

## Comprehensive Transportation Plan



Study Report for Polk County

October 2008



# Comprehensive Transportation Plan

## Study Report for Polk County

Prepared by the: Transportation Planning Branch  
North Carolina Department of Transportation

In Cooperation with: Polk County  
Town of Columbus  
City of Saluda  
Town of Tryon  
Federal Highway Administration  
U.S. Department of Transportation

October 2008



# Acknowledgements

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Special thanks to:

Isothermal RPO Coordinators:	Gregory Christo Josh King
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# Table of Contents

Executive Summary.....	ix
I. Introduction.....	1
II. Recommendations.....	17
Highway Map.....	17
Public Transportation & Rail Map.....	22
Bicycle Map.....	23
III. Population, Land Use, and Roadway System.....	25
Population.....	25
Land Use.....	26
Roadway System.....	31
IV. Environmental Screening.....	49
Wetlands.....	49
Threatened and Endangered Species.....	49
Historic Sites.....	50
Archaeological Sites.....	50
Educational Facilities.....	50
Parks and Public Open Spaces.....	51
V. Public Involvement.....	55
Overview.....	55
Study Initiation.....	55
Public Meetings.....	55
Transportation Survey.....	56
Public Hearings.....	56
Adoption.....	57
VI. Implementation.....	59

## Appendices

- Appendix A: Comprehensive Transportation Plan Definitions
- Appendix B: Street Tabulation and Recommendations
- Appendix C: Typical Cross Sections
- Appendix D: Transportation Survey
- Appendix E: Resources and Contacts





## List of Figures

Figure 1: Geographic Location Map.....	3
Figure 2: Comprehensive Transportation Plan.....	5
Figure 3: Future Land Use.....	29
Figure 4: Crash Locations.....	33
Figure 5: Level of Service.....	37
Figure 6: 2003 AADT.....	41
Figure 7: Projected 2030 ADT.....	43
Figure 8: Deficient Bridges.....	47
Figure 9: Environmental Features.....	53

## List of Tables

Table 1: Minimum Tolerable Lane Widths.....	20
Table 2: Percentage Population Growth.....	26
Table 3: Absolute Population Growth.....	26
Table 4: High Crash Intersections.....	32
Table 5: Roadway Capacity Deficiencies.....	40
Table 6: Deficient Bridges.....	46



# Executive Summary

In April of 2005, the Transportation Planning Branch of the North Carolina Department of Transportation (NCDOT) and Polk County made an agreement to begin work on the Polk County Comprehensive Transportation Plan (CTP). The resulting plan, as shown in Figure 2 of this report, is the end product of the planning process. The recommendations shown in this plan are based on technical analysis of transportation needs, application of standard transportation planning principles, and input from local officials and the public.

It is important to note that the recommended transportation plan is based upon anticipated growth and development within the planning area over the next 25 years. Prior to the construction of specific recommended projects, a more detailed study will be required to reconsider development trends, determine specific design requirements, and further evaluate environmental impacts. Over time, as development patterns change, it may also become necessary to update this Comprehensive Transportation Plan.

The Comprehensive Transportation Plan for Polk County currently includes recommendations for three transportation elements: highways, public transportation and rail, and bicycles. The format for the pedestrian map has not been finalized, so it is not included as part of the adopted Comprehensive Transportation Plan.

The projected population and employment growth within the planning area is based on the regional economic analysis that was performed during the development of the Polk County CTP. A working committee formed from local officials approved subarea - level population data for the County. Technical analysis for the highway element was performed using the STEP UP (Simple Traffic Estimation Procedure Using Population) tool.

Recommendations in all transportation elements were developed to reflect the overall goals of the area, based on discussions with local planners and the public. This report documents the findings of this study as well as the resulting recommendations for improvements.

After ongoing coordination with the Isothermal Rural Planning Organization (IRPO), the planning departments for the County, Town of Columbus, City of Saluda, and Town of Tryon, and several public involvement sessions in 2006, 2007, and 2008, the Polk County Comprehensive Transportation Plan was adopted by the Town of Columbus on March 20, 2008, City of Saluda on April 14, 2008, Town of Tryon on May 20, 2008, and Polk County on July 21, 2008. The Isothermal Rural Planning Organization (RPO) endorsed the plan on August 28, 2008. The plan was adopted by NCDOT on October 2, 2008. Implementation of this plan rests largely with the policy boards and citizens of

Polk County. Transportation needs throughout the state exceed the available funding for transportation projects; therefore, local areas, in conjunction with Rural Planning Organizations, must take an active role in pursuing funding for desired projects.

# I. Introduction

An area's transportation system is its lifeline, contributing to its economic prosperity and social well being. The importance of a safe and efficient transportation infrastructure cannot be overstated. This system must provide a means of transporting people and goods quickly, conveniently, and safely. A well-planned system will meet existing travel demands and keep pace with the growth of the region. Officials in Polk County recognized the importance of the transportation planning process, and worked cooperatively with the North Carolina Department of Transportation (NCDOT) to complete this Comprehensive Transportation Plan.

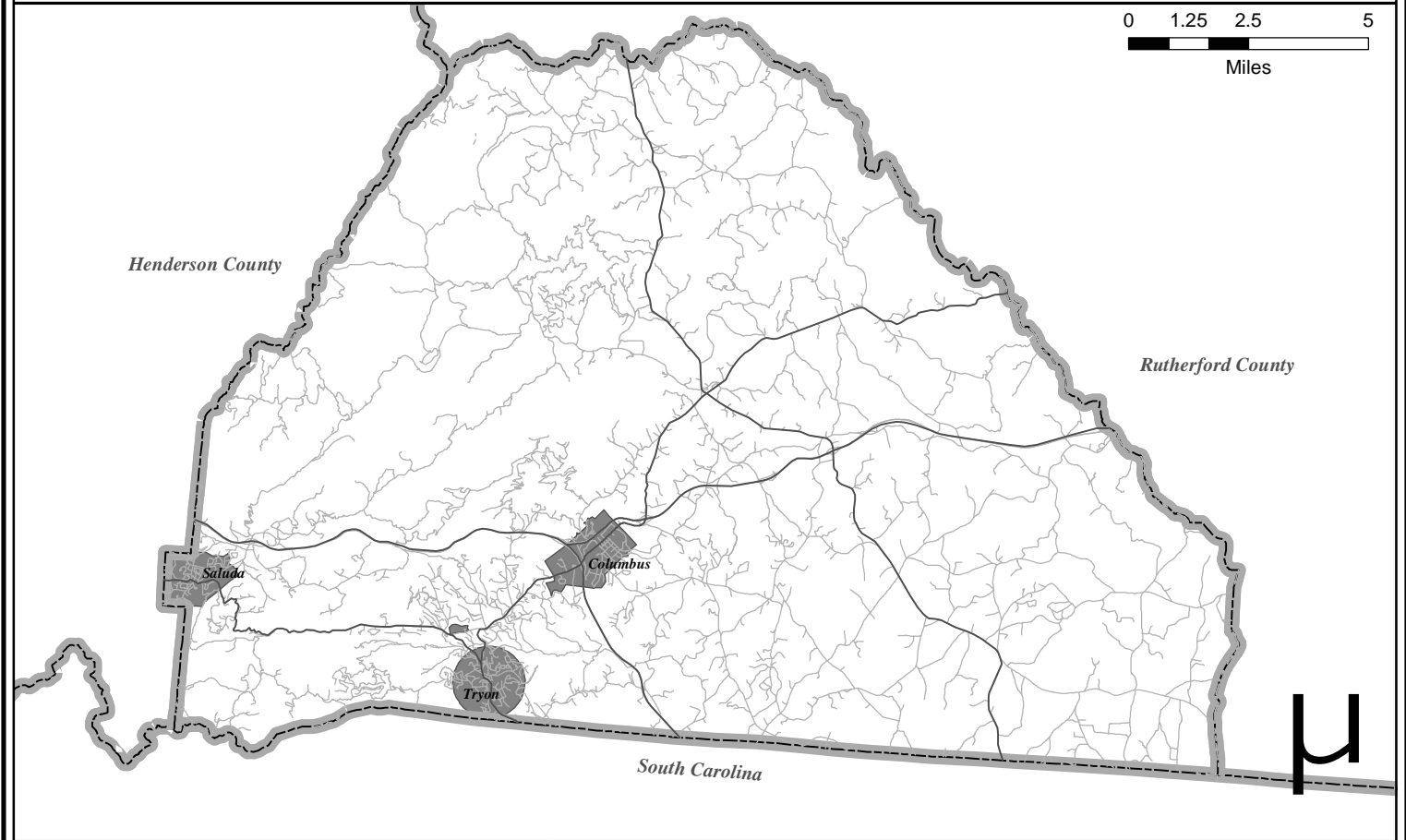
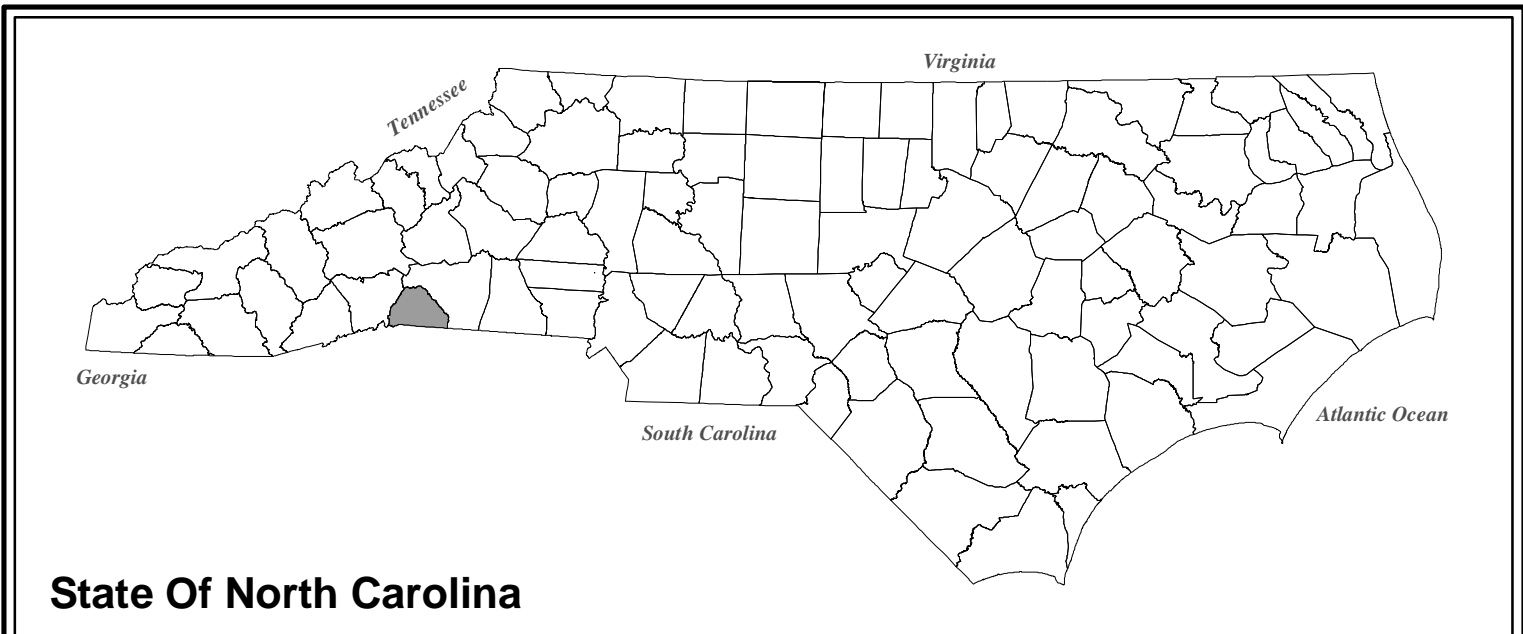
Polk County is located in the western part of North Carolina. It is bordered by Rutherford and Henderson Counties in North Carolina, and Greenville and Spartanburg Counties in South Carolina. The planning area for this Comprehensive Transportation Plan (CTP) covers all of Polk County, which includes the Town of Columbus, City of Saluda, and Town of Tryon. The geographic location of the planning area is shown in Figure 1. This report documents the development of the 2008 Polk County Comprehensive Transportation Plan, shown in Figure 2. In addition, this report presents recommendations for each mode of transportation included in the plan.

A CTP is developed to ensure that the transportation system will be progressively enhanced to meet the needs of the planning area. It will serve as an official guide providing a well-coordinated, efficient, and economical transportation system utilizing all modes of transportation. This document will be used by local officials and the NCDOT to ensure that planned transportation facilities reflect the needs of the public while minimizing the negative impacts on local residents, businesses, and the natural environment.

The plan recommends improvements that are necessary to provide an efficient and effective transportation system within the 2003-2030 planning period. The recommended cross-sections for these improvements, outlined in Appendix B, are based on existing conditions and projected traffic volumes.

The proposed CTP is based on the projected growth in population and employment through the year 2030, as coordinated with local planning staff members. It is possible that actual growth patterns will differ from those logically anticipated in this study. As a result, it may be necessary to accelerate or delay the development of some recommendations found on the plan. Some portions of the plan may require revisions in order to accommodate unexpected changes in urban development. Any changes that are made to one element of the CTP in the future should remain consistent with the other elements.

Initiative for implementing the CTP rests predominantly with the policy boards and citizens of the planning area. County or municipal governments and the NCDOT share the responsibility for proposed construction. As transportation needs throughout the state exceed available funding, it is imperative that local areas aggressively pursue funding for desired projects.



<p><b>FIGURE 1</b></p> <p><b>GEOGRAPHIC LOCATION MAP</b></p> <p><b>POLK COUNTY</b></p> <p>North Carolina</p>	<p><b>Legend</b></p> <ul style="list-style-type: none"> <li> <b>Primary Roads</b></li> <li> <b>Secondary Roads</b></li> <li> <b>County Boundary</b></li> <li> <b>Municipal Boundary</b></li> </ul>	<p>PREPARED BY THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION TRANSPORTATION PLANNING BRANCH</p> <p>BASE MAP DATE: AUGUST 2005</p>
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**Adopted by:**

**Polk County**  
**Date: July 21, 2008**

**Town of Columbus**  
**Date: March 20, 2008**

**Town of Tryon**  
**Date: May 20, 2008**

**City of Saluda**  
**Date: April 14, 2008**

**NCDOT**  
**Date: October 2, 2008**

**Endorsed by:**

**Isothermal RPO**  
**Date: August 28, 2008**

**Recommended by:**

**Transportation Planning Branch**  
**Date: September 2, 2008**



**Polk County**

North Carolina

**Comprehensive  
Transportation Plan**

Plan date: December 12, 2007









Sheet 1 **Adoption Sheet**

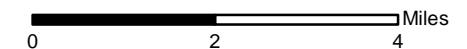
Sheet 2 **Highway Map**

Sheet 3 **Public Transportation  
and Rail Map**

Sheet 4 **Bicycle Map**

Sheet 5 **Pedestrian Map**

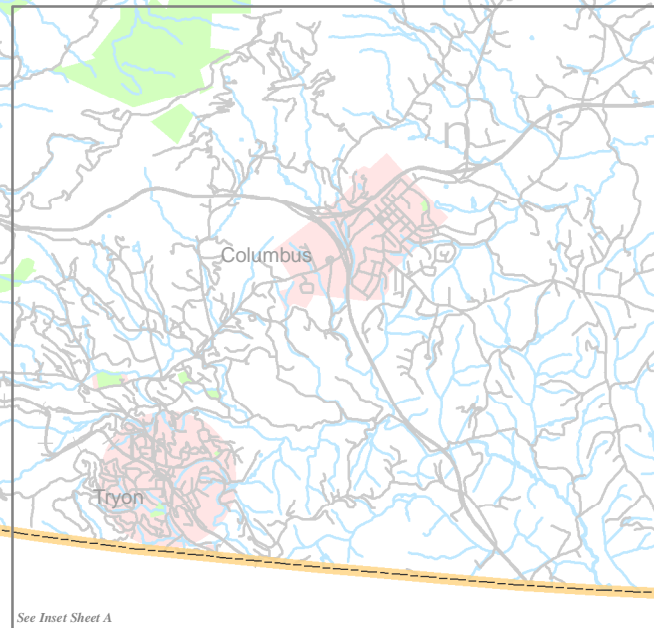
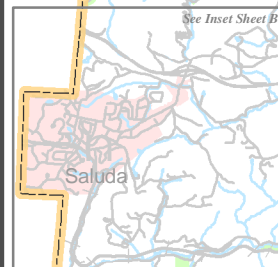
-  Schools
-  Roads
-  Railroads
-  Rivers and Streams
-  County Boundary
-  Towns
-  Forests and Parks
-  Water Bodies



Sheet 1 of 5

Base map date: August 1, 2005

Refer to CTP document for more details



**NOTES:**

Format for Sheet 5 Pedestrian map is pending.





