

TO: DGM 1/25/95  
FROM: MNW

FEASIBILITY STUDY

**Asheville**

**Interchange Revision at US 25 (Merrimon Avenue),  
SR 1781 (Broadway Street), and I-240**

**Buncombe County**

**U-3302**

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 an interchange revision at US 25 (Merrimon Avenue), SR 1781 (Broadway Street), and I-240 in Asheville (See Figures 1 and 4). The estimated cost of the project is \$1,130,000 (\$190,000 for right-of-way and \$940,000 for construction).

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.

#### II. NEED FOR PROJECT

The studied improvements are needed to increase safety and reduce traffic conflicts in this heavily traveled corridor. Land use in this area is mainly residential, north of the interchange, and commercial, south of the interchange.

I-240 is classified as an interstate on the Statewide Functional Classification System and a freeway on the Asheville Thoroughfare Plan. US 25 (Merrimon Avenue) is classified as a minor arterial on the Statewide Functional Classification System and a major urban thoroughfare on the Asheville Thoroughfare Plan. SR 1781 (Broadway Street) is classified as an other principle arterial on the Statewide Functional Classification System and a major urban thoroughfare on the Asheville Thoroughfare Plan.

TIP Project U-1001 proposes to widen SR 1781 (Broadway Street) to a multi-lane urban facility, from I-240 to US 19-23-70 in Asheville.

Based on information from the State Historic Preservation Office, Chestnut Hill Historic District is listed on the National Register of Historic Places. This Historic District is located in the northeast quadrant of the studied interchange.

Structure Number 381 carries I-240 over Merrimon Avenue and Broadway Street. This bridge has a sufficiency rating of 80 out of 100. The existing bridge is 366 feet (111.6 meters) long with a deck width of approximately 89.8 feet (27.4 meters). The horizontal clearance under I-240 is approximately 74.8 feet (22.8 meters).

Accident analysis was based on accidents occurring at the intersections around the interchange, from October, 1990, to November, 1993. There were 48 accidents at these intersections. A majority of these accidents involved angle collisions (44%). The revised interchange configuration is expected to reduce the accident rate.

### III. ALTERNATES STUDIED

Four alternates were studied for the revision of the interchange. Figures 2 through 5 show the interchange configuration for each alternate. The estimated costs for each alternate are shown in the following table:

	Construction Costs	Right-of-Way Costs	Total Costs
Alternate 5 (See Figure 2)	\$990,000	\$210,000	\$1,200,000
Alternate 6 (See Figure 3)	\$950,000	\$130,000	\$1,080,000
Alternate 9 (See Figure 4)	\$940,000	\$190,000	\$1,130,000
Alternate 10 (See Figure 5)	\$950,000	\$110,000	\$1,060,000

Note: Costs are rounded to the nearest \$10,000 to show the differences between alternates.

The following table is a summary of the traffic analysis for the studied alternates:

<u>Studied Alternate</u>	<u>Level of Service</u>	
	<u>1994</u>	<u>2020</u>
Alternate 5	C	F
Alternate 6	D	F
Alternate 9	B	D
Alternate 10	D	F

#### IV. RECOMMENDATIONS

Alternate 9 is the recommended alternate. Alternates 5, 6, and 10 do not provide an acceptable level of service in the design year 2020. In Alternate 9, the major traffic movement would be between Broadway Avenue, south of I-240, and Merrimon Avenue, north of I-240. Lexington Avenue would become a cul-de-sac at the I-240 bridge. Concrete barriers would be retrofitted against the bridge piers to provide maximum safe clearance between the bridge piers.

Moderate utility conflicts are expected.

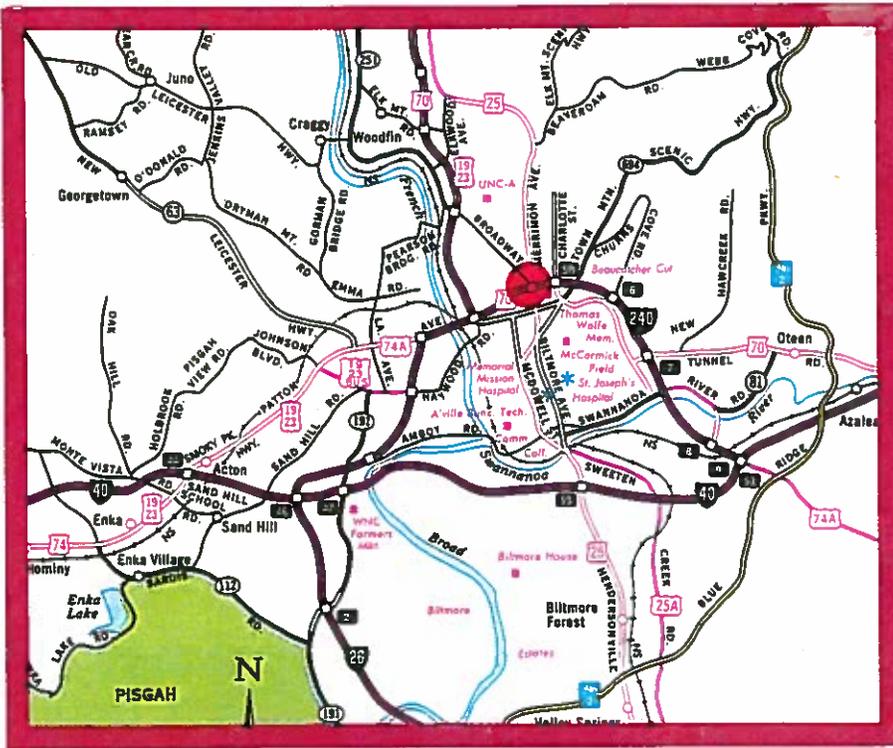
The estimated project costs are as follows:

Construction	\$ 940,000
Right-of-way	\$ 190,000
Project Total	\$1,130,000

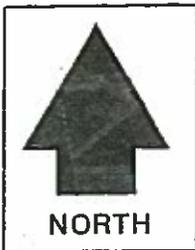
#### IV. OTHER COMMENTS AND CONCERNS

It is estimated that this project would not require any relocations.

Chestnut Hill Historic District would not be impacted by the interchange revision. It is not anticipated that any permits would be needed for the interchange revision.



**INTERCHANGE  
LOCATION**



<b>FEASIBILITY STUDIES UNIT</b>	
<b>U-3302</b>	
<b>ASHEVILLE</b>	
Interchange Revision at US 25 (Merrimon Avenue), SR 1781 (Broadway Street) and I-240	
Buncombe County	
DIVISION 13	FIGURE 1