FEASIBILITY STUDY

**Shallotte**

**SR 1357 (Smith Avenue)**

**from US 17 to NC 130**

**Brunswick County**

**U-3462**


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

Linda Kester
Engineering Co-op

Maria N. Wall, P.E.
Highway Planning Engineer

David G. Modlin, Jr., Ph.D., P.E.
Head of Feasibility Studies


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Date

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## I. GENERAL DESCRIPTION

The objective of this feasibility study is to evaluate improved access between US 17 and NC 130, via SR 1357 (Smith Avenue). Alternate One is recommended. Alternate One involves the relocation of SR 1357 (Smith Avenue), from approximately 0.3 mile (0.5 km) west of US 17 Business (Main Street) to NC 130 (See Figure 2: Alternate 1). The project is approximately 0.4 miles (0.6 km) in length. The recommended typical section is a two-lane, 24-foot (7.3-m) wide roadway with 8-foot (2.4-m) wide shoulders, including 4-foot (1.2-m) wide paved shoulders, on a 100-foot (30.5-m) wide right-of-way with no access control. The estimated cost is $1,500,000 ($900,000 for right-of-way and $600,000 for construction).

## II. NEED FOR PROJECT

The Town of Shallotte listed improvements to SR 1357 (Smith Avenue) as their number one request for the 1996 Transportation Improvement Program. The recommended improvements are needed to improve traffic flow from US 17 Bypass to NC 130. SR 1357 (Smith Avenue) is classified as a local route on the Statewide Functional Classification System and a major thoroughfare on the 1994 Shallotte Thoroughfare Plan. NC 130 (Holden Beach Road) is classified as a major collector on the Statewide Functional Classification System and a major thoroughfare on the 1994 Shallotte Thoroughfare Plan.

SR 1357 is a two-lane, 24-foot (7.3-m) wide roadway with 4-foot (1.2-m) shoulders on a 60-foot (18.3-m) wide right-of-way with no access control. Land use is mainly rural residential on the north side of SR 1357 and undeveloped on the south side of SR 1357. NC 130 is a two-lane, 22-foot (6.7-m) roadway with 6-foot (1.8-m) shoulders on a 60-foot (18.3-m) wide right-of-way with no access control.

US 17 Business and NC 130 are part of the North Carolina Bicycling Highways "Ports of Call" Route #3. The Office of Bicycle and Pedestrian Transportation has requested that bicycle accommodations be provided in the studied project. SR 1357 connects an access-controlled highway (US 17) to

US 17 Business and NC 130, therefore bicycle accommodations were not provided.

## III. ALTERNATES STUDIED

It was requested that SR 1357 (Smith Avenue) be widened, from US 17 Bypass to US 17 Business, and realigned to intersect US 17 Business at NC 130 (See Figure 2). Alternate One is based on the Shallotte Thoroughfare Plan. Alternate One involves realigning the eastern portion of SR 1357 to US 17 Business at NC 130. Alternate Two consists of extending SR 1357, on new location, from US 17 Business to intersect NC 130. The following table shows the estimated cost of each two-lane alternate.

| | Alternate One | Alternate Two |
|---|---|---|
| Construction | $ 600,000 | $ 800,000 |
| Right-of-Way | $ 900,000 | $1,000,000 |
| Total | $1,500,000 | $1,800,000 |

## IV. TRAFFIC

Figure 3 shows the estimated Average Daily Traffic (ADT) for each alternate. Capacity analysis was performed for a two-lane and a five-lane typical section.

**Results of Capacity Analysis**

| Description | LOS 1995 | LOS 2015 |
|---|---|---|
| SR 1357 (two-lane) | C | C |
| SR 1357 (five-lane) | A | A |
| NC 130 | D | E |
| US 17 Business | D | F |
| Alternate One (two-lane) New Location | C | D |
| Alternate One (five-lane) New Location | A | A |
| Alternate Two (two-lane) New Location | D | E |
| Alternate Two (five-lane) New Location | A | C |

There is no significant difference in intersection delay at US 17 Business for a two-lane versus a five-lane section along SR 1357. US 17 Business and

NC 130 are capacity deficient, therefore, they limit the operation of the intersections. Existing intersection delays are impeding traffic flow, between US 17 and NC 130. The recommended improvements would reduce turning movements through the corridor, thereby improving traffic flow.

## V. RECOMMENDATIONS

It is recommended that SR 1357 (Smith Avenue) be relocated from approximately 0.3 mile (0.5 km) west of US 17 Business (Main Street) to NC 130, a distance of approximately 0.4 miles (0.6 km) (See Figure 2: Alternate 1). The recommended typical section is a two-lane, 24-foot (7.3-m) wide roadway with 8-foot (2.4-m) wide shoulders, including 4-foot (1.2-m) wide paved shoulders, on a 100-foot (30.5-m) wide right-of-way with no access control.

Estimated project costs are as follows:

| | |
|---|---|
| Construction | $ 600,000 |
| Right-of-Way | $ 900,000 |
| Project Total | $ 1,500,000 |

Minimal utility conflicts are expected.

It is also recommended that a 100-foot (30.5-m) wide right-of-way be purchased on the existing SR 1357, from US 17 to the beginning of Alternate 1 (approximately 0.3 mile (0.5 km) west of US 17 Business). The additional right-of-way would be asymmetric to the south side of SR 1357. The estimated cost of this right-of-way is $300,000. This right-of-way would be utilized for future widening of SR 1357.

## VI. OTHER COMMENTS AND CONCERNS

It is estimated that this project would not require the relocation of any residences or businesses. There may be minor damages to the Walmart parking lot.

This study is not a detailed planning/environmental investigation. A feasibility study presents recommended typical-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.

A portion of this project bisects wetlands. A Corps of Engineers Section 404 Permit may be required. Also, a CAMA Permit may be required. No historical or architecturally significant sites are known to be impacted.