# Highway Map



## Polk County Comprehensive Transportation Plan

Plan date: December 12, 2007

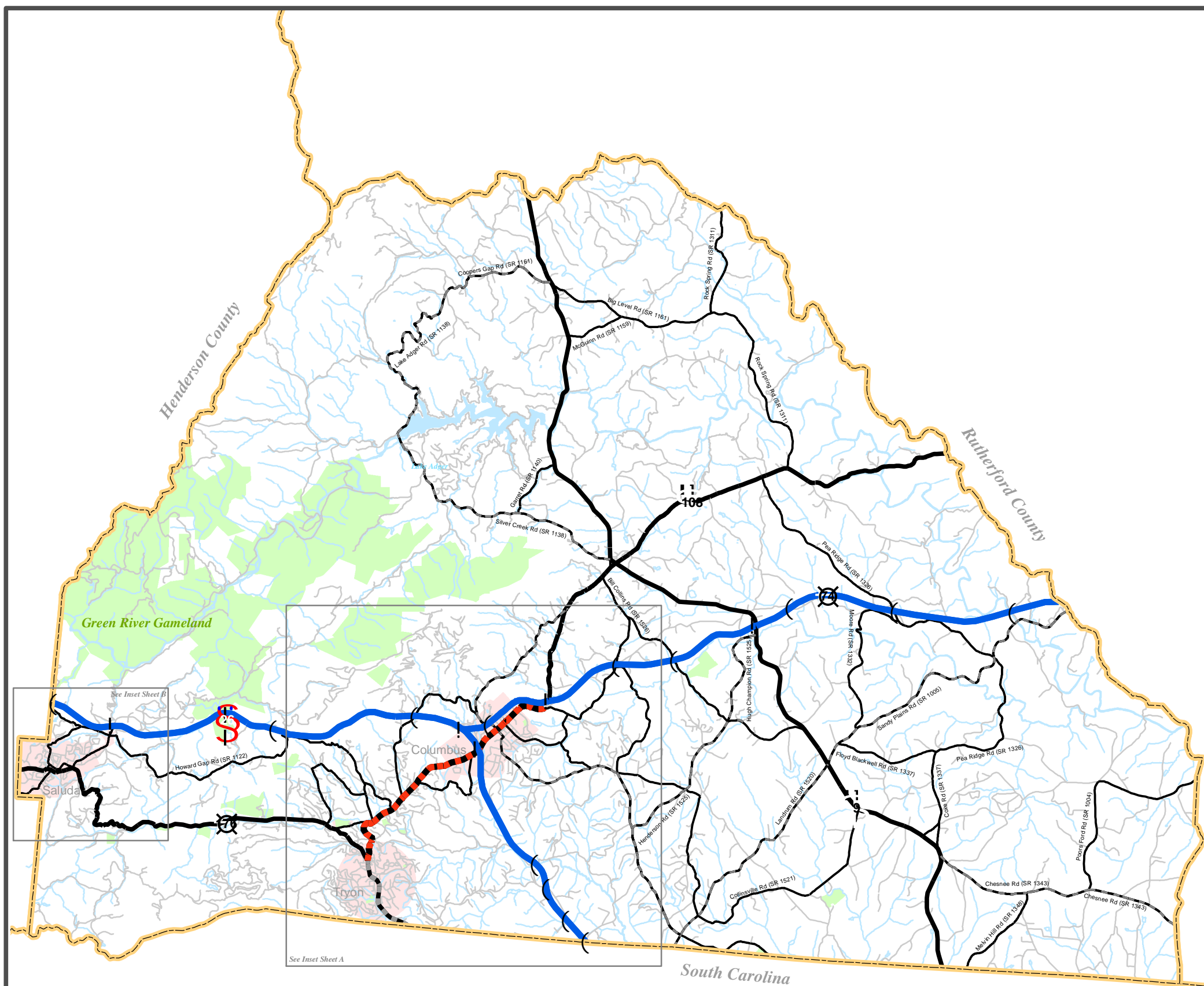
- Freeways**
  - Existing
  - Needs Improvement
  - Recommended
- Expressways**
  - Existing
  - Needs Improvement
  - Recommended
- Boulevards**
  - Existing
  - Needs Improvement
  - Recommended
- Other Major Thoroughfares**
  - Existing
  - Needs Improvement
  - Recommended
- Minor Thoroughfares**
  - Existing
  - Needs Improvement
  - Recommended
- Existing Interchange
- Proposed Interchange
- Existing Grade Separation
- Proposed Grade Separation

Miles  
0 0.5 1

Sheet 2 of 5

Base map date: August 1, 2005

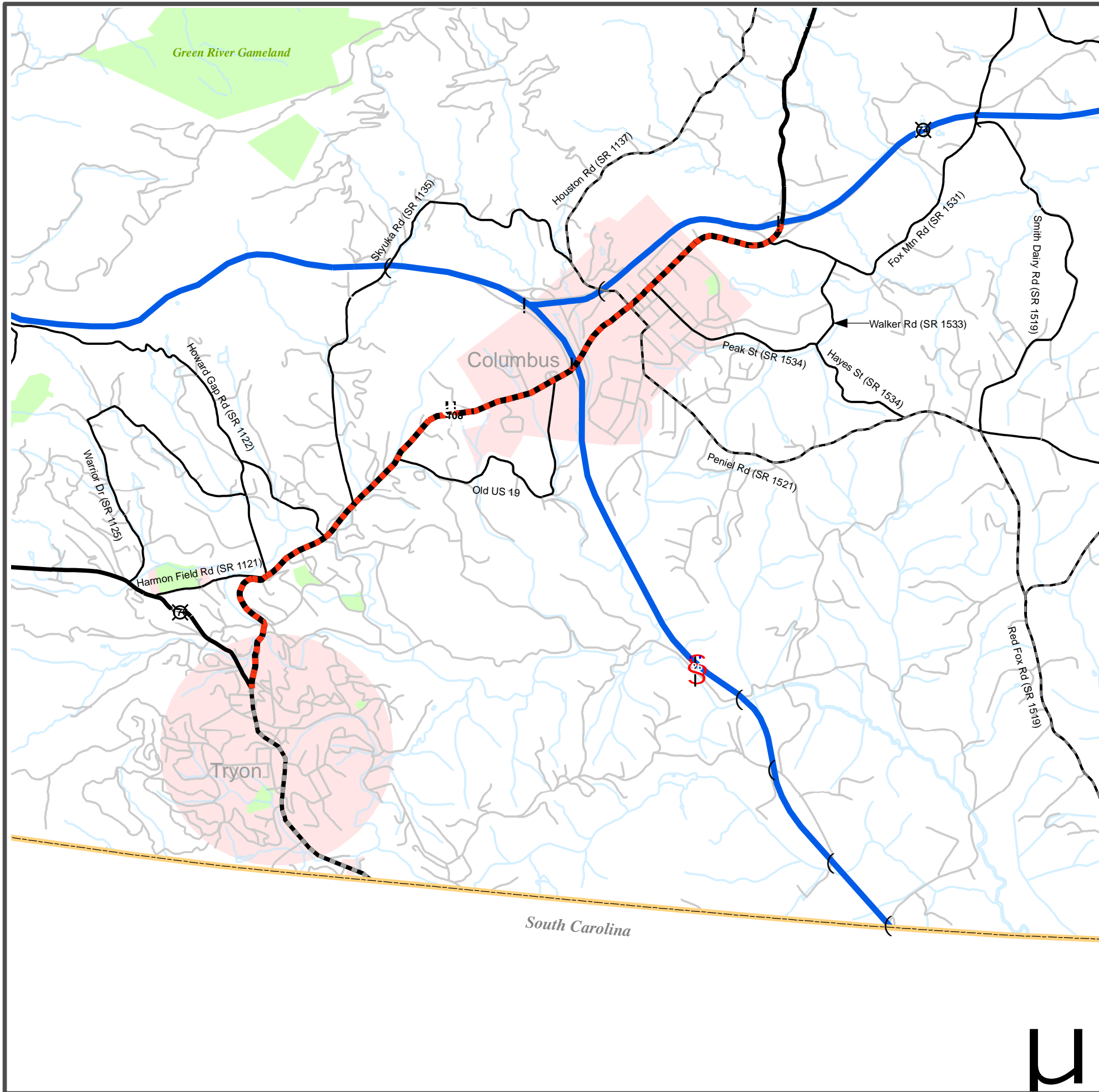
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See Inset Sheet A

See Inset Sheet B





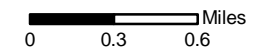
# Highway Map



## Polk County Comprehensive Transportation Plan

Plan date: December 12, 2007

- Freeways**
  - Existing
  - Needs Improvement
  - Recommended
- Expressways**
  - Existing
  - Needs Improvement
  - Recommended
- Boulevards**
  - Existing
  - Needs Improvement
  - Recommended
- Other Major Thoroughfares**
  - Existing
  - Needs Improvement
  - Recommended
- Minor Thoroughfares**
  - Existing
  - Needs Improvement
  - Recommended
- Existing Interchange
- Proposed Interchange
- Existing Grade Separation
- Proposed Grade Separation



Sheet 2 of 5 - Inset Sheet A

Base map date: August 1, 2005  
Refer to CTP document for more details





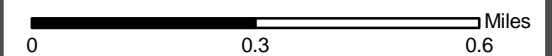
# Highway Map



## Polk County Comprehensive Transportation Plan

Plan date: December 12, 2007

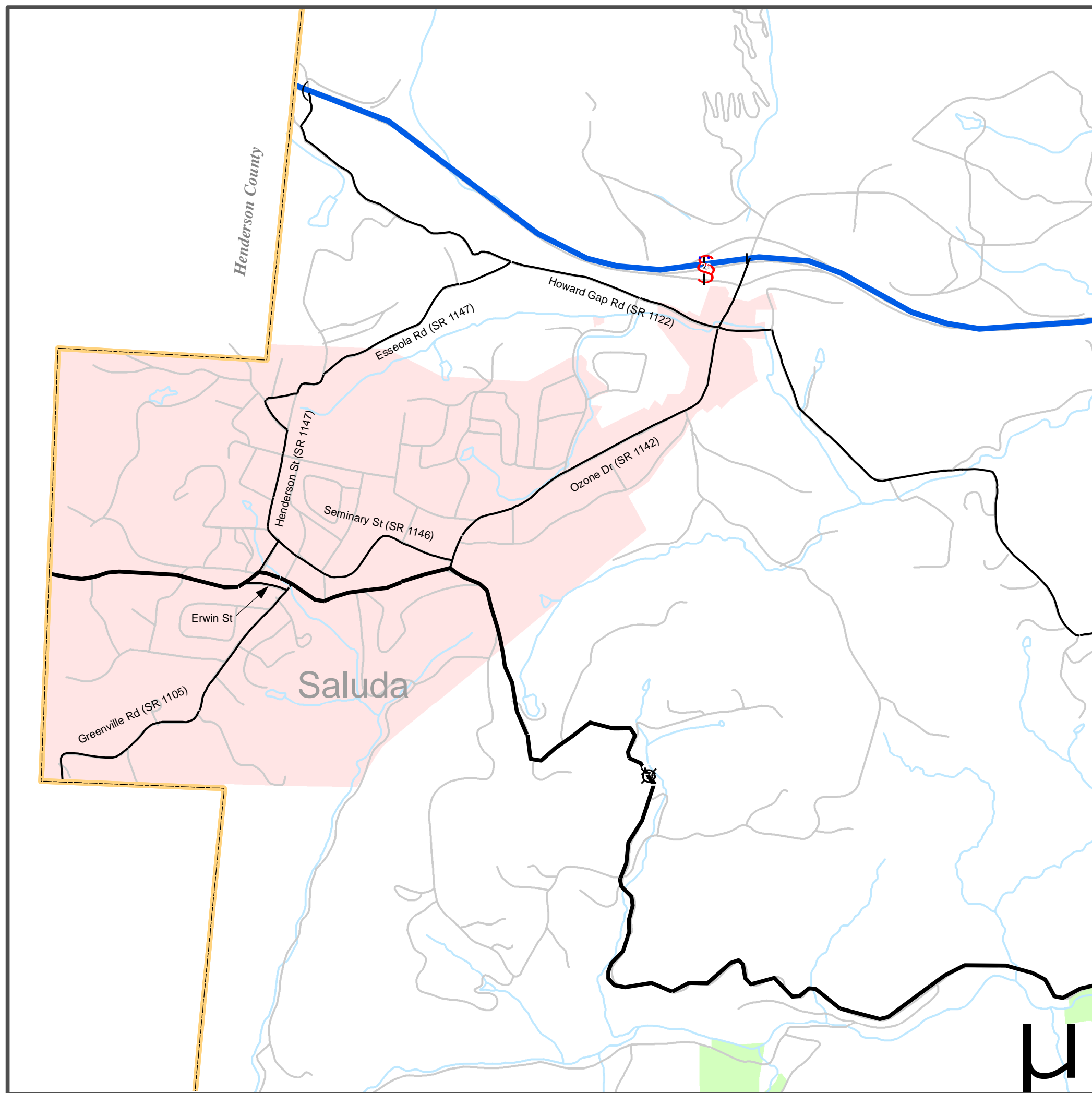
- Freeways**
  - Existing
  - Needs Improvement
  - Recommended
- Expressways**
  - Existing
  - Needs Improvement
  - Recommended
- Boulevards**
  - Existing
  - Needs Improvement
  - Recommended
- Other Major Thoroughfares**
  - Existing
  - Needs Improvement
  - Recommended
- Minor Thoroughfares**
  - Existing
  - Needs Improvement
  - Recommended
- Existing Interchange
- Proposed Interchange
- Existing Grade Separation
- Proposed Grade Separation



