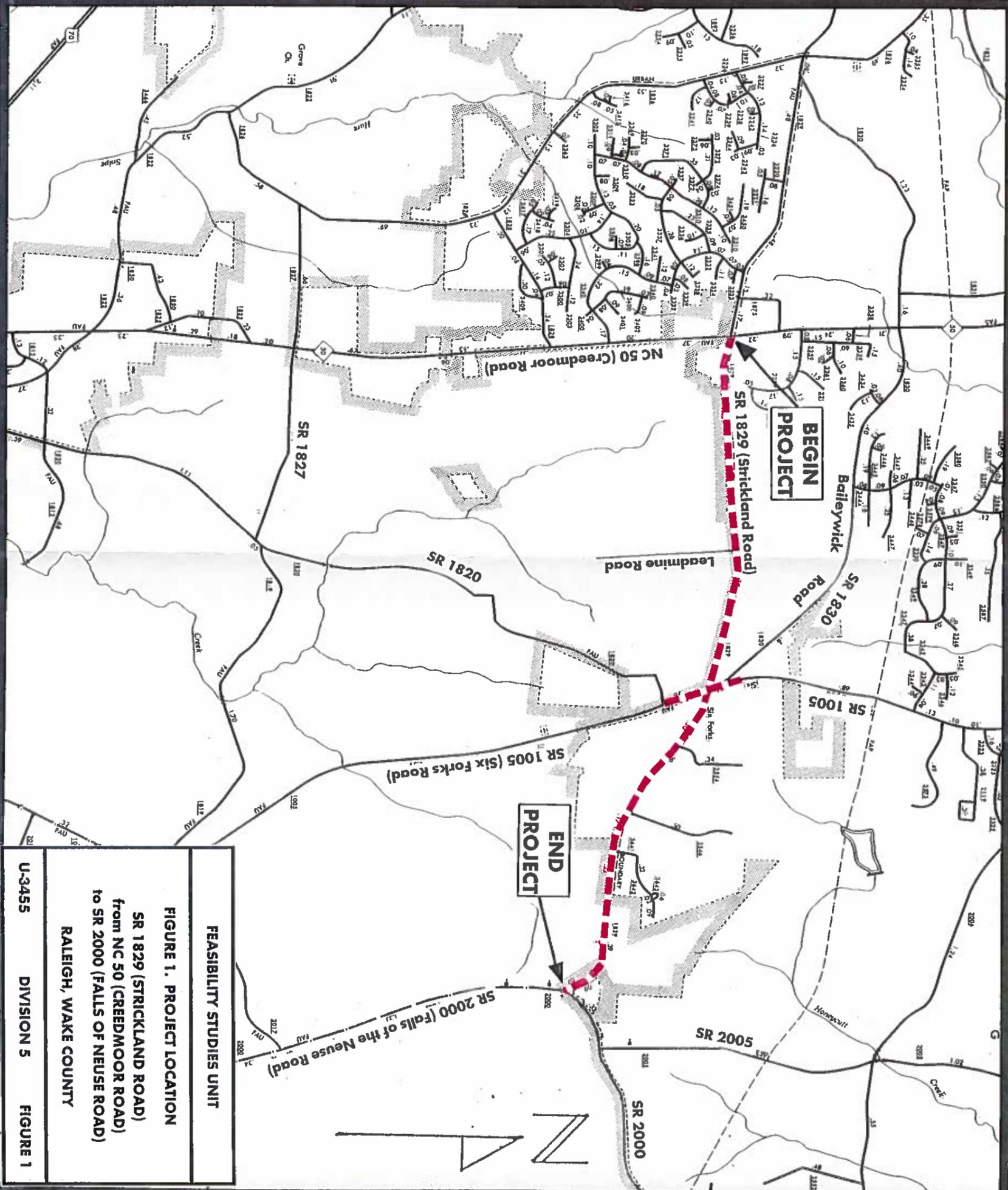
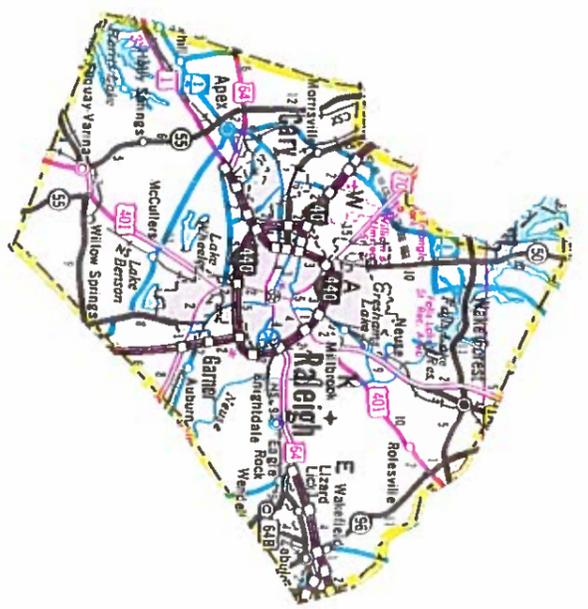
Construction:	\$ 14,300,000
Right-of-Way:	3,000,000
Total Cost :	\$ 17,300,000

IV. OTHER COMMENTS

An environmental screening was not conducted for this study. No historic properties or endangered species are anticipated. No wetlands are likely to be encountered on this project.

A special bicycle accommodation was identified for this project by the Office of Bicycle and Pedestrian Transportation. This need will be met by the wide outside lanes in the proposed curb and gutter cross-section.

The City of Raleigh has expressed a desire for sidewalks on both sides of this project. Where sidewalks exist they will be replaced under this project. Cost participation by the City for new sidewalks will be negotiated according to current NCDOT policy.



