

FEASIBILITY STUDY

Spencer

Proposed Grade Separation  
on SR 2120 (Long Ferry Road)  
at Southern Railway

Rowan County

Division 9

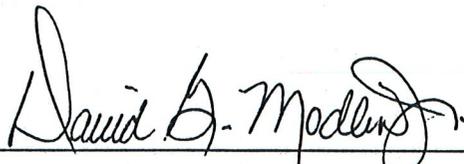
U-3822

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



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2/26/98

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Date

## FEASIBILITY STUDY

### Spencer

### Proposed Grade Separation on SR 2120 (Long Ferry Road) at Southern Railway

### Rowan County

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#### I. GENERAL DESCRIPTION

This feasibility study investigates the potential of providing a grade separation on SR 2120 (Long Ferry Road) at the Southern Railway in Spencer, Rowan County. The railroad is on the designated High Speed Rail Corridor. SR 2120 intersects with US 29-70 (Salisbury Avenue) which is less than 500 feet (153 m) west of the railroad. Due to the short distance between US 29-70 and the railroad, it is not feasible to maintain the at-grade intersection with US 29-70 and provide the required vertical clearance for the railroad grade separation. It is recommended that a section of SR 2120 be realigned north of the existing roadway. The new alignment of SR 2120, which would begin at Ann Street approximately 500 feet (153 m) from US 29-70 and end at SR 2100 (Long Street), would include grade separation at the Southern Railway and at US 29-70 (see Figure 1). This alternate is consistent with the proposed Northern Loop shown on the Salisbury Area Thoroughfare Plan.

The studied typical section for the new alignment of SR 2120 is a 4-lane, 52-foot (15.9-m) face-to-face curb and gutter section. The bridge would have a clear deck width of 52 feet (15.9 m). The length of the new alignment including the bridge is approximately 1900 feet (580 m).

The estimated cost of the project is \$7,450,000, (\$2,050,000 for right-of-way and \$5,400,000 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

Southern Railway has one track crossing SR 2120 in Spencer; this track is on the designated High Speed Rail Corridor. The track currently carries 30 trains per day at an average speed of 50 miles per hour (80 kmh). Existing SR 2120 in the project corridor is a 2-lane shoulder section with 6-foot (1.8-m) shoulders. The existing land use in the project vicinity is residential and light commercial.

SR 2120 is classified as a rural major collector on the North Carolina State Functional Classification System. On the Salisbury Area Thoroughfare Plan, SR 2120 is classified Major Thoroughfare.

Estimated 1997 Average Daily Traffic (ADT) on SR 2120 was 6600 vehicles per day (vpd). The estimated traffic volume for the design year 2020 is 12,600 vpd, assuming the Northern Loop is built. Truck traffic is estimated to make up 8% of the daily traffic. Currently SR 2120 in the project vicinity is operating at a Level of Service (LOS) C and would operate at a LOS D in the design year 2020. With the recommended improvements, the traffic volumes along SR 2120 would operate at a LOS A through the design year.

## III. RECOMMENDATIONS

This feasibility study investigates the potential of providing a grade separation on SR 2120 (Long Ferry Road) at the Southern Railway in Spencer, Rowan County. The railroad is on the designated High Speed Rail Corridor. SR 2120 intersects with US 29-70 (Salisbury Avenue) which is less than 500 feet (153 m) west of the railroad. Due to the short distance between US 29-70 and the railroad, it is not feasible to maintain the at-grade intersection with US 29-70 and provide the required vertical clearance for the railroad grade separation. It is recommended that a section of SR 2120 be realigned north of the existing roadway. The new alignment of SR 2120, which would begin at Ann Street approximately 500 feet (153 m) from US 29-70 and end at SR 2100 (Long Street), would include grade separation at the Southern Railway and at US 29-70 (see Figure 1). This alternate is consistent with the proposed Northern Loop shown on the Salisbury Area Thoroughfare Plan.

The studied typical section for the new alignment of SR 2120 is a 4-lane, 52-foot (15.9 m) face-to-face curb and gutter section. The bridge would have a clear deck width of 52 feet (15.9 m). The length of the new alignment including the bridge is approximately 1900 feet (580 m).

The existing SR 2120 would be terminated at the railroad; each end of the roadway adjacent to the railroad would be cul-de-saced. In order to provide traffic movements between SR 2120 and US 29-70, a 3-lane service road is proposed.

The service road would begin at the existing intersection of Ann Street and Elizabeth Avenue, and would terminate at US 29-70 approximately 250 feet (76.3 m) north of Ann Street. Elizabeth Avenue would be terminated with a cul-de-sac. The studied typical section is a 40-foot (12.2-m) face-to-face curb and gutter section with 10-foot (3.1-m) berms. There would be one 12-foot (3.7-m) wide travel lane in each direction and a 12-foot (3.7-m) wide center turn-lane. The termini of the proposed service road would be signalized.

Approximately 450 feet (137 m) of existing SR 2120 near SR 2121 would be realigned to improve the intersection with the proposed new alignment of SR 2120

Moderate utility conflicts are expected.

It is estimated that this project would require the relocation of 7 residences and 1 business.