Sheet 2 of 5 - Inset Sheet B

Base map date: August 1, 2005

Refer to CTP document for more details





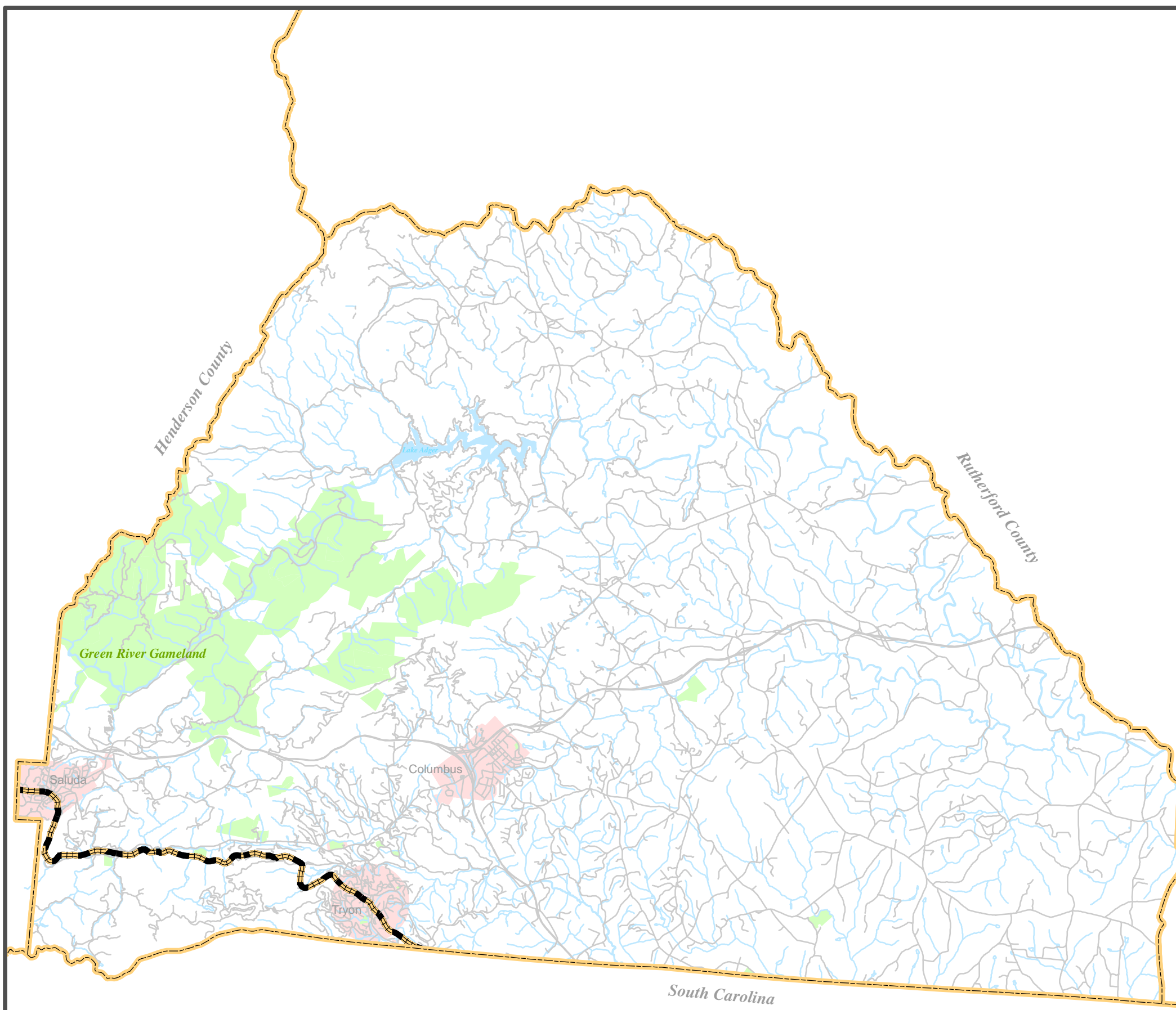


# Public Transportation and Rail Map



## Polk County Comprehensive Transportation Plan

Plan date: December 12, 2007



### Bus Routes

- Existing
- Needs Improvement
- Recommended

### Fixed Guideway

- Existing
- Needs Improvement
- Recommended

### Operational Strategies

- Existing
- Needs Improvement
- Recommended

### Rail Corridor

- Active
- Inactive
- Recommended

### High Speed Rail Corridor

- Existing
- Recommended

### Rail Stops

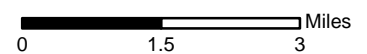
- Existing
- Recommended

### Intermodal Connector

- Existing
- Recommended

### Park and Ride Lot

- Existing
- Recommended



Sheet 3 of 5

Base map date: August 1, 2005

Refer to CTP document for more details





# Bicycle Map

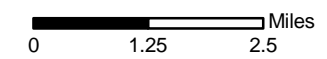


## Polk County Comprehensive Transportation Plan

Plan date: December 12, 2007

- On-road**
- Existing
  - Needs Improvement
  - Recommended
- Off-road**
- Existing
  - Needs Improvement
  - Recommended

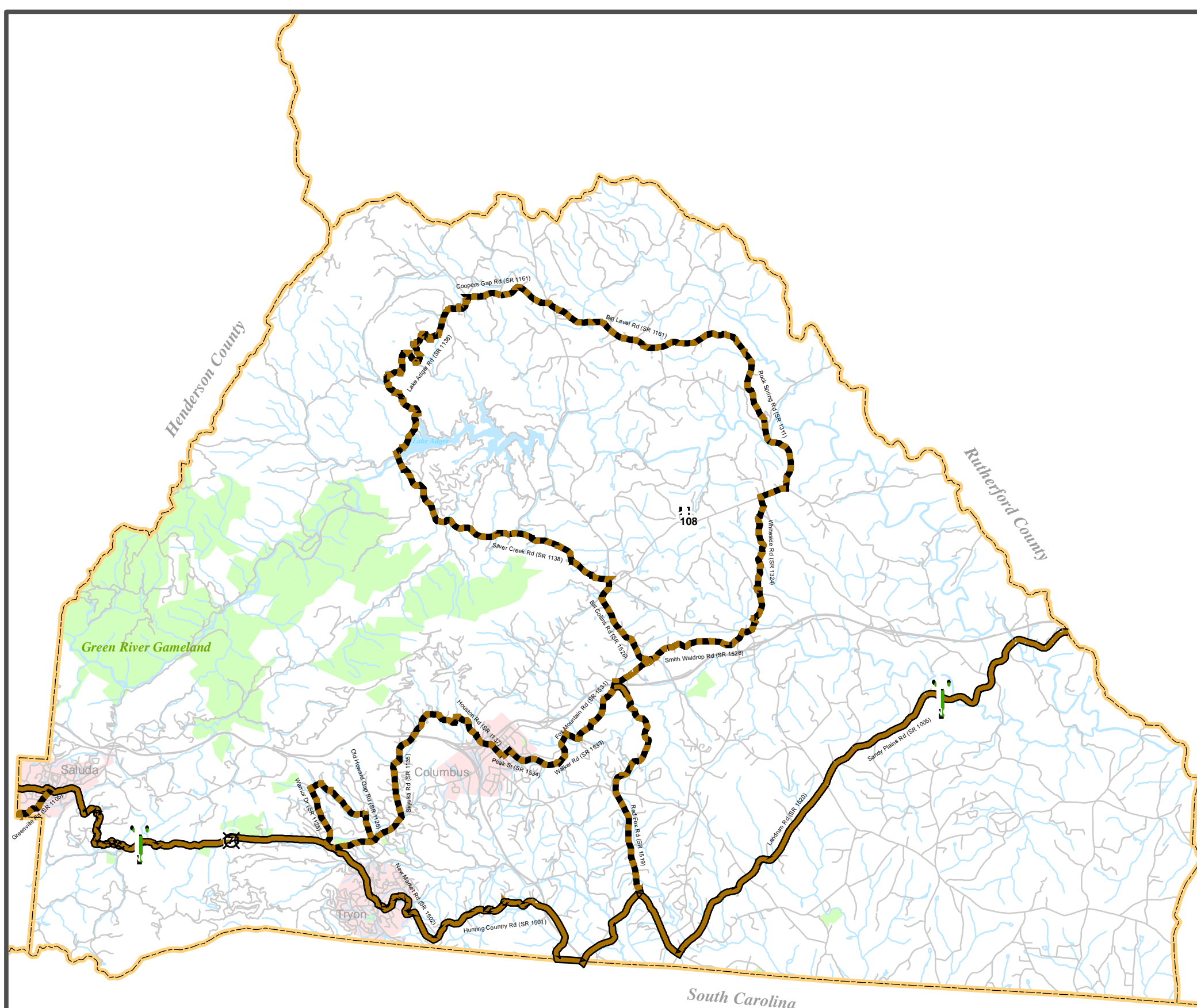
- Existing Grade Separation
- Proposed Grade Separation



Sheet 4 of 5

Base map date: August 1, 2005

Refer to CTP document for more details





## II. Recommendations

One of the most important steps in identifying the transportation recommendations associated with the CTP is making an assessment of the transportation needs. This assessment helps identify what actions should be pursued and the implications involved if a project is not implemented. The problem statements resulting from this assessment help to justify recommended actions and help to define practical alternatives. This chapter presents the recommended improvements and associated problem statements resulting from the transportation needs assessment conducted during the development of the CTP for Polk County. These improvements are needed to enable the transportation system in Polk County to serve anticipated travel demand as this area continues to grow. Some recommendations will require further study to ensure that they accommodate the need, minimize environmental impacts, and are feasible.

### Highway Map

The Highway Map for Polk County is shown in Figure 2 – Sheet 2. This map classifies the major highways into five categories, based on the type of service each roadway provides. The classifications – freeways, expressways, boulevards, other major thoroughfares, and minor thoroughfares – are described in detail in Appendix A. The recommended improvements are also inventoried in Appendix B.

The highway map includes several improvements needed to meet future travel demand. These improvements were developed based on the needs assessment, the goals and objectives of the area, and the known environmental limitations of the planning area.

### Recommended Highway Projects:

#### **NC 108**

- **Summary of need**  
There is a need to improve NC 108 between Columbus and Tryon to accommodate projected traffic volumes and to relieve anticipated congestion along this facility.
- **Summary of Purpose**  
Improving NC 108 between Columbus and Tryon should enable the roadway to better accommodate projected traffic volumes by providing additional roadway capacity.

- **Roadway Conditions**

- Existing Characteristics

- NC 108 is a mostly two-lane roadway, which begins at US 176 in Tryon, bisects Columbus and runs southwest-to-northeast through Polk County, connecting to US 221 in Rutherford County. NC 108 intersects with I-26 near Columbus and carries traffic to and from this facility. It connects the towns of Columbus, Tryon and Rutherfordton. Many residents of Columbus travel south on NC 108 to US 176 and to Landrum, SC. Tryon residents travel north to Columbus for work and shopping. It has some sections with three or four lanes. The speed limit along the facility is 35-45 miles per hour (mph) between Tryon and Columbus and 45-55 mph north of Columbus. The roadway serves both commercial and industrial traffic in the planning area.

- Existing Conditions

- The current capacity of this road is 8,000 – 12,000 vehicles per day (vpd). 2003 average annual daily traffic (AADT) along the facility ranges from 8,500 vpd just north of Tryon to 11,000 vpd inside Columbus to 13,000 vpd on sections between Tryon and Columbus. The existence of many driveways accessing NC 108 at various points is a factor that contributes to reducing the roadway capacity.

- Projected Conditions

- Population growth and residential development in the county is expected to increase 2030 traffic volumes along NC 108 to 12,000 - 16,000 vpd. Without any improvements, the level of service by the year 2030 will deteriorate as traffic is expected to continue to grow.

- **Safety Issues**

- For the period from January 1, 2003 to December 31, 2005 there were more than 120 crashes reported along NC 108. If no improvements are made to NC 108, the increase in congestion will create the potential for even more traffic crashes. The widening of this facility will provide increased capacity and greater maneuverability resulting in safer driving conditions.

- **Relationship to Other Plans**

- The 1996 Thoroughfare Plan for the Towns of Columbus and Tryon identified the need to widen NC 108 to a four-lane facility, but this recommendation received countywide opposition. A feasibility study addressing proposed improvements to the I-26/US 74/ NC 108 interchange has been completed, and recommendations were made to replace the existing interchange with a new structure and configuration. This project, I-4729, is unfunded in the 2009-2015 Transportation Improvement Program (TIP).

- **Project Recommendation:**

- Since this is a NC route, the NCDOT has a vested interest in maintaining it. The ultimate recommendation for this facility is upgrading the section from US 74 to US 176 to a four lane divided section. In the interim several options

exist for improving the route until a major widening is needed. These options include adding turn lanes, adding a center turn lane, access management, widening shoulders, and signal timing improvements. All of these options should be considered before implementing a major widening.

## **US 176**

- **Summary of need**

There is a need to improve US 176 between NC 108 and the South Carolina state line to accommodate projected traffic volumes and to relieve anticipated congestion along this facility

- **Summary of Purpose**

Improving US 176 between NC 108 and the South Carolina state line should enable the roadway to better accommodate projected traffic volumes by providing additional roadway capacity.

- **Roadway Conditions**

Existing Characteristics

US 176 begins in Henderson County and runs through Polk County ending in South Carolina. The section in Polk County is mostly a rural two lane facility. This facility is used by Polk County residents to travel to Landrum, SC. The speed limit along the facility through downtown Tryon is 25-35 mph. The roadway serves both commercial and industrial traffic in the planning area.

Existing Conditions

2003 AADT along existing US 176 in downtown Tryon is 9,300 vpd. The current capacity is 9,300 – 11,600 vpd.

Projected Conditions

Projected traffic along existing US 176 in downtown Tryon is 12,000 vpd. Without any improvements, the level of service by the year 2030 will deteriorate as traffic is expected to continue to grow.

- **Safety Issues**

For the period from January 1, 2003 to December 31, 2005 there were 24 crashes reported along US 176 in Polk County. If no improvements are made to US 176, the increase in congestion will create the potential for even more traffic crashes. The widening of this facility will provide increased capacity and greater maneuverability resulting in safer driving conditions.

- **Relationship to Other Plans**

The 1996 Thoroughfare Plan for the Towns of Columbus and Tryon identified the need to widen US 176 to a four-lane facility, but this recommendation received countywide opposition. Other options such as eliminating on street parking, building a bypass, and creation of a one-way pair were also considered in the 1996 Thoroughfare Plan.

- **Project Recommendation:**

Since this is an US route, the NCDOT has a vested interest in maintaining it. The ultimate recommendation for this facility is upgrading the section from NC 108 to the South Carolina State line to a four lane divided section. In the interim several options exists for improving the route until a major widening is needed. These options include adding turn lanes, adding a center turn lane, removing parking, studying a one-way pair option, access management, widening shoulders, and signal timing improvements. All of these options should be considered before implementing a major widening.

**Minor Widening Improvements**

For driver convenience, ease of operation, and safety, it would be desirable to widen all existing roads and highways to provide a minimum lane width of 12 feet. However, when considering overall statewide needs and available highway revenues, implementation of this standard statewide would be impractical. Therefore, to develop economically feasible recommendations, it is necessary to establish minimum tolerable widths for existing roadways, based on functional classification and projected traffic volumes. The following table presents the minimum lane widths used in this analysis:

**Table 1 - Minimum Tolerable Lane Widths**

	<b>US &amp; NC Routes (Minor Arterial or Collector)</b>	<b>Other Collectors</b>	<b>Routes that are not functionally classified</b>
Less than 2,000 vpd	10 feet	10 feet	9 feet
2,000 to 5,000 vpd	12 feet	11 feet	10 feet
Over 5,000 vpd	12 feet	12 feet	–

It is recommended to widen the lane widths following minor arterials. Future traffic on these roadways is expected to exceed 2,000 vpd.