FEASIBILITY STUDIES UNIT
FIGURE 1. PROJECT LOCATION
 SR 1829 (STRICKLAND ROAD)
 from NC 50 (CREEDMOOR ROAD)
 to SR 2000 (FALLS OF NEUSE ROAD)
 RALEIGH, WAKE COUNTY
 U-3455 DIVISION 5 **FIGURE 1**

FIGURE 2. 2020 & 1995 ESTIMATED PEAK HOUR TURNING MOVEMENT VOLUMES

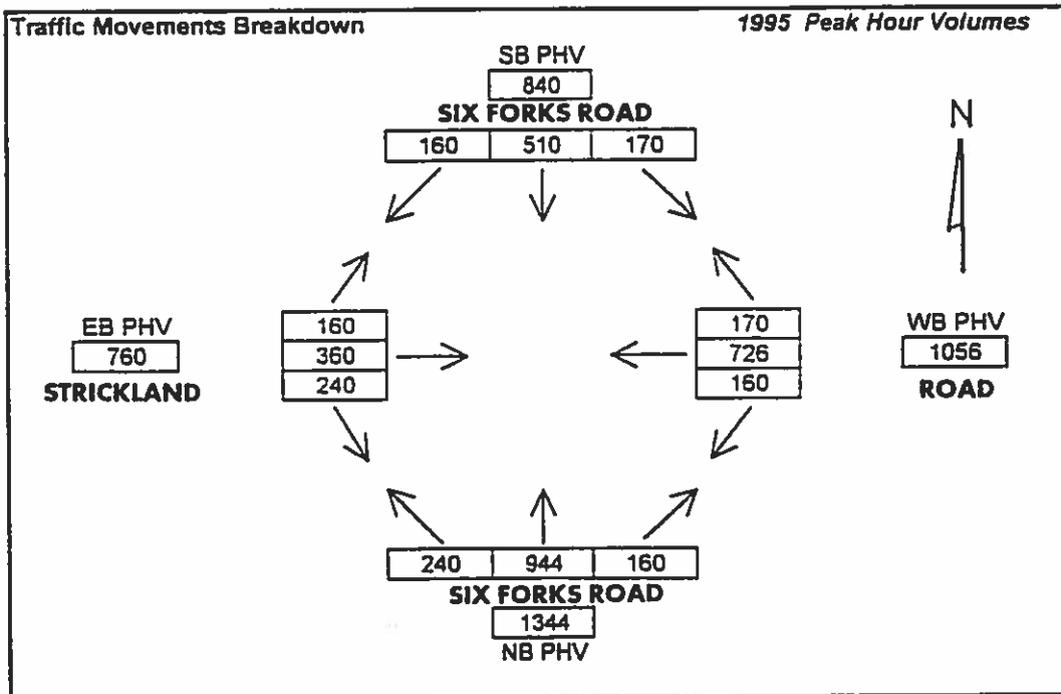
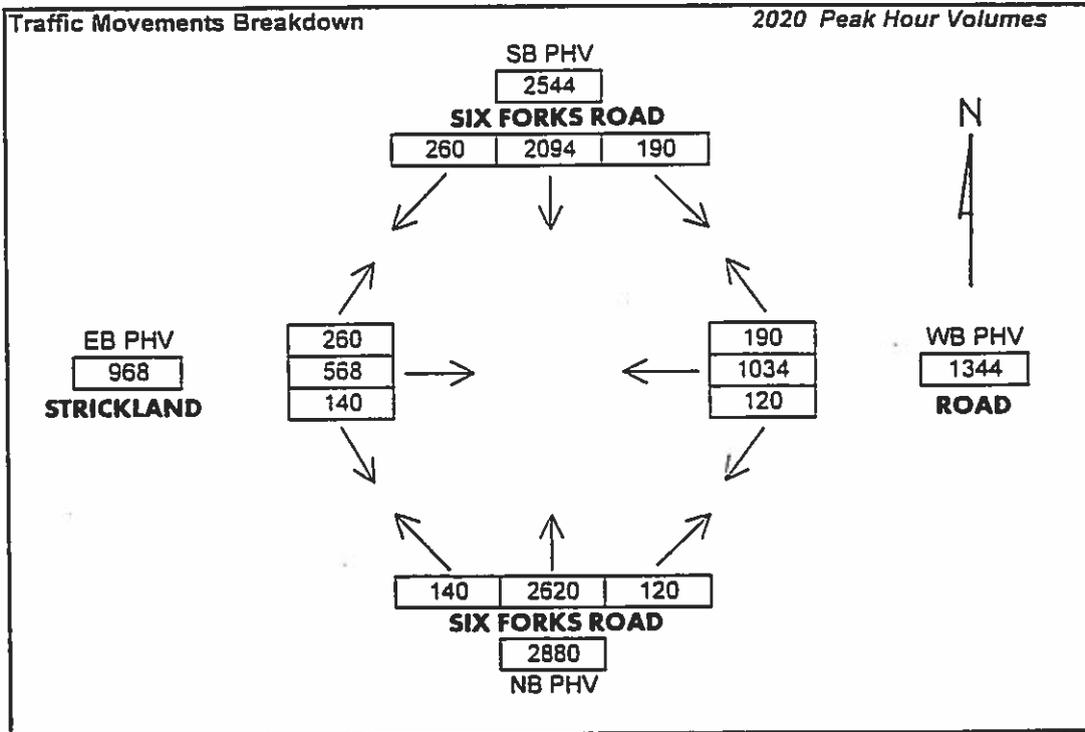


FIGURE 2