# FEASIBILITY STUDY

Winston-Salem

SR 4000 (University Parkway)
from SR 3973 (North Point Boulevard)
to SR 1672 (Hanes Mill Road)

Forsyth County

U-2924

Prepared by
Program Development Branch
Division of Highways
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## I. GENERAL DESCRIPTION

This is a feasibility study for the widening of SR 4000 (University Parkway) from SR 3973 (North Point Boulevard) to SR 1672 (Hanes Mill Road) in Winston-Salem, a distance of approximately 2.7 miles (See Figure 1). The recommended typical cross-sections are a seven-lane, 88-foot, face-to-face, curb and gutter section with 8-foot berms and a six-lane, 18-foot raised median divided section. A 130-foot wide right-of-way with no access control will be utilized on SR 4000. Estimated cost of the project is $10,100,000 ($7,000,000 for right-of-way and $3,100,000 for construction).

This study is not a detailed planning/environmental investigation. A feasibility study presents recommended cross sections for improvements, general alignments of improvements, and estimated cost of construction and right-of-way. This study attempts to identify any potential environmental, permitting, or other observed issues which deserve consideration in the planning and construction stages.

## II. NEED FOR PROJECT

This project was requested by the City of Winston-Salem to reduce congestion on the densely developed SR 4000 (University Parkway). Land use is predominantly commercial.

The existing SR 4000 consists of the following cross-sections:

1) a 30-foot median divided section, from SR 3973 to Oak Summit Road and Shattalon Drive. The section consists of three northbound lanes with curb and gutter on the east side and a grass shoulder on the west side. There are two southbound lanes with grass shoulders on each side. The existing right-of-way varies from approximately 100 to 120-feet wide. This section is approximately 1.4 miles in length.

2) a six-lane, 4-foot raised median divided curb and gutter section, from Oak Summit Road and Shattalon Drive to the US 52 south ramp. The existing right-of-way is 100 feet wide. This section is approximately 0.6 miles in length.

3) a five-lane, 55 to 82-foot (with turn lanes) section with curb and gutter on both or either side, from the US 52 south ramp to SR 1672. The existing right-of-way is 100 feet wide. This section is approximately 0.7 miles in length.

The south terminal of the project is at the signalized intersection of SR 3973 and SR 4000 (See Figure 1). South of this intersection, SR 4000 consists of a four-lane, 30-foot median divided shoulder section. Commercial developments densely surround the intersection.

The north terminal of the project is located at the signalized intersection of SR 1672 and SR 4000 (See Figure 1). North of this intersection, SR 4000 consists of a five-lane pavement with shoulder or curb and gutter on either side. Land use is commercial around the intersection.

Railroad bridge number 320 carries Southern Railroad over SR 4000 approximately 0.05 miles north of SR 3973. The vertical clearance under bridge number 320 is approximately 16 feet. The horizontal clearance is approximately 44 feet on each side.

Bridge number 321 carries Indiana Avenue over SR 4000 approximately 0.10 miles north of SR 3973. The sufficiency rating is 94.9 out of 100. The vertical clearance under the bridge is approximately 16 feet. The horizontal clearance is 95.9 feet.

Bridge number 289 carries SR 4000 over US 52. The sufficiency rating is 93.0 out of 100. The approach travel way width is 48 feet. The bridge roadway width is 68 feet with a deck width of 71.3 feet.

Culvert 332 on Mill Creek crosses SR 4000 approximately 0.3 miles south of the junction with US 52. The sufficiency rating is 81.4 out of 100. Culvert 332 is a triple 12′ X 14′ reinforced concrete box culvert.

The 1993 Average Daily Traffic (ADT) on SR 4000 was 21,600 vehicles per day (vpd). In the year 2013 anticipated traffic is estimated to be 43,000 vpd. With the existing facility, traffic currently experiences a level of service (LOS) B, and is expected to experience a LOS E by 2013. With the recommended improvements, current traffic on SR 4000 will experience LOS A, and is projected to experience a LOS C in the year 2013.

During the period from July 1, 1989 through June 30, 1992, a total of 85 accidents were reported along the studied section of SR 4000. This resulted in an accident rate of 135.61 accidents per 100 million vehicle miles (acc/100mvm), compared to a statewide average of 340.3 acc/100mvm. Rear-end collisions accounted for 41% of the accidents. The recommended improvements will reduce the accident rate.

## III. RECOMMENDATIONS

The recommended typical section for SR 4000, from SR 3973 to Oak Summit Road and Shattalon Drive is a six-lane, 18-foot raised median, curb and gutter section on a 130-foot wide right-of-way without control of access (See Figure 1). From Oak Summit Road and Shattalon Drive to SR 1672, the recommended typical cross-section is a seven-lane, 88-foot, face-to-face, curb and gutter section with 8-foot berms on a 130-foot wide right-of-way without control of access (See Figure 1).