- SR 1005 (Sandy Plains Rd)** - widen from 10' to 11'
- SR 1137 (Houston Rd)** - widen from 10' to 11'
- SR 1138 (Lake Adger Rd)** - widen from 10' to 11'
- SR 1138 (Silver Creek Rd)** - widen from 10' to 11'
- SR 1161 (Coopers Gap Rd)** - widen from 10' to 11'
- SR 1343 (Chesnee Rd)** - widen from 10' to 11'
- SR 1519 (Red Fox Rd)** - widen from 10' to 11'
- SR 1520 (Landrum Rd)** - widen from 10' to 11'
- SR 1521 (Peniel Rd)** - widen from 10' to 11'
- SR 1525 (Henderson Rd)** - widen from 10' to 11'
- SR 1525 (Hugh Champion Rd)** - widen from 10' to 11'



## **Other Recommendations Considered But Not Adopted:**

During the needs assessment that leads to the development of CTP recommendations, several different alternative solutions to problems are often considered. On particularly large or complex projects, it is often useful to examine and document many different alternatives—this information can be used to develop consensus around a preferred alternative, and can provide valuable information for the project development (NEPA) process. In Polk County, one alternative was studied to improve travel along the NC 108 and US 176. This alternative received major opposition from county leaders and the public. This alternative is discussed in detail below.

### **Columbus – Tryon Boulevard**

- **Summary of need**

Since a major widening of NC 108 between Columbus and received some opposition, another alternative was studied in order to accommodate projected traffic volumes along NC 108 and US 176.

- **Summary of Purpose**

Building a new boulevard facility between Columbus and Tryon would alleviate part of the projected traffic volumes on NC 108 and US 176 in downtown Tryon by redirecting through traffic on a different road.

- **Roadway Conditions**

Existing Characteristics

NC 108 is a mostly two-lane roadway, which begins at US 176 in Tryon, bisects Columbus and runs southwest-to-northeast through Polk County, connecting to US 221 in Rutherford County. NC 108 intersects with I-26 near Columbus and carries traffic to and from this facility. It connects the towns of Columbus, Tryon and Rutherfordton. Many residents of Columbus travel south on NC 108 to US 176 and to Landrum, SC. Tryon residents travel north to Columbus for work and shopping. It has sections with three or four lanes. The speed limit along the facility is 35-45 mph between Columbus and Tryon and 45-55 mph north of Columbus. The roadway serves both commercial and industrial traffic in the planning area.

Existing Conditions

2003 AADT along existing NC 108 ranges from 8,500 vpd just north of Tryon to 11,000 vpd inside Columbus to 13,000 vpd on some sections in between Tryon and Columbus. The current capacity of NC 108 is 8,000 – 12,000 vpd. 2003 AADT along existing US 176 in downtown Tryon is 9,300 vpd. The current capacity is 9,300 – 11,600 vpd.

Projected Conditions

Projected traffic along existing NC 108 is expected to reach 12,000 - 16,000 vpd in 2030. Projected traffic along existing US 176 in downtown Tryon is 12,000 vpd. Assuming that the boulevard is built, it is expected to

divert between 35% to 40% of traffic or 5,500 to 6,500 vpd, thus bringing traffic volumes on NC 108 and US 176 within operational capacity levels. Those percentages were calculated during through trip analysis for the major county arterials.

- **Safety Issues**

The Columbus-Tryon Boulevard will remove some of the current and projected traffic from NC 108 thus reducing the potential for crashes. The stopping, starting, and turning movements from area businesses and housing all contribute to more dangerous driving conditions. It can be assumed that there will be a reduction of tractor-trailer trucks along the existing downtown roadways once this facility is completed.

- **Relationship to other plans**

The proposed facility is a new recommendation. This project is not funded or included in the 2009-2015 TIP.

- **Project Recommendation:**

It is recommended that a two-lane divided facility with partial control of access be constructed on the southeast side of Columbus and Tryon after all other improvement options for NC 108 and US 176, outside of a major widening, have been exhausted. This new facility is intended to relieve expected traffic congestion on the NC 108 corridor between Columbus and Tryon and on US 176 in downtown Tryon. The project limits combine for a total of approximately 5.5 miles with an estimated cost of \$30 million.

## **Public Transportation and Rail Map**

The Public Transportation and Rail Map for Polk County is presented in Figure 2 – Sheet 3. There are no fixed transit routes in Polk County. There is, however, an inactive rail corridor owned by Norfolk Southern. The line runs from Asheville, NC to Spartanburg, SC with a 10.5-mile section between mileposts 31.5 and 42.0 in Polk County. At the present time, Norfolk Southern does not operate trains on this line between mileposts 26 and 45. This section includes the “Saluda Grade” segment, which poses safety concerns due to it being the steepest railroad grade in the country. Current train traffic is being routed from Asheville east to Statesville and then southwest to Spartanburg, SC. Norfolk Southern states that it has no current plans to reopen the “Saluda Grade” line in near future.

## **Bicycle Map**

The Bicycle Map for Polk County is presented in Figure 2 – Sheet 4. It includes several improvements needed to provide adequate, safe, and desirable facilities for use by bicyclists. While there are no safety standards for bike lanes, facilities and improvements for the benefit of bicyclists come in many forms, each of them best suited to certain situations.

It should be noted that the recommended improvements for on-road bicycle facilities can include a wide array of potential solutions. These improvements could range from minor projects, such as installing “Share the Road” signs or adding some extra pavement in blind curves, to major improvements, such as constructing bicycle lanes or wide shoulders.

NC Bicycle Route #8 (Southern Highlands) is the only officially state designated on-road bicycle route in Polk County. It begins at the county line west of Saluda and follows US 176 east to New Market Rd (SR 1502) in Tryon. There it continues east along New Market Rd (SR 1502), Hunting Country Rd (SR 1501), Red Fox Rd (SR 1519), Landrum Rd (SR 1520) and exits Polk County following Sandy Plains Rd (SR 1005).

These recommendations were developed based on comments received from the public. Several roadways that were noted by local officials and citizens as popular bicycling routes are shown to be in need of on-road improvements. The NCDOT envisions that all citizens of North Carolina and visitors to the state should be able to walk and bicycle safely and conveniently to their chosen destinations with reasonable access to roadways. Information on events, funding, maps, policies, projects, and processes dealing with these modes of transportation is available by contacting the NCDOT Division of Bicycle and Pedestrian Transportation. Contact information is listed in Appendix E.

### **North Polk Loop**

The proposed bicycle route called North Polk Loop follows several state roads and is a preferred bicycle route by local cyclists. Following are roads that form the loop and recommendations for improvement:

- Add wide paved shoulders on Silver Creek Rd (SR 1138) from NC 108 to Lake Adger Rd (SR 1138)
- Add wide paved shoulders on Lake Adger Rd (SR 1138) from Silver Creek Rd (SR 1138) to Coopers Gap Rd (SR 1161)
- Add wide paved shoulders on Coopers Gap Rd (SR 1161) from Lake Adger Rd (SR 1138) to NC 9
- Add wide paved shoulders on Rock Spring Rd (SR 1311) from NC 9 to NC 108
- Add wide paved shoulders on Whiteside Rd (SR 1324) from NC 108 to NC 9

- Add wide paved shoulders on Smith Waldrop Rd (SR 1528) from NC 9 to Bill Collins Rd (SR 1526)
- Add wide paved shoulders on Bill Collins Rd (SR 1526) from Smith Waldrop Rd (SR 1528) to Fox Mountain Rd (SR 1531)

### **South Polk Loop**

The proposed bicycle route called South Polk Loop follows several state roads and is a preferred bicycle route by local cyclists. Roads that form the loop and recommended improvements include:

- Add wide paved shoulders on Smith Waldrop Rd (SR 1528) from Bill Collins Rd (SR 1526) to Fox Mountain Rd (SR 1531)
- Add wide paved shoulders on Fox Mountain Rd (SR 1531) from Smith Waldrop Rd (SR 1528) to Walker Rd (SR 1533)
- Add wide paved shoulders on Walker Rd (SR 1533) from Fox Mountain Rd (SR 1531) to Peak St (SR 1534)
- Add wide paved shoulders on Peak St (SR 1534) from Walker Rd (SR 1533) to Simms St
- Add wide paved shoulders on Houston Rd (SR 1137) from NC 108 to Skyuka Rd (SR 1135)
- Add wide paved shoulders on Skyuka Rd (SR 1135) from Houston Rd (SR 1137) to NC 108
- Add wide paved shoulders on NC 108 from Skyuka Rd (SR 1135) to Old Howard Gap Rd (SR 1128)
- Add wide paved shoulders on Old Howard Gap Rd (SR 1128) from NC 108 to Warrior Dr (SR 1125)
- Add wide paved shoulders on Warrior Dr (SR 1125) from Old Howard Gap Rd (SR 1128) to US 176

### **Greenville Rd**

- Add wide paved shoulders on Greenville Rd (SR 1105) from US 176 to the Henderson County Line

### III. Population, Land Use and Roadway System

In order to fulfill the objectives of an adequate twenty-five year transportation plan, reliable forecasts of future travel patterns must be achieved. Such forecasts depend on careful analysis of the following items: historic and potential population changes; significant economic trends; character and intensity of land development; and the ability of the existing transportation system to meet existing and future travel demand. Secondary items that influence forecasts include the effects of legal controls such as zoning ordinances and subdivision regulations, availability of public utilities and transportation facilities, and topographic and other physical features of the planning area.

#### **Population**

Since the volume of traffic on a roadway is related to the size and distribution of the population that it serves, population data is used to aid in the development of the transportation plan. Future population estimates typically rely on the observance of past population trends and counts.

The base year population in this analysis was based on the 2000 Census. For population projection purposes the planning area was divided into 6 subareas based on the existing township limits. The townships are Coopers Gap, White Oak, Tryon, Saluda, Columbus and Green Creek. Based upon past growth trends and building permits, an average growth rate of 2.4% per year was established in coordination with local staff. According to the 2000 Census, the population for Polk County was 18,324. Using the established growth rate the population for year 2003 was estimated to be 18,764. A population of 30,833 for the design year (2030) was estimated using the same growth rate percentage. The projected county population for years 2010, 2020 and 2030 were approved for use in this study by the Polk County CTP Working Group, which was comprised of local officials.

Table 2 represents the percent change in population per subarea as well as a total for the entire county. Based on anticipated economic and housing development, each subarea differed in percentage growth. Each subarea had different growth rates for the different time periods starting in year 1970 and ending in year 2030. Table 3 shows the absolute population growth per decade per subarea for the past (1970 – 2000) and the projections for the future (2000-2030). Projections made by the State Demographer's Office are listed on the bottom of the two tables for comparison.

**Table 2 - Percentage Population Growth**

Township	1970	growth	1980	growth	1990	growth	2000	growth	2010	growth	2020	growth	2030
Green Creek	1,837	17.0%	2,150	13.9%	2,448	22.3%	2,994	20.0%	3,593	22.0%	4,383	20.0%	5,260
White Oak	1,307	7.2%	1,401	9.3%	1,531	33.8%	2,049	30.0%	2,664	33.0%	3,543	26.0%	4,464
Coopers Gap	983	25.7%	1,236	10.4%	1,364	38.0%	1,882	32.0%	2,484	36.0%	3,378	28.0%	4,324
Tryon	3,850	-3.6%	3,712	-2.2%	3,630	5.0%	3,811	9.0%	4,154	12.0%	4,653	12.0%	5,212
Columbus	2,666	21.6%	3,241	23.2%	3,992	43.3%	5,719	18.0%	6,748	16.0%	7,829	14.0%	8,924
Saluda	1,092	13.9%	1,244	16.6%	1,451	28.8%	1,869	12.0%	2,093	13.0%	2,365	12.0%	2,649
<b>Total</b>	<b>11,735</b>	<b>10.6%</b>	<b>12,984</b>	<b>11.0%</b>	<b>14,416</b>	<b>27.1%</b>	<b>18,324</b>	<b>18.6%</b>	<b>21,736</b>	<b>20.3%</b>	<b>26,151</b>	<b>17.9%</b>	<b>30,833</b>
State Demographer's Projections							<b>2000</b>	<b>growth</b>	<b>2010</b>	<b>growth</b>	<b>2020</b>	<b>growth</b>	<b>2030</b>
							15758	30.0%	20,486	14.0%	23,344	12.1%	26,166
							1990 release		2000 release		2000 release		2000 release

**Table 3 - Absolute Population Growth**

Township	1970	growth	1980	growth	1990	growth	2000	growth	2010	growth	2020	growth	2030
Green Creek	1,837	313	2,150	298	2,448	546	2,994	599	3,593	790	4,383	877	5,260
White Oak	1,307	94	1,401	130	1,531	518	2,049	615	2,664	879	3,543	921	4,464
Coopers Gap	983	253	1,236	128	1,364	518	1,882	602	2,484	894	3,378	946	4,324
Tryon	3,850	(138)	3,712	(82)	3,630	181	3,811	343	4,154	499	4,653	559	5,212
Columbus	2,666	575	3,241	751	3,992	1,727	5,719	1,029	6,748	1,081	7,829	1,095	8,924
Saluda	1,092	152	1,244	207	1,451	418	1,869	224	2,093	272	2,365	284	2,649
<b>Total</b>	<b>11,735</b>	<b>1,249</b>	<b>12,984</b>	<b>1,432</b>	<b>14,416</b>	<b>3,908</b>	<b>18,324</b>	<b>3,412</b>	<b>21,736</b>	<b>4,415</b>	<b>26,151</b>	<b>4,682</b>	<b>30,833</b>
State Demographer's Projections							<b>2000</b>	<b>growth</b>	<b>2010</b>	<b>growth</b>	<b>2020</b>	<b>growth</b>	<b>2030</b>
							15758	4,728	20,486	2,858	23,344	2,822	26,166
							1990 release		2000 release		2000 release		2000 release

## Land Use

Land use refers to the physical development patterns within an area. The demand for trips on a particular transportation facility is related to the land uses adjacent to and connected by the facility. The intensity of the land use adjacent to a transportation facility affects the volume of traffic. For example, a shopping center generates higher volumes of traffic than a similarly sized low-density residential area. The spatial distribution of varying land uses is the primary determinant of when, where, and why congestion occurs. Different land use types have different travel patterns associated with them, based on such factors as the proximity of other land uses and the time of day. For this study, land use has been divided into the following categories:










- Residential – All land that is used for housing, excluding hotels and motels (expressed in terms of the number of households). This is further broken into categories based on the number of persons per household, children per household, and workers per household.
- Commercial/Industrial/Institutional – All land that is used by any type of business, government, or non-profit organization (expressed in terms of the number of employees). This is further broken into the following categories:
  - Highway Retail – retail businesses that are auto-oriented (often along major highways), such as gas stations and restaurants.
  - Retail – all retail businesses that are not categorized as Highway Retail, such as general merchandise stores and specialty stores.
  - Service – businesses or institutions that provide services rather than goods, such as medical offices and schools.
  - Office – businesses or institutions that are primarily administrative, and have less customer interface, such as financial institutions, insurance offices, and government agencies.
  - Industrial – businesses that produce or handle goods, such as manufacturing plants, trucking firms, construction companies, and farms.

