

**FEASIBILITY STUDY**

**Town of Gatesville**

**New Route (NC 137 Truck Bypass)  
In Gatesville from the Western  
City limits to NC 37 (Main Street).**


**Gates County**


**Division 1**

**FS – 0201B**



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

  
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**Date**

New Route (NC 137 Truck Bypass) in Gatesville  
from the Western City limits to NC 37 (Main Street)  
Town of Gatesville  
Gates County

FS-0201B

**I. General Description**

This feasibility study describes the operational and safety improvements needed to construct a truck bypass route of NC 137 (Court Street) from the Gatesville western city limits to NC 37 (Main Street). The project location is shown on Figure 1. This study evaluated two (2) alignment alternatives, the details of which are as follows:

- ◆ **Alternative 1** is a proposed Northern Bypass of NC 137 from the NC 137/Lewis Mill Road intersection to US 158 Business (East Maple Street), a distance of approximately 0.9 miles. This alternative is a proposed two lane shoulder section on new location, with 32 feet of pavement including 12-foot travel lanes and 4-foot paved shoulders on 100 feet of right-of-way.
- ◆ **Alternative 2** is a proposed Southern Bypass of NC 137 in Gatesville from just west of Lilley Lane to NC 37, a distance of approximately 1.4 miles. This alternative is a two-lane shoulder section on new location with 32 feet of pavement including 12-foot travel lanes and 4-foot paved shoulders on 100 feet of right-of-way.

This 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 cost, and to identify potential problems that may require consideration in the planning and design phases.

**II. Background**

The purpose of this project is to minimize the adverse impacts of heavy truck traffic on properties along NC 137, specifically historic structures. The high percentage of truck traffic along this particular section of NC 137 has reported damages to the historical courthouse because of the close proximity of the adjacent roadway. It is anticipated that relocating the truck traffic to an alternate facility will drastically reduce the likelihood and severity of future structural damages within this area.

NC 137 is classified as a Major Collector in the Gates county Rural Functional Classification System.

NC 137 is currently a two-lane section on a 60-foot right-of-way, 25-feet from edge of pavement (EOP) to EOP with 11-foot lanes from Gatesville western city limits (NC 137) east to High Street approximately .85 miles and on a 50-foot right-



of-way, 21-feet face to face of curbs with 11-foot lanes from High Street to NC 37 (Main Street).

The development along NC 137 (Court Street) is a mixture of residential, agricultural with some commercial and institutional property.

The Town of Gatesville and Gates County officials expressed concerns with truck traffic and noise associated with tractor trailers from NC 137 (Court Street) due to damage to the historical courthouse and unsafe traffic flow caused by traffic from two lumber mills in the area.

### **III. Traffic and Safety**

There are no existing traffic signals within the project limits.

The current year Annual Average Daily Traffic (AADT) along NC 137 from the western city limits to NC 37 (Main Street) ranges from 3,500 to 4,000 vehicles per day (vpd). For the 2030 design year, the projected traffic on this section of NC 137 ranges from 4,500 to 5,700 vehicles per day (vpd). Truck traffic along existing NC 137 (Court Street) is estimated to be approximately 12% of the daily traffic.

The projected traffic along the proposed northern bypass (Alternative 1) is anticipated to be 1,200 vpd in the current year and 1,600 vpd in the 2030 design year. The traffic projected to remain on the existing NC 137 is projected to range from 2,600 to 3,100 vpd in the current year and from 3,800 to 4,700 vpd in the 2030 design year. Truck traffic along the northern bypass is estimated to be 16% of the AADT while NC 137 is estimated to be reduced to 5% of the remaining AADT.

For the southern bypass (Alternative 2), we anticipate that the majority of the traffic currently utilizing existing NC 137 in Gatesville will divert to the proposed facility because of the proposed parallel alignment. This assumption will need to be verified during future planning and design stages of project development because a formal forecast for the southern alignment is not currently available.

It is anticipated that all alternatives will operate at an acceptable LOS in the 2030 design year.

Between 2000 and 2003, 9 accidents occurred within the project limits. There were 3 injury accidents, 6 property damage only accidents and no fatalities as a result of these incidents. The accident rate for this 1.3-mile portion of roadway is 92.94 accidents per 100 million vehicle miles of travel (acc/100mvm), which is lower than the 2000-2002 statewide rate of 211.92 accidents/100mvm for two-lane undivided NC routes.