Bridge number 289 will be widened to carry seven lanes of traffic. Culvert number 332 will be extended.

The recommended widening would relieve congestion on SR 4000, and offer a safer and more uniform roadway section to motorists.

Total project cost is estimated at:

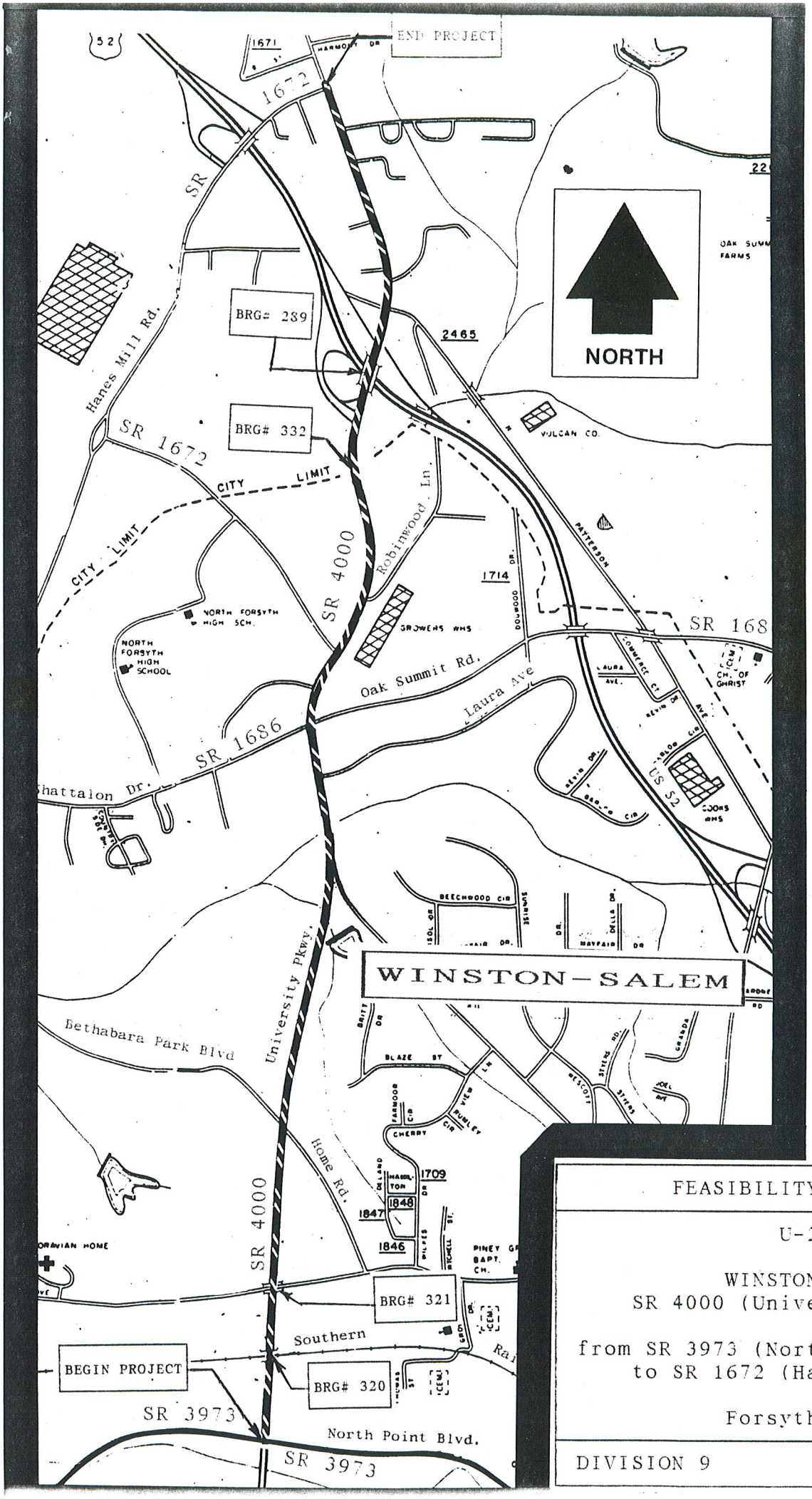
| | |
|---|---|
| Right-of-way | $ 7,000,000 |
| Construction | $ 3,100,000 |
| Project Cost | $10,100,000 |

Moderate utility conflicts are expected.

## IV. OTHER COMMENTS AND CONCERNS

This project will not likely require the relocation of any residences or businesses.

This project may require a Section 404, Corps of Engineers Nationwide Permit. No historical or architecturally significant sites are known to be in the limits of the proposed project. No public parks are located in the project corridor.




FEASIBILITY STUDY UNIT

U-2924

WINSTON-SALEM
SR 4000 (University Parkway)

from SR 3973 (North Point Boulevard)
to SR 1672 (Hanes Mill Road)

Forsyth County

DIVISION 9 FIGURE 1