Projections of future land use for this study were based on the Polk County Land Use Plan. Figure 3 shows the future land use map for Polk County. Currently most residential, commercial, and industrial development in the county is centered around the municipalities. The county is expecting growth to occur mainly along the US 176, NC 108 and NC 9 corridors.











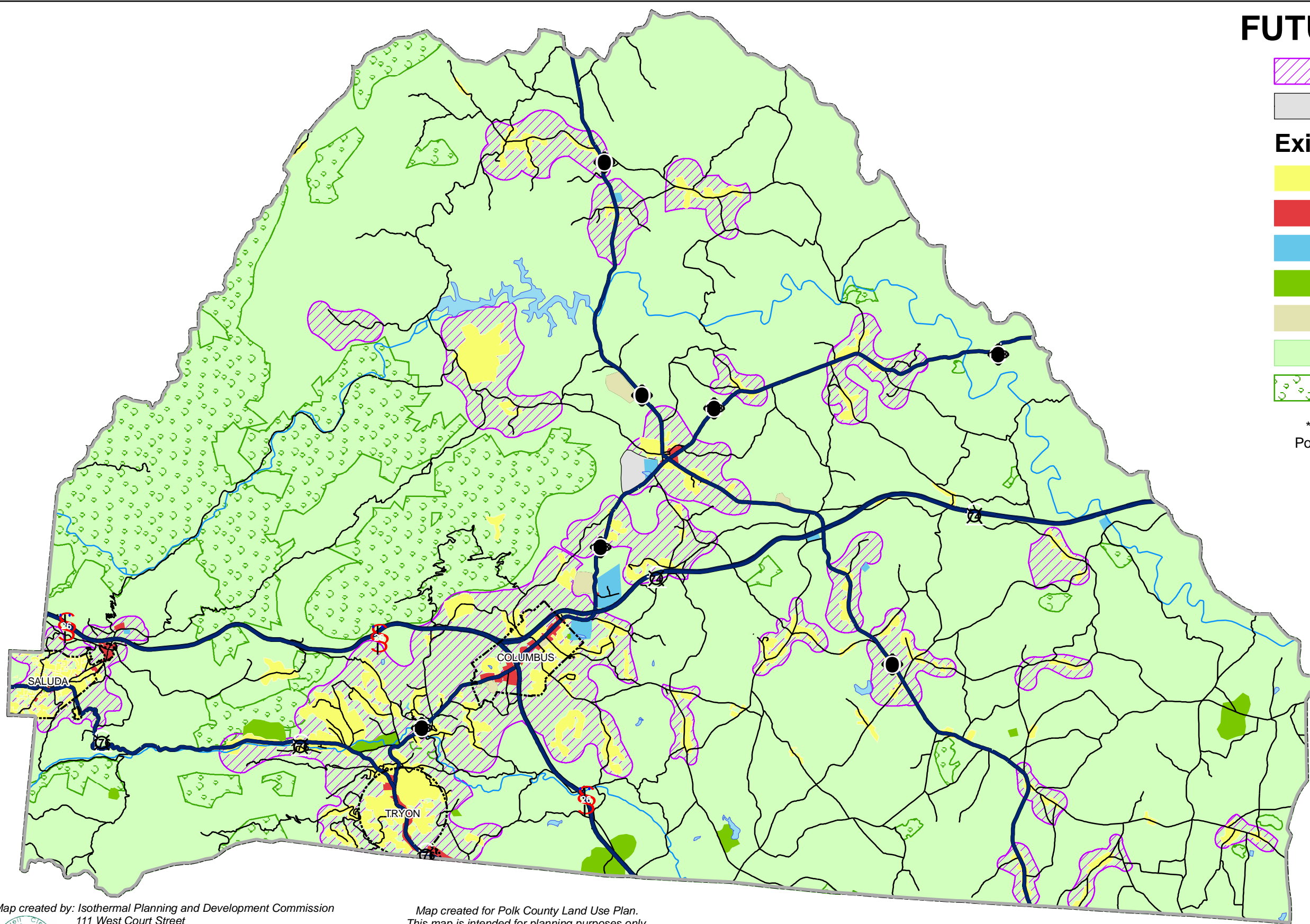
# FUTURE LAND USE\*

-  Expected Growth Areas
  -  Institutional
- Existing Land Use**
-  Residential
  -  Commercial
  -  Industrial
  -  Recreation
  -  Institutional
  -  Rural
  -  Conserved Land

\* Rural Land Use Code includes Polk County Farmland Preservation Agricultural lands.

## Legend

-  County Boundary
-  Municipalities
-  Primary Roads
-  Major Roads
-  Water Bodies
-  Major Rivers



Map created by: Isothermal Planning and Development Commission  
 111 West Court Street  
 P.O. Box 841  
 Rutherfordton, NC 28139  
 (828) 287-2281



"serving Cleveland, McDowell, Polk and Rutherford Counties"

Map created for Polk County Land Use Plan.  
 This map is intended for planning purposes only,  
 and is a general representation of potential land  
 use patterns. Data is provided by Polk County  
 and IPDC.  
 9-9-2004





## **Roadway System**

An important step in the development of a CTP is the analysis of the existing roadway system and its ability to serve the travel needs of the planning area. Emphasis is placed not only on detecting the existing deficiencies, but also on understanding the causes of these deficiencies. Travel deficiencies may be localized, resulting from problems with inadequate pavement width, intersection geometry, or intersection controls. Travel deficiencies may also result from system problems, such as the need for construction of missing travel links, bypass routes, loop facilities, or radial facilities.

An analysis of the roadway system looks at both current and future travel patterns and identifies existing and anticipated deficiencies. This is usually accomplished through a vehicle collision analysis, roadway capacity analysis, and system deficiency analysis. This information, along with population growth, economic development potential, and land use trends, is used to analyze the future transportation system and develop recommendations for system improvements.

### **Vehicle Crash Analysis**

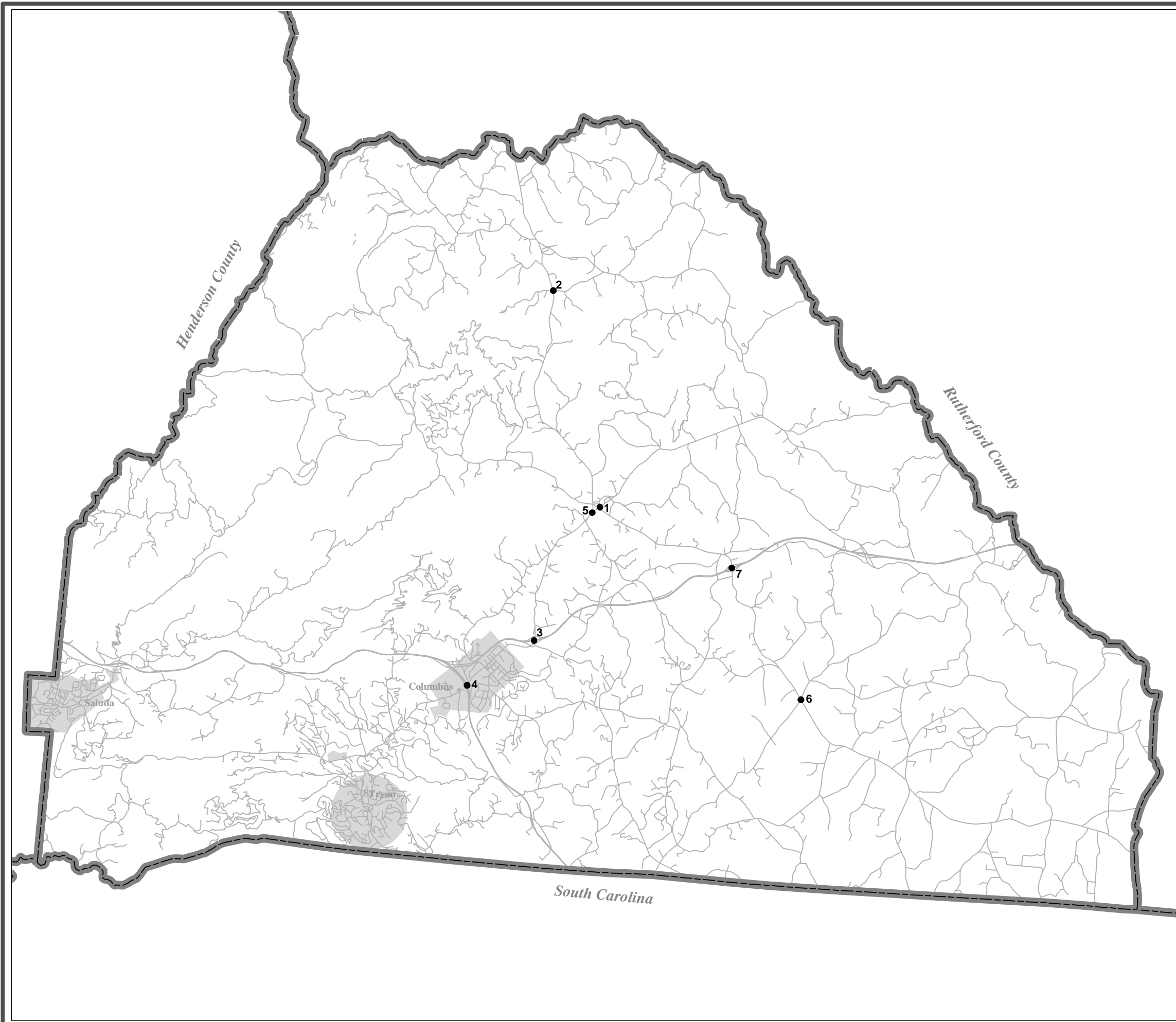
Vehicle crashes are often used as an indicator for locating congestion and roadway problems. While often the result of driver error or vehicle performance, collisions may also be associated with the physical characteristics of a roadway. Roadway conditions and obstructions, traffic conditions, and weather conditions may all contribute to the occurrence of a collision. While some collisions are the fault of the driver, others may be prevented with physical design or traffic control changes, such as the installation of stop signs or traffic signals.

Crash data for the period from January 1, 2003 to December 31, 2005 was studied as part of the development of this report. This analysis involved the evaluation of high-crash intersections (intersections with five or more crashes during the analysis period). Table 4 lists the high-crash intersections in Polk County. Figure 4 shows the locations of these high-crash intersections. The NCDOT is actively involved with investigating and improving many of these locations. To request a more detailed analysis of any of the locations listed in the tables, or other areas of concern, please contact the Division Traffic Engineer. Contact information for the Division Traffic Engineer is included in Appendix E.

**Table 4 - High Crash Intersections**

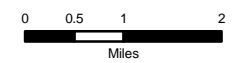
<b>Map Index</b>	<b>Intersection</b>	<b>Total Collisions</b>
1	NC 9 & NC 108	16
2	NC 9 & McGuinn Rd (SR1159)	8
3	US 74 & NC 108	8
4	I-26 & NC 108	7
5	NC 108 & Post Office Rd (SR 1166)	5
6	NC 9 & Landrum Rd (SR 1520)	5
7	US 74 & NC 9	5

**FIGURE 4**  
**CRASH LOCATIONS**  
**Polk County**  
North Carolina



**Legend**

- County Boundary
- Municipalities
- Roads
- High Crash Intersections



Base map date: February 2006  
Refer to CTP document for more details





## Roadway Capacity Deficiencies

Capacity deficiencies occur wherever the travel demand on a roadway is close to or higher than the vehicle capacity of that roadway. The travel demand is expressed in terms of the number of vehicles that choose to use a particular roadway on the way to their destination. The existing travel demand on roadways in Polk County is based on traffic count data taken annually by the NCDOT Traffic Survey Group. The projected 2030 travel demand is based on anticipated population growth and land use patterns.

Capacity is the theoretical maximum number of vehicles that can travel over a given section of roadway during a given period of time, under prevailing roadway and traffic conditions, while still maintaining a level of service that is acceptable to drivers. Many factors contribute to the capacity of a roadway, including:

- Roadway geometry, including number of lanes, horizontal and vertical alignment, and proximity of perceived obstructions to safe travel along the road
- Typical roadway users, such as commuters, recreational travelers, and commercial vehicles
- Control of access to streets and driveways along the road (or lack thereof)
- Development adjacent to the road, including residential, commercial, and industrial land uses
- Number of traffic signals along the roadway
- Peaking characteristics of traffic along the roadway (i.e. a spike in traffic at rush hour versus relatively constant traffic all day)
- Characteristics of intersecting roads along a facility
- Directional split of traffic along the roadway, or the percent of vehicles traveling in each direction at a given time of day

The relationship of travel demand to roadway capacity determines the level of service (LOS) of a roadway. Six distinct levels of service are possible, with letter designations ranging from LOS A, which represents the best operating conditions, to LOS F, which represents the worst operating conditions. LOS D indicates “practical capacity” of a roadway, or the capacity at which the public begins to express dissatisfaction. The six levels of service are described below and illustrated in Figure 5.

- LOS A: Describes primarily free flow conditions. The motorist experiences a high level of physical and psychological comfort. The effects of minor incidents of breakdown are easily absorbed. Even at the maximum density, the average spacing between vehicles is about 528 ft, or 26 car lengths.

- LOS B: Represents reasonably free flow conditions. The ability to maneuver within the traffic stream is only slightly restricted. The lowest average spacing between vehicles is about 330 ft, or 18 car lengths.
- LOS C: Provides for stable operations, but flows approach the range in which small increases will cause substantial deterioration in service. Freedom to maneuver is noticeably restricted. Minor incidents may still be absorbed, but the local decline in service will be great. Queues may be expected to form behind any significant blockage. Minimum average spacing is in the range of 220 ft, or 11 car lengths.
- LOS D: Borders on unstable flow. Density begins to deteriorate somewhat more quickly with increasing flow. Small increases in flow can cause substantial deterioration in service. Freedom to maneuver is severely limited, and the driver experiences drastically reduced comfort levels. Minor incidents can be expected to create substantial queuing. At the limit, vehicles are spaced at about 165 ft, or 9 car lengths.
- LOS E: Describes operation at capacity. Operations at this level are extremely unstable, because there are virtually no usable gaps in the traffic stream. Any disruption to the traffic stream, such as a vehicle entering from a ramp, or changing lanes, requires the following vehicles to give way to admit the vehicle. This can establish a disruption wave that propagates through the upstream traffic flow. At capacity, the traffic stream has no ability to dissipate any disruption. Any incident can be expected to produce a serious breakdown with extensive queuing. Vehicles are spaced at approximately 6 car lengths, leaving little room to maneuver.
- LOS F: Describes forced or breakdown flow. Such conditions generally exist within queues forming behind breakdown points.

Design requirements for roadways vary according to the desired capacity and level of service. Recommended improvements and overall design of the transportation plan were based upon achieving a minimum LOS D on existing facilities and a LOS C on new facilities.



