

FEASIBILITY STUDY

Winston-Salem

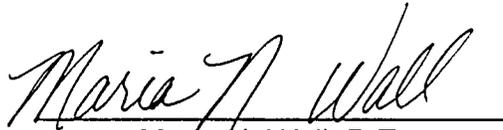
SR 1686 (Shattalon Drive)

from NC 67 (Reynolda Road)
to SR 4000 (University Parkway)

Forsyth County

U-3371

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



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Date

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I. GENERAL DESCRIPTION

This is a feasibility study for the widening of SR 1686 (Shattalon Drive), from NC 67 (Reynolda Road) to SR 4000 (University Parkway), in Forsyth County (See Figure 1). The project is approximately 3.3 miles (5.3 km) in length. The recommended typical section is a five-lane, 68-foot (20.7-m) face-to-face, curb and gutter section with 8-foot (2.4-m) berms on a 90 to 100-foot (27.4 to 30.5-m) wide right-of-way with no access control. The estimated cost of the project is \$22,900,000 (\$11,800,000 for right-of-way and \$11,100,000 for construction).

II. NEED FOR PROJECT

This project was requested by the Winston-Salem MPO. The studied improvements are needed to increase traffic capacity on SR 1686. SR 1686 is classified as a collector on the Statewide Functional Classification System, and a minor thoroughfare on the Winston-Salem Thoroughfare Plan.

The existing SR 1686 is mainly a two-lane, 24-foot (7.3-m) wide roadway with 2 to 8-foot (0.6 to 2.4-m) wide shoulders. The west terminal is located at the signalized intersection with NC 67 (Reynolda Road). The east terminal is located at the signalized intersection with SR 4000 (University Parkway). Land use at the terminals is mainly commercial. Between the terminals, land use is residential, commercial, institutional, and recreational.

New Hope Methodist Church, located in the northeast quadrant of the intersection of SR 1686 and SR 1681, is on the State Study List of Historic Properties. There is also a cemetery across the road along SR 1686. Right-of-way will be reduced to 90 feet (27.4 m) in this area to minimize impacts.

North Forsyth High School is located in the northwest quadrant of the intersection of SR 1686 and SR 4000. The Sara Lee Soccer Complex is located on the north side of SR 1686, east of Mill Creek. A fire station is located on the

south side of Shattalon Drive, approximately 1000 feet (304.9 m) west of the intersection with SR 4000. It is anticipated that there will be no impact to any of these properties.

The Office of Bicycle and Pedestrian Transportation has recommended that bicycle accommodations be provided in the studied project due to residential development and the presence of North Forsyth High School and the Sara Lee Soccer Complex on SR 1686.

The Norfolk Southern Railway crosses SR 1686 on the east side of Bethania Station Road. This rail line carries two trains per day at an average speed of 30 miles per hour (48.4 kmh). The exposure index, a product of the number of trains per day and the design year traffic volume, is 32,600 at this location. Although, this index is above the threshold of 15,000, a grade separation is not recommended at this location. A grade separation at this location would result in at least three business relocations and impact the Sara Lee Soccer Complex.

Bridge Number 18 carries SR 1686 over Mill Creek, approximately 0.1 mile (0.2 km) east of SR 1690 (Bethania Station Road). The sufficiency rating of this bridge is 98.6. The bridge deck is approximately 60.2 feet (18.4 m) wide and 98 feet (29.9 m) in length.

Estimated 1995 average daily traffic (ADT) on SR 1686 ranges from 9,800 vehicles per day (vpd), near NC 67, to 11,400 vpd, near SR 4000. In the design year 2020, the traffic volume is expected to range from 15,100 to 18,400 vpd, respectively. The existing SR 1686 is operating at a level of service (LOS) D, and is anticipated to operate at a LOS E in the design year 2020. With the recommended roadway widening, the traffic volumes along SR 1686 would operate at a LOS A, in 1995, and a LOS B in the design year.

During the period from April, 1992, through March, 1995, there were 182 accidents reported along the studied section of SR 1686. This resulted in an accident rate of 506.68 accidents per 100 million vehicle miles (acc/100mvm) compared to a statewide average of 317.3 acc/100mvm for this type of facility. Rear-end collisions accounted for 51% of the accidents. There were no accidents involving trains. No fatalities were reported. The recommended improvements are expected to reduce the accident rate.

III. RECOMMENDATIONS

It is recommended that SR 1686 (Shattalon Drive) be widened, from NC 67 to SR 4000, in Winston-Salem. The recommended typical section, for the 3.3-mile (5.3-km) section, is a five-lane, 68-foot (20.7-m) face-to-face, curb

and gutter section with 8-foot (2.4-m) berms on a 90 to 100-foot (27.4 to 30.5-m) wide right-of-way with no access control. Bridge Number 18 would be widened to accommodate the widened typical section. Widening would be both asymmetrical and symmetrical to the existing roadway to minimize right-of-way and construction costs.

The recommended improvements are expected to decrease traffic congestion and improve safety.

Moderate utility conflicts are expected.

