

FEASIBILITY STUDY

Southern Pines

Interchange Revision  
at US 1 (Sandhills Boulevard) and SR 1309 (Morganton Road)

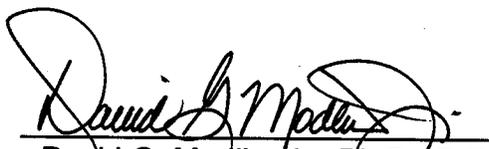
Moore County

U-3324

Prepared by  
Program Development Branch  
Division of Highways  
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Date

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## I. RECOMMENDATIONS

At this time, no improvements are recommended for the interchange of US 1 and SR 1309 (Morganton Road). Due to the existing interconnected configuration of interchanges, intersections, and service roads along US 1, between SR 2053 and SR 1848 (Pennsylvania Avenue), it is recommended that further study be conducted to recommend phased improvements along this corridor.

An alternate was studied to revise the interchange at US 1 and SR 1309 (Morganton Road) (See Figure 2); however, this alternate was rejected because it would limit access to US 1 for emergency services (i.e. a fire station) and several businesses. The studied alternate consists of the following improvements:

1. Adding a loop from SR 1309 to US 1 southbound.
2. Realigning the ramp from US 1 southbound to SR 1309 and eliminating access to SR 1872 from the ramp.
3. Extending the ramp from SR 1309 to US 1 northbound and eliminating access to SR 2093 from the ramp.
4. Constructing a cul-de-sac on SR 1873 at the cemetery driveway, thereby eliminating the intersection of SR 1873 with SR 1309.
5. Eliminating at-grade access from SR 1872 and SR 2093 to US 1.
6. Widening SR 1309 to a five-lane, 64-foot (19.5-m) face-to-face, curb and gutter section with 8-foot (2.4-m) berms from South Mechanic Drive to the east side of the northbound US 1 ramps and reconstructing Bridge Number 41 to accommodate five-lanes across the bridge and two northbound and three southbound lanes underneath the bridge.
7. Adding signals at the ramp terminals.

The cost of this alternate was estimated to be \$3,000,000 (\$600,000 for right-of-way and \$2,400,000 for construction). It was estimated that there would not be any relocations.

There are municipal offices, a park, and a fire station in the northeast quadrant of the interchange (See Figure 2). The studied improvements would eliminate access to US 1 via SR 2093. Traffic would be rerouted to SR 1848 (Pennsylvania Avenue) (See Figure 1) or through Memorial Park on Memorial Park Court. A Holiday Inn is located in the northwest quadrant of the interchange. Access to the front of the hotel would be eliminated. The side entrance between S. Mechanic Street and the US 1 southbound ramp would be maintained. A tennis court and some parking spaces would also be eliminated with the studied improvements. A cemetery is located in the southwest quadrant of the interchange. The existing cemetery driveways would be maintained, however, a cul-de-sac would be constructed at the entrance to the cemetery from SR 1873. This would eliminate direct access to SR 1309 from SR 1873. There is poor sight distance at the existing intersection of SR 1309 and SR 1873. There is a commercial building in the southeast quadrant of the interchange. The commercial building setback is minimal and there are no barriers between the paved parking area, in front of the building, and SR 1309. Due to the park located on the north side of the road in this area, widening would have to be asymmetric. Widening SR 1309 would eliminate several parking spaces in front of the commercial building.

## **II. NEED FOR PROJECT**

Improvements are needed between SR 2053 and SR 1848 (Pennsylvania Avenue), to provide a better level of service and improved access to services and businesses along US 1.

TIP Number U-2420 proposes to widen SR 1309 (Morganton Road) to multi-lanes, from US 15-501 to the US 1 interchange. The studied typical section for TIP Number U-3324 would match that typical section.

During the period from April, 1991, through March, 1994, there were 17 accidents in the studied area.

The following table is a summary of the estimated traffic volumes for the study area:

<u>ROUTE</u>	<u>1998 ADT</u>	<u>2020 ADT</u>
US 1	16,600	31,500
SR 1309	15,600	29,800
SR 1872	2,100	3,900
SR 1873	3,400	6,800
SR 2093	1,300	2,000

The existing SR 1309 would operate at a level of service (LOS) C in 1998 and a LOS D in the design year 2020. If the studied typical section were constructed, SR 1309 would operate at a LOS A in 1998 and a LOS C in 2020. The existing unsignalized intersections at the ramp terminals do not operate at an acceptable level of service on the minor legs. The studied improvements would increase traffic operation at the terminals to an acceptable level of service. Also, the studied interchange design would reduce traffic conflicts through the interchange. The studied improvements increase trip lengths to the services, business, and neighborhoods around the interchange

### **III. EXISTING CONDITIONS**

US 1 is a four-lane, median-divided highway with partial access control. US 1 is classified as a freeway/expressway on the Statewide Functional Classification System and a major thoroughfare on the Pinehurst-Aberdeen-Southern Pines Thoroughfare Plan.

SR 1309 is mainly a two-lane, 24 to 38-foot (7.3 to 11.6-m) wide roadway with no access control. SR 1309 (Morganton Road) is classified as a minor arterial on the Statewide Functional Classification System and a major thoroughfare on the Pinehurst-Aberdeen-Southern Pines Thoroughfare Plan.

Structure Number 41 carries SR 1309 over US 1. This bridge has a sufficiency rating of 70.5 out of 100. The existing bridge is 186 feet (56.7 m) long with a deck width of approximately 36 feet (11.0 m).

### **IV. OTHER COMMENTS AND CONCERNS**

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.

The fire station would be impacted by the studied alternate. It is not anticipated that the city park would be impacted. No historical or architecturally significant sites are known to be within the limits of the studied corridor.

Although, no improvements are recommended for the US 1 and SR 1309 interchange at this time, the studied improvements should be reevaluated in a corridor study of US 1, between SR 2053 and SR 1848.



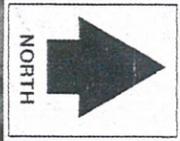


HERN PINES

S. MECHANIC ST.

SR 1309

CHIGAN ST.



CEMETERY

HOLIDAY INN

SR 1872

SR 1873

US 1

US 1

SR 2093

US 1

SR 1309

SR 209

IOWA ST.

MUNICIPAL BLDG.

FIRE STATION

SCALE: 1" = 200'

MEMORIAL PARK CT

FEASIBILITY STUDIES UNIT

U-3324

SOUTHERN PINES

INTERCHANGE REVISIONS  
US 1 & SR 1309 (Morganton Road)

MOORE COUNTY

MEMORIAL PARK

SR 1309

DIV. 8

Figure 2

SR 2080