**Level of Service A**



**Driver Comfort:** High

**Maximum Density:**

12 passenger cars per mile per lane

**Level of Service B**



**Driver Comfort:** High

**Maximum Density:**

20 passenger cars per mile per lane

**Level of Service C**



**Driver Comfort:** Some Tension

**Maximum Density:**

30 passenger cars per mile per lane

**Level of Service D**



**Driver Comfort:** Poor

**Maximum Density:**

42 passenger cars per mile per lane

**Level of Service E**



**Driver Comfort:** Extremely Poor

**Maximum Density:**

67 passenger cars per mile per lane

**Level of Service F**



**Driver Comfort:** The lowest

**Maximum Density:**

More than 67 passenger cars per mile per lane

Source: 2000 Highway Capacity Manual

**Figure 5 – Level of Service**



### **2003 Traffic Capacity Analysis**

In order to develop an efficient transportation plan for Polk County it was necessary to analyze the existing roadway system. A base year of 2003 was selected for analysis. The purpose of this analysis is to replicate the traffic conditions on the roadways, and by taking into account the population and land use of the study area determine capacity deficiencies at the end of the planning horizon. The study area for this plan was Polk County as a whole. The road network, which includes all major arterials and roads with more than 500 vehicles per day, was developed and current daily traffic volumes were compared to the practical capacity of these facilities. No existing capacity deficiencies were identified for the base year. Figure 6 shows the 2003 daily traffic volumes for Polk County.

### **2030 Traffic Capacity Analysis**

The capacity deficiency analysis for the 2030 horizon year was determined using the STEP UP (Simple Traffic Estimation Procedure Using Population) tool. The STEP UP tool analyzes the relationship between growth in population and traffic volume in an area. In particular, it isolates traffic growth due to growth in population in the study area and growth due to other factors, such as through traffic. In addition, supplied with population projections, the tool projects traffic into the future. The basic operations that the tool performs are:

- Completes linear projections based on historic AADT trends.
- Breaks down past traffic growth by a number of factors, including base-year volume, subarea, and time period.
- Makes traffic volume projections based on population projections and road capacity, using a model calibrated to the area's past population and traffic trends.

This analysis examined the existing roadway network and determined that a number of facilities in Polk County will exceed practical capacity by the horizon year. Table 5 presents the capacity deficiencies determined for the 2030 horizon year based upon this analysis. Figure 7 illustrates the projected 2030 daily traffic volumes on roadways in Polk County.

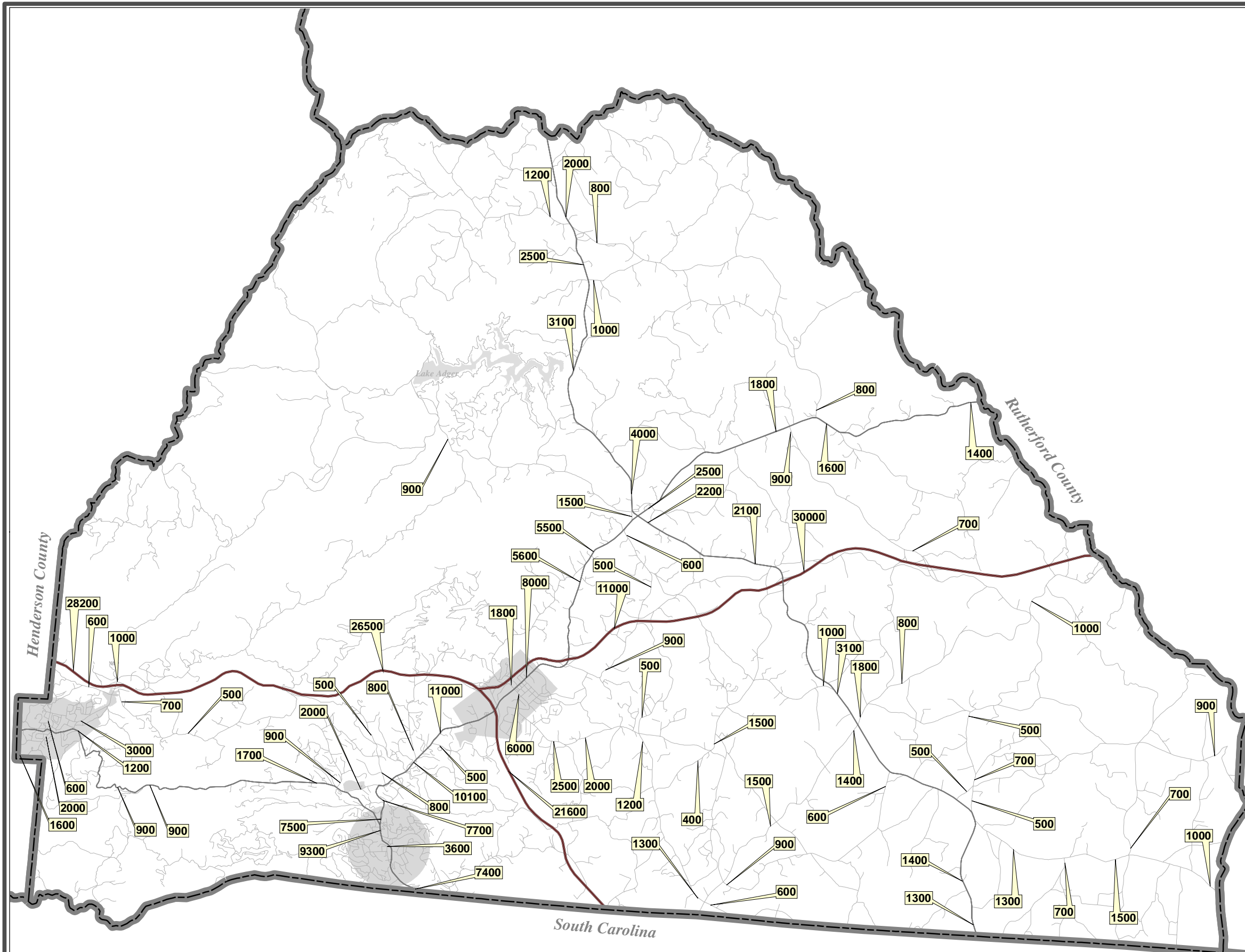
**Table 5 – Roadway Capacity Deficiencies**

<b>Roadway Section</b>	<b>Deficiency</b>
US 176 from South Carolina state line to NC 108 intersection in Tryon	Over Capacity
NC 108 from US 176 intersection in Tryon to Harmon Field Rd (SR 1121)	Over Capacity
NC 108 from Harmon Field Rd (SR 1121) to Howard Gap Rd (SR 1122)	Approaching Capacity
NC 108 from Old Howard Gap Rd (SR 1122) to Fox Mountain Rd (SR 1531) north of Columbus	Over Capacity

**FIGURE 6**

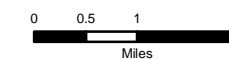
**2003 AADT**

**Polk County**  
North Carolina



**Legend**

- Streets and Highways
- County Boundary
- Bodies of Water
- Municipalities
- 0000** 2003 Annual Average Daily Traffic



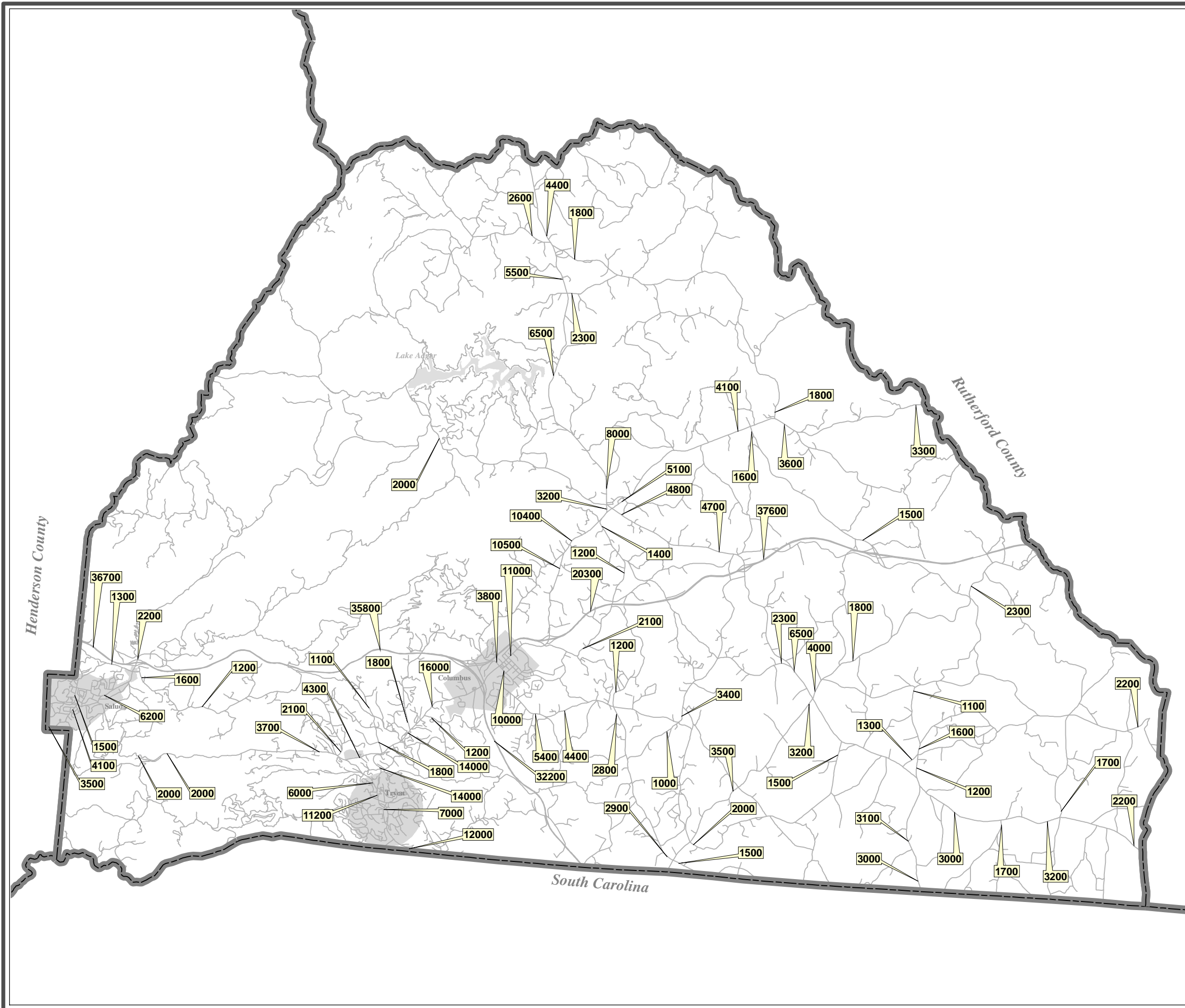
Base map date: February 2006  
Refer to CTP document for more details





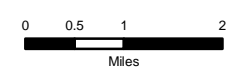
**FIGURE 7**  
**PROJECTED 2030 ADT**

**Polk County**  
 North Carolina

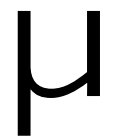


**Legend**

- Streets and Highways
- County Boundary
- ▒ Bodies of Water
- ▒ Municipalities
- 0000 2030 Average Daily Traffic



Base map date: February 2006  
 Refer to CTP document for more details







## **Bridge Conditions**

Bridges are an important element of a highway system. Any bridge deficiency will affect the efficiency of the entire transportation system. In addition, bridges present the greatest threat of community disruption and loss of life of any potential highway failure. Therefore, bridges must be constructed to the same, or higher, design standards as the highway system of which they are a part, and they must be inspected regularly to ensure the safety of the traveling public.

The NCDOT Bridge Maintenance Unit inspects all bridges in North Carolina at least once every two years. A sufficiency rating for each bridge is calculated and establishes the eligibility and priority for bridge replacement. Bridges with the highest priority are replaced as Federal and State funds become available.

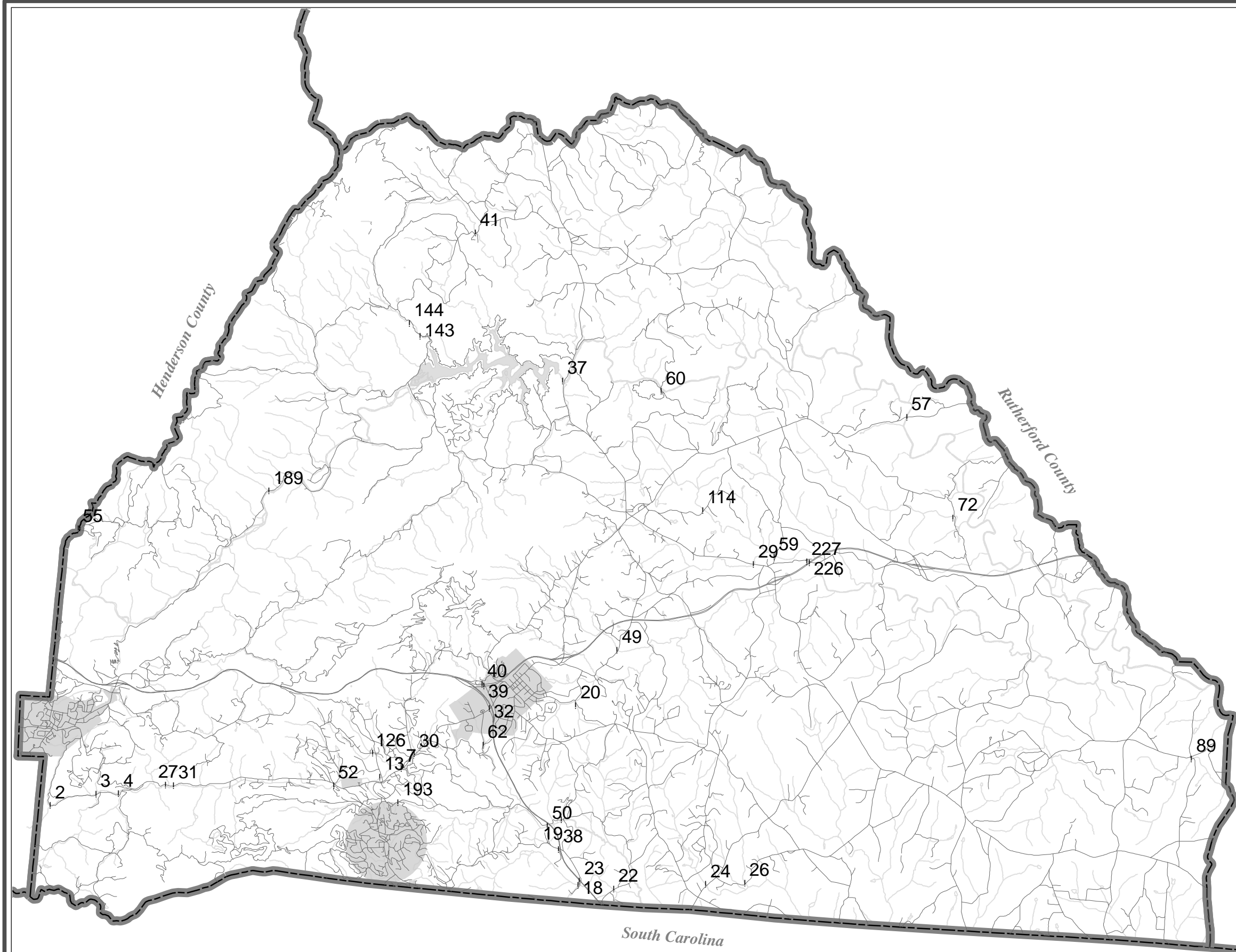
A bridge is considered deficient if it is either structurally deficient or functionally obsolete. A bridge at least ten years old is considered structurally deficient if it is in relatively poor condition or has insufficient load-carry capacity, due either to the original design or deterioration. A bridge is considered to be functionally obsolete if it is narrow, has inadequate under-clearances, has insufficient load-carrying capacity, is poorly aligned with the roadway, or can no longer adequately serve existing traffic. A bridge must be classified as deficient in order to qualify for Federal replacement funds, in addition to having a qualifying sufficiency rating. To qualify for replacement, the sufficiency rating must be less than 50%; for rehabilitation, the sufficiency rating must be less than 80%. Deficient bridges in Polk County are listed in Table 6 and the locations of these bridges are shown in Figure 8.