Total project cost is estimated as follows:

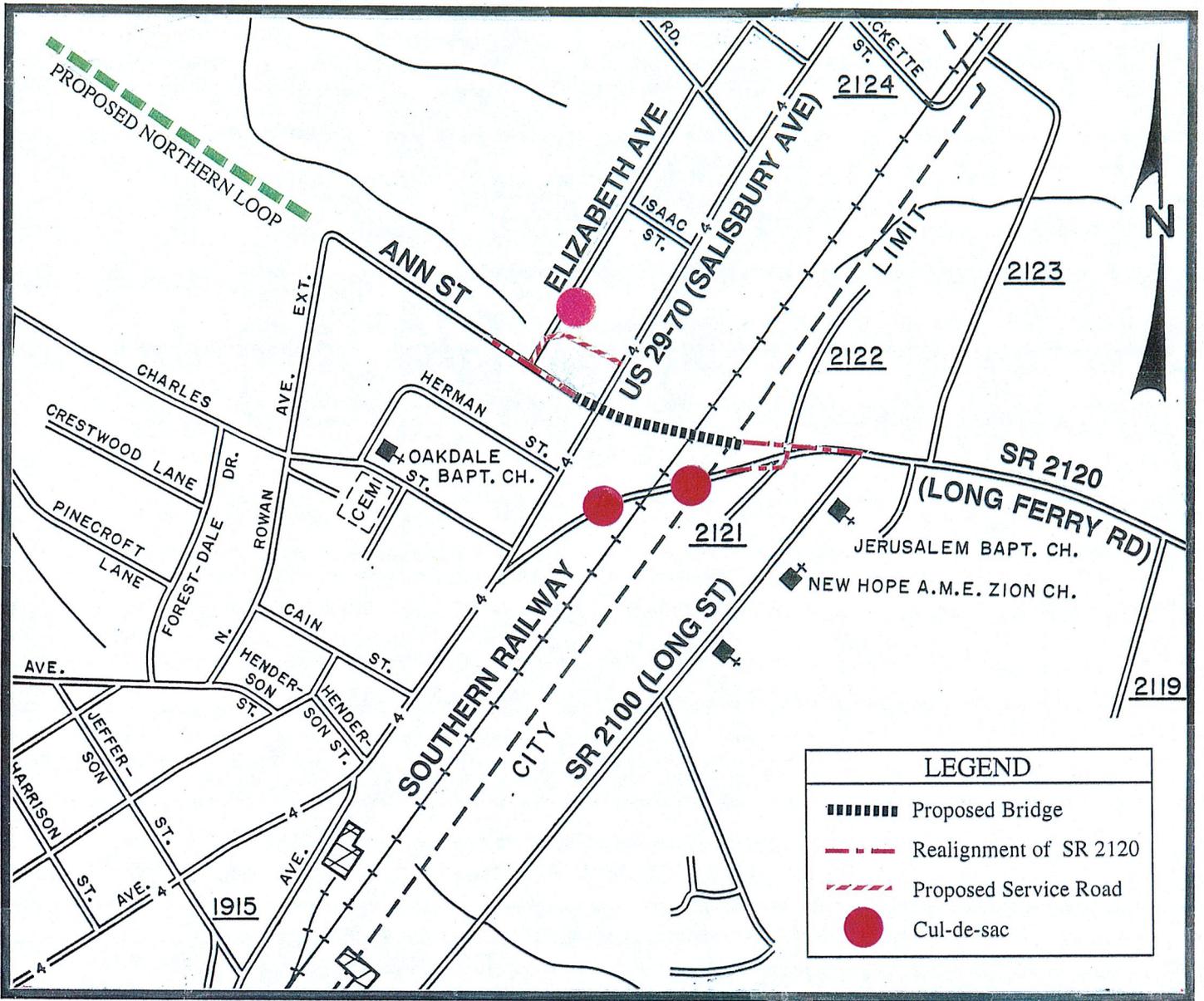
Right-of-Way	\$ 2,050,000
Construction	\$ 5,400,000
Total Cost	<u>\$ 7,450,000</u>

#### IV. OTHER COMMENTS AND CONCERNS

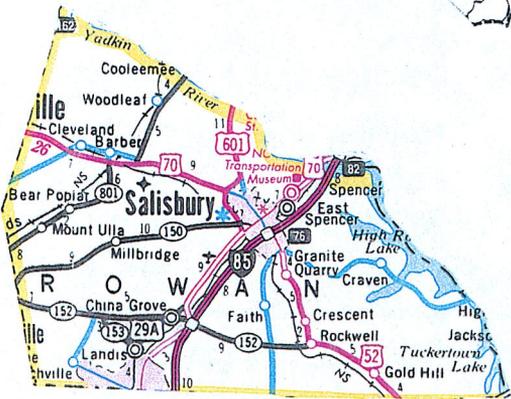
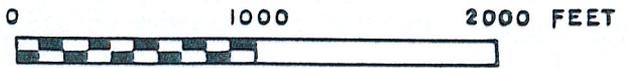
No historical or architecturally significant sites have been identified in the project corridor. It is not anticipated that this project will require any environmental permits.

Based on maps at the Department of Environment, Health & Natural Resources - Natural Heritage Section, no threatened or endangered species were identified in the project corridor.

The projected future ADT and the subsequent LOS determination were based on the assumption that the proposed Northern Loop will be constructed.



LEGEND	
	Proposed Bridge
	Realignment of SR 2120
	Proposed Service Road
	Cul-de-sac



NC DEPARTMENT OF TRANSPORTATION  
FEASIBILITY STUDIES UNIT

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DIVISION 9 FIGURE 1