#### IV. Description of Alternatives

It is proposed to build a truck bypass route for NC 137 in Gatesville to minimize structural damage to the historic Gatesville County Courthouse caused by heavy truck traffic along this facility. This study evaluated two alignment alternatives for this proposed bypass of NC 137, the details of which are as follows.

- ◆ **Alternative 1** is a proposed Northern Bypass of NC 137 from the NC 137/Lewis Mill Road intersection to US 158 Business (East Maple Street), a distance of approximately 0.9 miles. This alternative is a proposed two lane shoulder section on new location, with 32 feet of pavement including 12-foot travel lanes and 4-foot paved shoulders on 100 feet of right-of-way.

Under the proposed improvements for Alternative 1, it is anticipated there will be one (1) residential and one (0) business relocation. The total cost of this alternative is estimated to be \$4,500,000.

Right-Of Way	\$1,000,000
Construction	\$3,300,000
<u>Utilities</u>	<u>200,000</u>
Estimated Project Cost (Alternative 1)	\$4,500,000

- ◆ **Alternative 2** is a proposed Southern Bypass of NC 137 in Gatesville from just west of Lilley Lane to NC 37, a distance of approximately 1.9 miles. This alternative is a two-lane shoulder section on new location with 32 feet of pavement including 12-foot travel lanes and 4-foot paved shoulders on 100 feet of right-of-way.

Under the proposed improvements for Alternative 2, it is anticipated there will be four (4) residential and one (0) business relocation. The total cost of this alternative is estimated to be \$7,600,000.

Right-of-Way	\$2,100,000
Construction	\$5,300,000
<u>Utilities</u>	<u>\$200,000</u>
Estimated Project Cost (Alternative 1)	\$7,600,000

#### V. Community Issues

A detailed investigation of community issues was not conducted for this feasibility study however, no impact to schools, parks, recreation areas and community facilities are anticipated with this project.

Gatesville Elementary School is located at 709 Main Street, near Alternative 1 and Main Street intersection.



The Gates County Courthouse, the focal point of the county seat of Gatesville, was completed in 1836. This structure is one of a small number of ante-bellum courthouses remaining in the state. It was placed on the National Register of Historic Places in 1976 and is being restored by the Gates County Historical Society for use as the public library and cultural center.

## VI. Natural and Environmental Issues

A detailed environmental study was not conducted for this feasibility study. However, existing information available for this project area has been screened for environmental and historic concerns. Minimum environmental and historic impacts are anticipated.

There is no indication of threatened or endangered species in the area based on available GIS data maintained by the National Heritage program. However, there are two areas of concern and should be considered during the later planning and design stages and they are as followed:

- Manage Pineland trees at the western city limits and at the NC 37 intersection on alternative 2.
- Riverine Swamp Forest near the NC 37 intersection on Alternative 2.

## VII. Summary

This study is to evaluate alternatives which route the heavy truck traffic away from existing NC 137 near the historic Gatesville Courthouse. As part of this study, we considered two alternative alignments to bypass the portion of NC 137 in Gatesville.