The following table is an estimate of the project costs:

Right -of-Way Costs	\$ 11,800,000
Construction Costs	\$ 11,100,000
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Total Costs	\$ 22,900,000

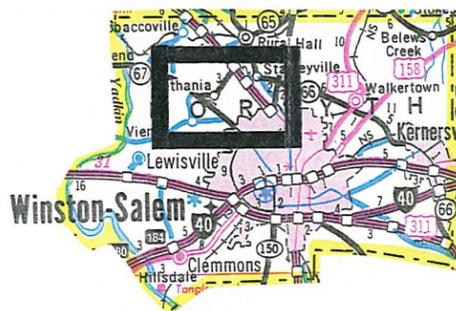
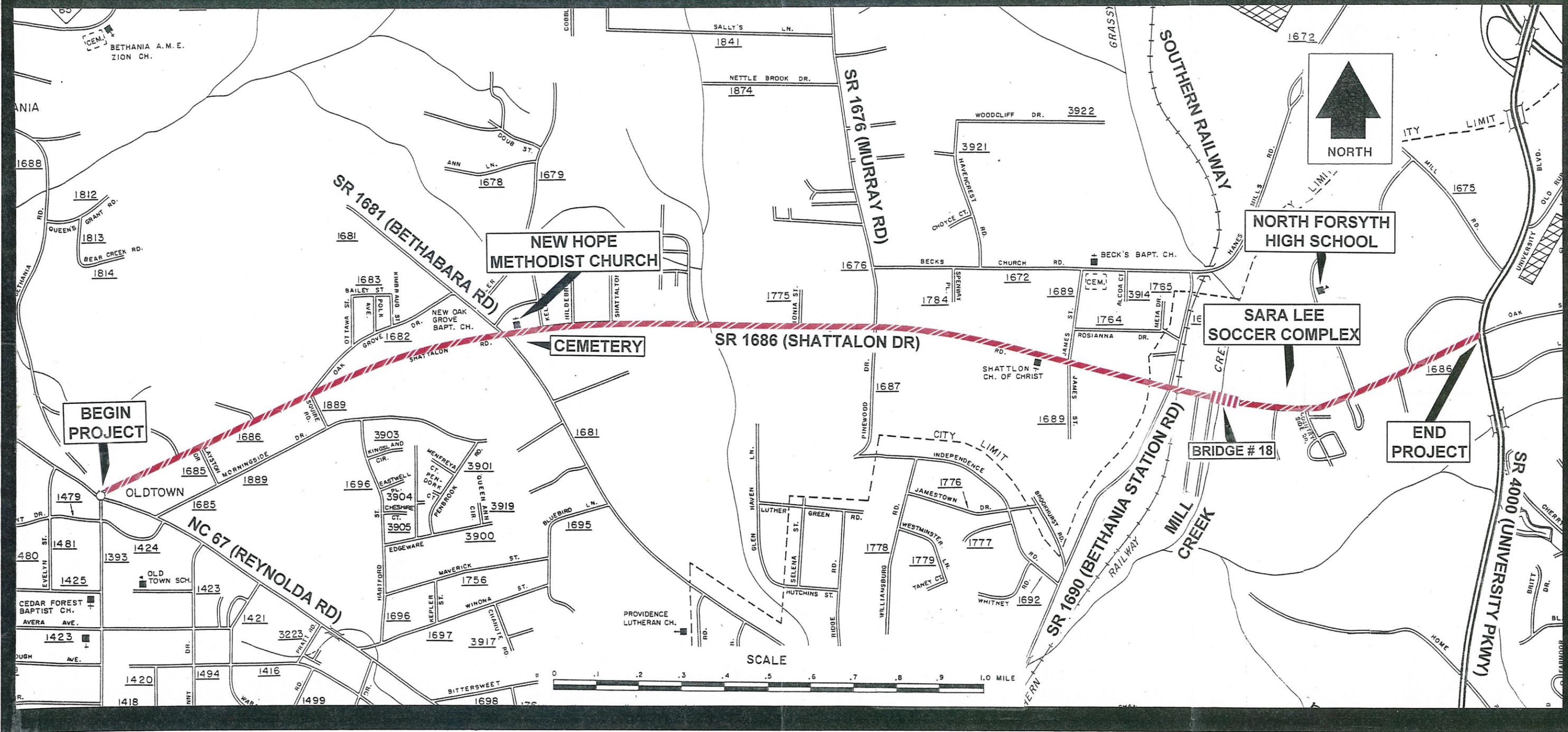
IV. OTHER COMMENTS AND CONCERNS

It is estimated that this project would require the relocation of eleven residences and three businesses.

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

It is not anticipated that there would be any impact to North Forsyth High School, the Sara Lee Soccer Complex, or the fire station. The impacts to New Hope Methodist Church and the cemetery will be minimized. A Section 4(f) Evaluation may be required for this project.

The City of Winston-Salem has requested sidewalks along the studied project. The estimated cost of a sidewalk on one side of the road is \$430,000.



Program Development Branch
 Feasibility Studies Unit

U-3371
 Winston Salem
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 to SR 4000 (University Pkwy)
 FORSYTH COUNTY

DIVISION 3 FIGURE 1