FEASIBILITY STUDY

Fayetteville

All American Freeway (SR 1007)
From Owen Drive To Gruber Road

Cumberland County

Division 6

FS-9906D
U-4414

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

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I. General Description

This feasibility study describes the widening of All-American Freeway from the Owen Drive intersection to the Gruber Road interchange, a distance of 7 miles (11.3 km). The project location is shown on Figure 1. The recommended cross-section is a six-lane divided facility with 12 foot (3.7-m) travel lanes, 4-foot (1.2-m) paved inside shoulders and 10-foot (3.0-m) outside shoulders with full control of access. While the majority of the widening will be towards the median, the section from the Owen Drive intersection to just north (1900 feet (579.1 m)) of the Raeford Road (US 401 Business) interchange will need to be widened to the outside shoulder. It is anticipated that there will be no residences and one business relocated due to this project. The total cost of the project, including construction and right-of-way, is estimated to be $27,780,000.

Construction	$ 26,000,000
Right-of-way	$ 1,780,000
Total Cost	$ 27,780,000

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 to 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 safety and operations within the All-American Freeway corridor. The Fayetteville Urban Area MPO requested this project and the City of Fayetteville supports this project.

All-American Freeway (SR 1007) is designated as a major thoroughfare in the Fayetteville Thoroughfare Plan and as a freeway / expressway in the North Carolina Statewide Functional Classification System.

Within the project limits, the majority of All-American Freeway is currently a four-lane divided facility with 12-foot (3.7-m) travel lanes, 4-foot (1.2-m) paved inside shoulder, 10-foot (3.0-m) paved outside shoulder, and a 69-foot (21.0-m) wide grass median.

The majority of this section of All-American Freeway is flanked by residential development with some large-scale retail / commercial development near the Raeford Road (US 401 Business), Morganton Road (SR 1404), and Skibo Road (US 401 Bypass) interchanges.

Bridge No. 6 carries the All-American Freeway over US 401 Business (Raeford Road). This bridge is 207 feet (63.1 m) long with a deck width of 94.1 feet (28.7 m). Built in 1976, this bridge currently has a sufficiency rating of 68.

Bridge No. 226 carries the All-American Freeway over the Aberdeen / Rockfish Railroad. This bridge is 152 feet (46.3 m) long with a deck width of 104.1 feet (31.7 m). Built in 1976, this bridge currently has a sufficiency rating of 82.7.

Bridge No. 227 carries Cliffdale Road over the All-American Freeway. This bridge is 262 feet (79.9 m) long with a deck width of 64.8 feet (19.8 m). Built in 1978, this bridge currently has a sufficiency rating of 72.

Bridge No. 228 carries Morganton Road (SR 1404) over the All-American Freeway. This bridge is 238 feet (72.6 m) long with a deck width of 76.5 feet (23.3 m). Built in 1978, this bridge currently has a sufficiency rating of 97.

Bridge No. 53 carries Skibo Road (US 401 Bypass) over the All-American Freeway. This bridge is 248 feet (75.6 m) long with a deck width of 92.5 feet (28.2 m). Built in 1976, this bridge currently has a sufficiency rating of 68.

Bridge No. 230 carries Cape Fear Railroad over the All-American Freeway. This bridge is 256 feet (78.0 m) long.

Bridge No. 229 carries Yadkin Road (SR 1415) over the All-American Freeway. This bridge is 388 feet (118.3 m) long with a deck width of 60.5 feet (18.4 m). Built in 1978, this bridge currently has a sufficiency rating of 70.8.

Bridge No. 225 carries Santa Fe Drive (SR 1437) over the All-American Freeway. This bridge is 270 feet (82.3 m) long with a deck width of 80.5 feet (24.5 m). Built in 1975, this bridge currently has a sufficiency rating of 99.

Bridge No. 4 carries southbound All-American Freeway over Beaver Creek. This bridge is 135 feet (41.2 m) long with a deck width of 42 feet (12.8 m). Built in 1976, this bridge currently has a sufficiency rating of 96.7.

Bridge No. 235 carries northbound All-American Freeway over Beaver Creek. This bridge is 135 feet (41.2 m) long with a deck width of 42 feet (12.8 m). Built in 1976, this bridge currently has a sufficiency rating of 99.