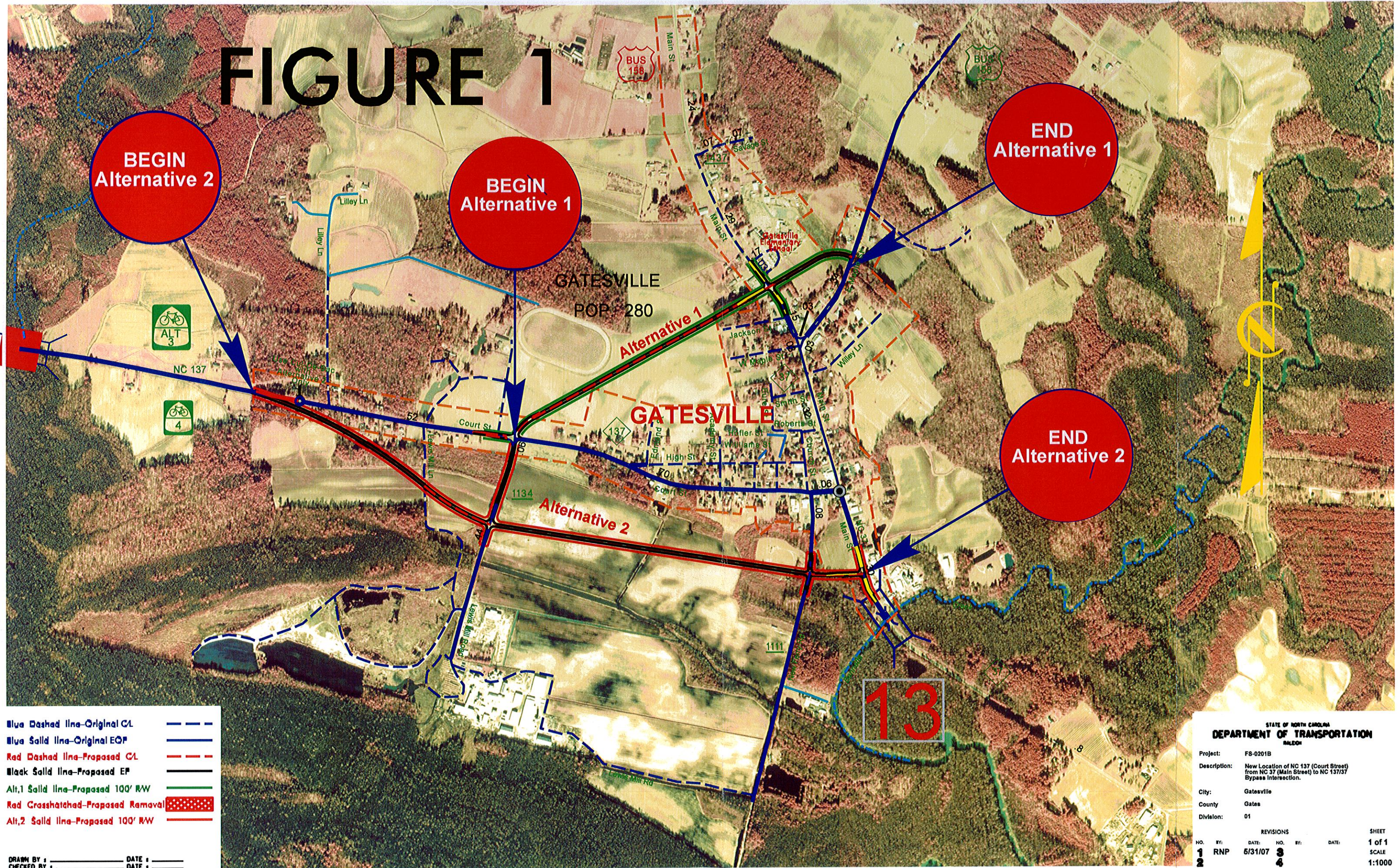
**Alternative No. 1** proposes to construct a northern bypass of NC 137 in Gatesville. After analyzing the information available, it is our conclusion that the northern bypass would reduce, but not eliminate potential truck traffic impacts on the historic courthouse. Therefore, it is not our recommended alternative at this time.

**Alternative No. 2 (Preferred)** proposes to construct a southern bypass which completely relocates NC 137 onto a proposed parallel facility in Gatesville. Under this alternative, we anticipate the majority of the traffic would divert to this proposed southern bypass facility and significantly reduce the adverse impacts to the historic courthouse.

The total cost of the preferred alternative 2 is \$7,600,000 of which \$2,100,000 is for right-of-way, \$5,300,000 for construction, and \$200,000 for Utilities.



# FIGURE 1



- Blue Dashed line—Original CL      - - - - -
- Blue Solid line—Original EOP      —————
- Red Dashed line—Proposed CL      - - - - -
- Black Solid line—Proposed EP      —————
- Alt.1 Solid line—Proposed 100' RW      —————
- Red Crosshatched—Proposed Removal      [Red Crosshatched Box]
- Alt.2 Solid line—Proposed 100' RW      —————

DRAWN BY : \_\_\_\_\_ DATE : \_\_\_\_\_  
 CHECKED BY : \_\_\_\_\_ DATE : \_\_\_\_\_

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH			
Project:	FS-0201B		
Description:	New Location of NC 137 (Court Street) from NC 37 (Main Street) to NC 137/37 Bypass Intersection.		
City:	Gatesville		
County:	Gates		
Division:	01		
REVISIONS			
NO.	BY:	DATE:	NO.
1	RNP	5/31/07	3
2			4
			SHEET
			1 of 1
			SCALE
			1:1000