**Table 6 – Deficient Bridges**

Bridge Number	Facility	Feature	Condition
2	Pearson Falls Rd (SR1102)	PACOLET RIVER	Structurally Deficient
3	Pearson Falls Rd (SR1102)	BRANCH OF PACOLET RIV.	Functionally Obsolete
4	Pearson Falls Rd (SR1102)	SM.BR.OF PACOLET RIVER	Functionally Obsolete
7	NC108	PACOLET RIVER	Functionally Obsolete
13	Howard Gap Rd (SR1128)	PACOLET RIVER	Functionally Obsolete
18	Hunting Country Rd (SR1501)	CREEK	Functionally Obsolete
19	Morgan Chapel Rd (SR1517)	PACOLET RIVER	Structurally Deficient
20	Hayes Rd (SR1534)	CREEK	Functionally Obsolete
22	Hunting Country Rd (SR1501)	CREEK	Structurally Deficient
23	I26 WBL	SR1501	Functionally Obsolete
24	Landrum Rd (SR1520)	HOOPER CREEK	Functionally Obsolete
26	Collinsville Rd (SR1521)	HOOPER CREEK	Functionally Obsolete
27	US176	PACOLET RIVER	Functionally Obsolete
29	NC9	CREEK	Structurally Deficient
30	NC108	SKYUKA CREEK	Functionally Obsolete
31	US176	PACOLET RIVER	Functionally Obsolete
32	NC108	I26	Functionally Obsolete
37	NC9	GREEN RIVER	Functionally Obsolete
38	Hunting Country Rd (SR1501)	I26	Functionally Obsolete
39	US74 EBL	RAMP I26 WBL	Functionally Obsolete
40	US74 WBL	RAMP I26 WB	Functionally Obsolete
41	Silver Creek Rd (SR1138)	BRITTEN CREEK	Functionally Obsolete
49	Fox Mtn Rd (SR1531)	WHITEOAK CREEK	Functionally Obsolete
50	I26 EBL	PACOLET RIVER,SR1516	Functionally Obsolete
52	US176	PACOLET RIVER	Functionally Obsolete
55	John Shehan Rd (SR1330)	CREEK	Functionally Obsolete
57	NC108	GREEN RIVER	Functionally Obsolete
59	Whiteside Rd (SR1324)	CREEK	Functionally Obsolete
60	S Wilson Hill Rd (SR1313)	CREEK	Functionally Obsolete
62	Old 19 Ext (SR1555)	HORSE CREEK	Functionally Obsolete
72	Abrams & Moore Rd (SR1331)	WHEAT CREEK	Functionally Obsolete
89	Lee Cudd Rd (SR1356)	BRANCH	Functionally Obsolete
114	Toney Rd (SR1322)	CREEK	Structurally Deficient
126	Warrior Dr (SR1125)	CREEK	Functionally Obsolete
143	Silver Creek Rd (SR1138)	BRANCH	Structurally Deficient
144	Silver Creek Rd (SR1138)	BRANCH	Functionally Obsolete
189	Green River Cov (SR1151)	BRANCH OF GREEN RIVER	Functionally Obsolete
193	Jackson Rd (SR1508)	BRANCH	Functionally Obsolete
226	US74 EBL	SR1330	Functionally Obsolete
227	US74 WBL	SR1330	Functionally Obsolete

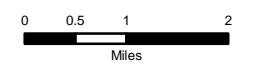
**FIGURE 8**  
**DEFICIENT BRIDGES**

**Polk County**  
North Carolina



**Legend**

- ⊥ Deficient Bridges
- Streets and Highways
- County Boundary
- ▒ Bodies of Water
- Rivers and Streams
- Municipalities



Base map date: February 2006  
Refer to CTP document for more details





## IV. Environmental Screening

In recent years, the environmental considerations associated with transportation construction have come to the forefront of the planning process. Section 102 of the National Environmental Policy Act (NEPA) requires the completion of an Environmental Impact Statement (EIS) for projects that have a significant impact on the environment. The EIS includes impacts on wetlands, wildlife, water quality, historic properties, and public lands. While this CTP report does not address these environmental concerns in as much detail as an EIS would, many of these factors were considered during the development of the CTP and the recommended improvements therein. The major environmental features of Polk County are shown in Figure 9. The environmental data used in the evaluation of CTP recommendations was obtained from the North Carolina Center for Geographic Information and Analysis (NCCGIA) in 2005, and represents the most current information available at that time. Prior to implementing any of the transportation projects recommended in this CTP, further detailed environmental analysis will be necessary.

### **Wetlands**

Wetlands are those lands where saturation with water is the dominant factor in determining the nature of soil development, and the types of plant and animal communities living in the soil and on its surface. Wetlands are critical ecosystems in our natural environment. They help regulate and maintain the hydrology of our rivers, lakes, and streams by storing and slowly releasing floodwaters. Wetlands help maintain the quality of water by storing nutrients, reducing sediment loads, and reducing erosion. They are also critical to fish and wildlife populations by providing an important habitat for approximately one-third of the plant and animal species that are federally listed as threatened or endangered. The National Wetland Inventory showed several wetlands throughout Polk County, mostly associated with rivers and streams. Wetland impacts have been avoided or minimized to the greatest extent possible while preserving the integrity of the transportation plan.

### **Threatened and Endangered Species**

The Threatened and Endangered Species Act of 1973 allows the U.S. Fish and Wildlife Service to impose measures on the Department of Transportation to mitigate the environmental impacts of a transportation project on endangered animal and plant species, as well as critical wildlife habitats. Locating any rare species that exist within Polk County during this early planning stage will help to avoid or minimize impacts.

A preliminary review of the federally listed threatened and endangered species in Polk County was completed to determine what effects, if any, the recommended improvements may have on wildlife. Mapping from the N.C. Department of Environment and Natural Resources revealed occurrences of threatened or endangered plant and/or animal species in the planning area. No threatened or endangered species are anticipated to be adversely impacted by any of the transportation plan recommendations, however, a detailed field investigation is recommended prior to construction of any highway project in this area.

## **Historic Sites**

Section 106 of the National Historic Preservation Act requires the Department of Transportation to identify historic properties listed in, as well as eligible for, the National Register of Historic Places (NRHP). The NCDOT must consider the impacts of transportation projects on these properties and consult with the Federal Advisory Council on Historic Preservation.

N.C. General Statute 121-12(a) requires the NCDOT to identify historic properties listed on the National Register, but not necessarily those that are eligible to be listed. The NCDOT must consider the impacts and consult with the N.C. Historical Commission, but is not bound by their recommendations.

The location of historic sites within Polk County was investigated to determine any possible impacts resulting from the recommended improvements. This investigation identified several properties listed on the NRHP, and a historic district in downtown Saluda. The historic properties and district will not be impacted by any of the recommended improvements.

## **Archaeological Sites**

The locations of recorded archaeological sites were researched to determine the possible impacts of proposed roadway projects. This initial investigation identified no known archaeological sites within Polk County, but archaeological sites are often difficult to identify without actual field excavation. As a result, possible sites may not be identified during the initial planning process and each proposed project should be evaluated individually prior to construction.

## **Educational Facilities**

The locations of educational facilities in the planning area were considered during the development of the CTP. No proposed transportation facilities or improvements should displace any schools or other educational facilities.

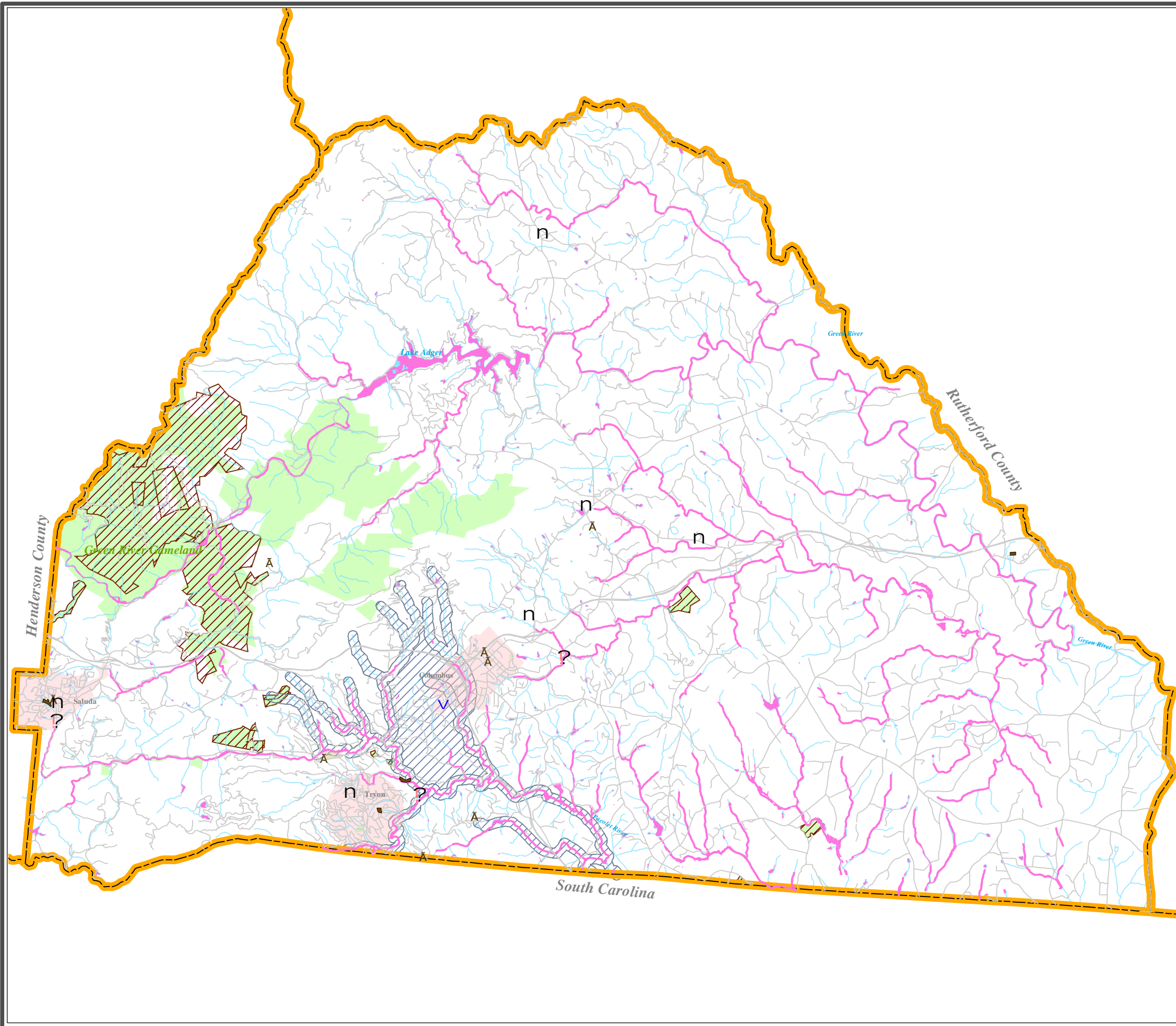
## **Parks and Public Open Spaces**

Parks and public open spaces (such as Green River Gameland) constitute a large percentage of the total land area of Polk County. Their locations were considered during the development of the CTP. The recommended improvements will not have an impact on these public lands.



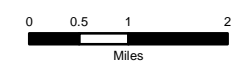


**FIGURE 9**  
**ENVIRONMENTAL**  
**FEATURES**  
**Polk County**  
 North Carolina



**Legend**

- V Hospital Locations
- n Schools
- A National Register Historic Structures
- National Register Historic Districts
- ? Sanitary Sewer Treatment Plants
- Streets and Highways
- National Wetland Inventory - Line Data
- National Wetland Inventory - Area Data
- County Boundary
- Bodies of Water
- Rivers and Streams
- Municipalities
- Land Trust Priority Areas
- Land Trust Conservation Properties
- Land Managed for Conservation and Open Space



Base map date: February 2006  
 Refer to CTP document for more details





## V. Public Involvement

### **Overview**

Since the passage of the Federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), the emphasis on public involvement in transportation planning has taken on a new significance. Although public participation has been an element of long-range transportation planning in the past, the regulations from ISTEA (and later TEA-21 in 1998 and SAFETEA-LU in 2005) call for a much more proactive approach. The NCDOT Transportation Planning Branch has a long history of making public involvement a key element in the development of any long-range transportation plan, no matter the size of the planning area. This chapter is designed to provide an overview of the public involvement process used in the development of the Polk County CTP.

### **Study Initiation**

At the end of the year 2004, the Isothermal Rural Planning Organization's (RPO) Transportation Advisory Committee (RTAC) voted to approve Polk County as the top priority for a transportation planning study in the Isothermal RPO. In August of 2005 the Transportation Planning Branch of NCDOT sent a "Start of Study" letter to the governing boards for Polk County, Town of Columbus, City of Saluda, and Town of Tryon initiating the transportation study and requesting confirmation of their ongoing interest and support of it. By the end of year 2005 the study was well underway and the County and each municipality had submitted a resolution confirming the need for and participation in the study.

### **Public Meetings**

Throughout the course of the study the Transportation Planning Branch conducted several presentations and public workshops to provide information on the CTP and to receive feedback. Five presentations were given to describe the CTP process:

- RPO TAC/TCC Presentation – October 2005, Isothermal Planning and Development Commission offices in Rutherfordton
- Board of Commissioners CTP Presentation – April 3, 2006 Polk County
- Columbus Town Council CTP Presentation – April 18, 2006 Columbus Town Hall
- Tryon Town Council CTP Presentation – April 18, 2006 Tryon Town Hall

- Saluda City Council CTP Presentation – April 19, 2006 Saluda Public Library

The following public workshops were held:

- June 6, 2006 - Polk County Middle School
- June 13, 2006 - Isothermal Community College, Polk County Campus
- June 20, 2006 - Saluda Public Library
- March 27, 2007 - Isothermal Community College, Polk County Campus
- October 29, 2007 – Saluda Public Library
- December 3, 2007 – Polk County Offices
- January 29, 2008 – Tryon Fire Hall

At these workshops the staff gave an update of the progress of the study and received public input on proposed recommendations.

## **Transportation Survey**

As part of the Comprehensive Transportation Plan process a transportation survey seeking public input on transportation issues and needs in the county was circulated. Hard copies of the survey were distributed at public meetings and presentations, and placed in town halls and other public buildings. The survey was also posted in the local newspaper and on the Internet. Fifty-four surveys were completed and returned. A sample of the survey and the compiled results are included in Appendix D.