Bridge No. 231 carries Gruber Road over the All-American Freeway. This bridge is 238 feet (72.6 m) long with a deck width of 76.5 feet (23.3 m). Built in 1976 this bridge currently has a sufficiency rating of 52.

TIP Project U-2519DA will construct the Fayetteville Outerloop with a new interchange just south of Gruber Road. Project U-2519DA is scheduled for right-of-way acquisition in September of 2002 and construction in August of 2004. TIP Project U-3106 (under construction) proposes to widen Cliffdale Road and construct a new interchange with the All-American Freeway.

The current year Average Daily Traffic (ADT) along All-American Freeway is estimated to be between 42,400 to 48,500 vehicles per day (vpd). For the design year 2025, the estimated traffic volumes will range between 62,500 and 84,100 vpd. Truck traffic is estimated to make up nine percent of daily traffic.

Currently, All-American Freeway operates at a "D" level of service (LOS). If no improvements are made, it is projected that this facility will operate at a "F" LOS in the 2025 design year. With the proposed widening of All-American Freeway, this facility should function at a "D" LOS or better in the 2025 design year. It should be noted that some of the Y line signalized ramp terminal intersections to function poorly during peak hour periods. In order to achieve acceptable traffic operations, additional improvements well beyond the scope of this project would be needed.

During the three-year period from August 1995 through July 1998, there were 153 accidents reported on All-American Freeway within the project limits. There were 83 injuries reported, as a result of these accidents, including one fatality. The accident rate along All-American Freeway within the project limits is 50 accidents per 100 million vehicle miles (acc/100mvm). This compares with the 1996 to 1998 statewide rate of 157 acc/100mvm for urban primary route with full control of access.

III. Discussion of Alternates / Recommendations

This feasibility study describes the widening of All-American Freeway from the Owen Drive intersection to the Gruber Road interchange, a distance of 7 miles (11.3 km). The project location is shown on Figure 1. The recommended cross-section is a six-lane divided facility with 12 foot (3.7-m) travel lanes, 4-foot (1.2-m) paved inside shoulders and 10-foot (3.0-m) outside shoulders with full control of access. The majority All-American Freeway, except for the area from Owen Drive to just north of Raeford Road, will have a 46-foot (14-m) depressed grass median.

While the majority of the widening will be towards the median, the section from the Owen Drive intersection to just north (1900 feet (579.1 m)) of the Raeford Road (US 401 Business) interchange will need to be widened to the outside shoulder. The widening to the outside shoulder will also include modifying the All-American Freeway southbound loop / ramp at Raeford Road.

In order to accommodate the widening, Bridge No 6 over Raeford Road and Bridge No 226 over the Aberdeen Rockfish Railroad will require widening to the outside on each side, while both bridges over the Beaver Creek (Bridge No 4 and 235) will need to be widened towards the median. The remaining structures along the project have sufficient lateral clearance for the proposed widening of the All-American Freeway. However, the grade of All-American Freeway will need to be undercut at the Cliffdale Road (Bridge No 227) and Yadkin Road (Bridge No. 229) in order to provide sufficient vertical clearance.

It is anticipated that there will be no residences and one business relocated due to this project. The total cost of the project, including construction and right-of-way, is estimated to be $27,780,000.

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IV. Additional Comments

An environmental screening was not conducted for this study. There are no properties on the National Register of Historic Places along the project. No significant impacts on wetlands are anticipated.

During a review of the draft feasibility study, Division 6 staff requested that this project provide ramp to ramp lanes between the Raeford Road interchange and the proposed Cliffdale Road interchange. Even though these ramp to ramp lanes are not currently included in this report, we do recommend that they be studied in greater detail during later planning and design stages of this project.

A transportation benefit analysis was also completed for this project. For the period between the current year and the 2025 design year, it is estimated that the total transportation benefits for the project are $64,000,000, which is an average of $2,560,000 per year. The total benefits include accident cost savings, time cost savings, and operating cost savings.

Legend

Widening of All-American Freeway to the Outside

Widening of All-American Freeway towards the Median

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
PROGRAM DEVELOPMENT BRANCH

FS-9906D
All American Freeway (SR 1007)
From Owen Drive (SR 1151)
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SCALE 1" = 0.5 MILE FIGURE 1