## **Public Hearings**

Several public hearings were held on the recommended plan. These include,

- September 20, 2007 – Town of Columbus
- November 13, 2007 – Town of Tryon

- November 13, 2007 – City of Saluda
- December 3, 2007 – Polk County
- February 19, 2008 – Town of Tryon

## **Adoption**

After ongoing coordination with the Isothermal Rural Planning Organization (IRPO), the planning departments for the County, Town of Columbus, City of Saluda, and Town of Tryon, and several public involvement sessions, the Polk County Comprehensive Transportation Plan was adopted by the Town of Columbus on March 20, 2008, City of Saluda on April 14, 2008, Town of Tryon on May 20, 2008, and Polk County on July 21, 2008. The Isothermal Rural Planning Organization (RPO) endorsed the plan on August 28, 2008. The plan was adopted by NCDOT on October 2, 2008.



## VI. Implementation

Polk County is a growing county. Improvements to the County's transportation system will be necessary over the next 25 years to keep pace with this growth. It is the responsibility of the county and its municipalities to take the initiative for implementation of this CTP. It is imperative that the local governments and citizens take the information provided in this document and pursue funding for desired projects. Any questions regarding funding, active projects, planning, and alternative modes of transportation should be addressed to the appropriate branch within NCDOT. Appendix E includes contact information for many of these branches. If, as time passes, revisions are required for any element of this CTP, then all the transportation elements will also be reviewed for any potential impacts. Prior to the implementation of specific transportation projects, additional public involvement and analysis of impacts to the natural/human environment will be conducted as part of the project planning process by the Project Development and Environmental Analysis Branch (PDEA) of NCDOT.





# Appendix A: Comprehensive Transportation Plan Definitions

## Highway Map

- Freeways<sup>1</sup>
  - Functional purpose – high mobility, high volume, high speed
  - Posted speed – 55 mph or greater
  - Cross section – minimum four lanes with continuous median
  - Multi-modal elements – High Occupancy Vehicles (HOV)/High Occupancy Transit (HOT) lanes, busways, truck lanes, park-and-ride facilities at/near interchanges, adjacent shared use paths (separate from roadway and outside ROW)
  - Type of access control – full control of access
  - Access management – interchange spacing (urban – one mile; non-urban – three miles); at interchanges on the intersecting roadway, full control of access for 1,000' or for 350' plus 650' island or median; use of frontage roads, rear service roads
  - Intersecting facilities – interchange or grade separation (no signals or at-grade intersections)
  - Driveways – not allowed
- Expressways<sup>1</sup>
  - Functional purpose – high mobility, high volume, medium-high speed
  - Posted speed – 45 to 60 mph
  - Cross section – minimum four lanes with median
  - Multi-modal elements – HOV lanes, busways, very wide paved shoulders (rural), shared use paths (separate from roadway but within ROW)
  - Type of access control – limited or partial control of access
  - Access management – minimum interchange/intersection spacing 2,000 feet; median breaks only at intersections with minor roadways or to permit U-turns; use of frontage roads, rear service roads; driveways limited in location and number; use of acceleration/deceleration or right turning lanes
  - Intersecting facilities – interchange; at-grade intersection for minor roadways; right-in/right-out and/or left-over or grade separation (no signalization for through traffic)
  - Driveways – right-in/right-out only; direct driveway access via service roads or other alternate connections
- Boulevards
  - Functional purpose – moderate mobility; moderate access, moderate volume, medium speed
  - Posted speed – 30 to 55 mph

- Cross section – two or more lanes with median (median breaks allowed for U-turns per current NCDOT *Driveway Manual*)
- Multi-modal elements – bus stops, bike lanes (urban) or wide paved shoulders (rural), sidewalks (urban - local government option)
- Type of access control – limited control of access, partial control of access, or no control of access
- Access management – two lane facilities may have medians with crossovers, medians with turning pockets or turning lanes; use of acceleration/deceleration or right turning lanes is optional; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged
- Intersecting facilities – at grade intersections and driveways; interchanges at special locations with high volumes
- Driveways – primarily right-in/right-out, some right-in/right-out in combination with median leftovers; major driveways may be full movement when access is not possible using an alternate roadway
- Other Major Thoroughfares
  - Functional purpose – balanced mobility and access, moderate volume, low to medium speed
  - Posted speed – 25 to 55 mph
  - Cross section – four or more lanes without median
  - Multi-modal elements – bus stops, bike lanes/wide outer lane (urban) or wide paved shoulder (rural), sidewalks (urban)
  - Type of access control – no control of access
  - Access management – continuous left turn lanes; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged
  - Intersecting facilities – intersections and driveways
  - Driveways – full movement on two lane roadway with center turn lane as permitted by the current NCDOT *Driveway Manual*
- Minor Thoroughfares
  - Functional purpose – balanced mobility and access, moderate volume, low to medium speed
  - Posted speed – 25 to 45 mph
  - Cross section – ultimately three lanes (no more than one lane per direction) or less without median
  - Multi-modal elements – bus stops, bike lanes/wide outer lane (urban) or wide paved shoulder (rural), sidewalks (urban)
  - ROW – no control of access
  - Access management – continuous left turn lanes; for abutting properties, use of shared driveways, internal out parcel access and cross-connectivity between adjacent properties is strongly encouraged
  - Intersecting facilities – intersections and driveways

- Driveways – full movement on two lane with center turn lane as permitted by the current NCDOT *Driveway Manual*
- Existing – Roadway facilities that are not recommended to be improved.
- Needs Improvement – Roadway facilities that need to be improved for capacity, safety, or system continuity. The improvement to the facility may be widening, other operational strategies, increasing the level of access control along the facility, or a combination of improvements and strategies. **“Needs improvement” does not refer to the maintenance needs of existing facilities.**
- Recommended – Roadway facilities on new location that are needed in the future.
- Interchange – Through movement on intersecting roads is separated by a structure. Turning movement area accommodated by on/off ramps and loops.
- Grade Separation – Through movement on intersecting roads is separated by a structure. There is no direct access between the facilities.
- Full Control of Access – Connections to a facility provided only via ramps at interchanges. No private driveway connections allowed.
- Limited Control of Access – Connections to a facility provided only via ramps at interchanges (major crossings) and at-grade intersections (minor crossings and service roads). No private driveway connections allowed.
- Partial Control of Access – Connections to a facility provided via ramps at interchanges, at-grade intersections, and private driveways. Private driveway connections shall be defined as a maximum of one connection per parcel. One connection is defined as one ingress and one egress point. These may be combined to form a two-way driveway (most common) or separated to allow for better traffic flow through the parcel. The use of shared or consolidated connections is highly encouraged.
- No Control of Access – Connections to a facility provided via ramps at interchanges, at-grade intersections, and private driveways.

## Public Transportation and Rail Map

- Bus Routes – The primary fixed route bus system for the area. Does not include demand response systems.
- Fixed Guideway – Any transit service that uses exclusive or controlled rights-of-way or rails, entirely or in part. The term includes heavy rail, commuter rail, light rail, monorail, trolleybus, aerial tramway, included plane, cable car, automated guideway transit, and ferryboats.
- Operational Strategies – Plans geared toward the non-single occupant vehicle. This includes but is not limited to HOV lanes or express bus service.

- Rail Corridor – Locations of railroad tracks that are either active or inactive tracks. These tracks were used for either freight or passenger service.
  - Active – rail service is currently provided in the corridor; may include freight and/or passenger service.
  - Inactive – right of way exists; however, there is no service currently provided; tracks may or may not exist.
  - Recommended – It is desirable for future rail to be considered to serve an area.
- High Speed Rail Corridor – Corridor designated by the U.S. Department of Transportation as a potential high speed rail corridor.
  - Existing – Corridor where high speed rail service is provided (there are currently no existing high speed corridor in North Carolina).
  - Recommended – Proposed corridor for high speed rail service.
- Rail Stop – A railroad station or stop along the railroad tracks.
- Intermodal Connector – A location where more than one mode of public transportation meet such as where light rail and a bus route come together in one location or a bus station.
- Park and Ride Lot – A strategically located parking lot that is free of charge to anyone who parks a vehicle and commutes by transit or in a carpool.

## **Bicycle Map**

- On Road-Existing – Conditions for bicycling on the highway facility are adequate to safely accommodate cyclists.
- On Road-Needs Improvement – At the systems level, it is desirable for the highway facility to accommodate bicycle transportation; however, highway improvements are necessary to create safe travel conditions for the cyclists.
- On Road-Recommended – At the systems level, it is desirable for a recommended highway facility to accommodate bicycle transportation. The highway should be designed and built to safely accommodate cyclists.
- Off Road-Existing – A facility that accommodates bicycle transportation (may also accommodate pedestrians, e.g. greenways) and is physically separated from a highway facility usually on a separate right-of-way.
- Off Road-Needs Improvement – A facility that accommodates bicycle transportation (may also accommodate pedestrians, e.g. greenways) and is physically separated from a highway facility usually on a separate right-of-way that will not adequately serve future bicycle needs. Improvements may include but are not limited to: widening, paving (not re-paving), and improved horizontal or vertical alignment.

- Off Road-Recommended – A facility needed to accommodate bicycle transportation (may also accommodate pedestrians, e.g. greenways) and is physically separated from a highway facility usually on a separate right-of-way. This may also include greenway segments that do not necessarily serve a transportation function but intersect recommended facilities on the highway map or public transportation and rail map.



## Appendix B: Street Tabulation and Recommendations

This appendix includes a detailed tabulation of all streets identified as elements of the Polk County Comprehensive Transportation Plan. The table includes a description of the roads by sections, as well as the length, cross-section, and right-of-way for each section. Also included is the existing and projected average daily traffic volumes, roadway capacity, and the recommended ultimate lane configuration. Due to space constraints, these recommended cross sections are given in the form of an alphabetic code. A detailed description of each of these codes and an illustrative figure for each can be found in Appendix C.

The following index of terms may be helpful in interpreting the table:

- SR - State Road
- RDWY – Roadway
- ROW – Right-of-way
- NCL – Northern Corporate Limits
- WCL – Western Corporate Limits
- ADT – Average Daily Traffic
- vpd – Vehicles per Day





FACILITY & SECTION	DIST (mi)	EXISTING CONDITIONS			CAPACITY (vpd)	ADT		BICYCLE RECOMMENDATIONS	HIGHWAY RECOMMENDATIONS
		RDWY (ft)	ROW (ft)	NO. of LANES		2003 (vpd)	2030 (vpd)		
<b>I-26</b>									
South Carolina State Line - 0.36 miles W of SR 1135 (Skyuka Rd)	6.2	24	125	2	65,200	28,000	55,000	-	-
0.36 miles W of SR 1135 (Skyuka Rd) - 0.52 miles W of SR 1188 (Indian Mtn Rd)	3	36	125	3	65,200	28,000	55,000	-	-
0.52 miles W of SR 1188 (Indian Mtn Rd) - Henderson Co Line	4	24	125	2	65,200	28,000	55,000	-	-
<b>US 74</b>									
Rutherford Co Line - WCL Columbus	12.5	24	170	2	65,200	12,000	21,000	-	-
<b>US 176</b>									
Henderson CL - SR 1177 (Irwing St)	0.5	22	60	2	10,400	2,000	4,400	-	-
SR 1177 (Irwing St) - SR 1102 (Pearson Fall Rd)	0.3	22	60	2	9,300	3,300	6,500	-	-
SR 1102 (Pearson Fall Rd) - SR 1181 (Ozone Dr)	0.3	22	60	2	10,400	3,300	6,500	-	-
SR 1181 (Ozone Dr) - SR 1104 (Hipp Rd)	0.2	22	60	2	10,400	1,200	2,900	-	-
SR 1104 (Hipp Rd) - 0.27 miles S of SR 1104 (Hipp Rd)	0.3	22	60	2	11,600	1,200	2,900	-	-
0.27 miles S of SR 1104 (Hipp Rd) - 0.7 miles S of SR 1104 (Hipp Rd)	0.4	22	60	2	15,800	1,200	2,900	-	-
0.7 miles S of SR 1104 (Hipp Rd) - SR 1103 (Cabbage Patch Rd)	0.3	36	60	3	15,800	1,200	2,900	-	-
SR 1103 (Cabbage Patch Rd) - 0.17 miles S of SR 1103 (Cabbage Patch Rd)	0.2	22	60	2	15,800	900	2,100	-	-
0.17 miles S of SR 1103 (Cabbage Patch Rd) - 0.47 miles S of SR 1103 (Cabbage Patch Rd)	0.3	36	60	3	15,800	900	2,100	-	-
0.47 miles S of SR 1103 (Cabbage Patch Rd) - SR 1102 (Pearson Falls Rd)	0.8	22	60	2	15,800	900	2,100	-	-
SR 1102 (Pearson Falls Rd) - 0.32 miles E of SR 1102 (Pearson Falls Rd)	0.3	36	60	3	15,800	900	2,100	-	-
0.32 miles E of SR 1102 (Pearson Falls Rd) - SR 1171 (North Wall St)	2.8	22	60	2	15,800	1,300	2,900	-	-
SR 1171 (North Wall St) - SR 1125 (Warrior Dr)	0.5	22	60	2	11,600	1,700	3,800	-	-
SR 1125 (Warrior Dr) - 0.28 miles SE of SR 1121 (Harmon Field Rd)	0.5	22	60	2	11,600	3,200	6,700	-	-
0.28 miles SE of SR 1121 (Harmon Field Rd) - NC 108	0.6	22	60	2	10,400	3,000	6,100	-	-
NC 108 - 0.05 miles S of SR 1116 (Chestnut St)	0.8	24	60	2	9,300	9,300	12,100	-	E or G
0.05 miles S of SR 1116 (Chestnut St) - South Carolina State Line	0.8	24	60	2	11,600	7,400	12,000	-	E or G
<b>NC 108</b>									
US 176 - NCL Tryon	0.4	12	60	2	11,600	7,500	12,000	-	E
NCL Tryon - SR 1121 (Harmon Field Rd)	0.6	11	60	2	11,600	10,000	14,000	-	E
SR 1121 (Harmon Field Rd) - SR 1514 (Old US 19)	1.2	11	100	2	11,600	10,000	14,000	B-4	E
SR 1514 (Old US 19) - Little Wings Rd	0.6	11	60	2	11,600	10,000	14,000	-	E
Little Wings Rd - Hospital Dr	0.2	10	60	3	16,000	10,000	16,000	-	E
Hospital Dr - I-26	0.5	11	60	2	11,600	10,000	14,000	-	E
I-26 - SR 1137 (Houston Rd)	0.6	11	60	3	16,000	8,000	11,000	-	E
SR 1137 (Houston Rd) - SR 1307 (Blanton St)	0.3	12	60	2	15,800	8,000	11,000	-	E
SR 1307 (Blanton St) - SR 1531 (Fox Mtn Rd)	0.9	11	60	2	15,800	8,000	11,000	-	E
SR 1531 (Fox Mtn Rd) - Rutherford Co Line	10.1	11	60	2	15,800	5,500	10,400	-	-
<b>NC 9</b>									
South Carolina State Line - SR 1343 (Chesnee Rd)	2.3	10	60	2	15,800	1,300	3,200	-	-
SR 1343 (Chesnee Rd) - SR 1526 (Bill Collins Rd)	3.7	10	60	2	15,800	2,800	6,300	-	-
SR 1526 (Bill Collins Rd) - US 74	3	12	60	2	15,800	2,800	6,300	-	-
US 74 - 0.25 S of NC 108	2.2	11	60	2	15,800	2,200	4,900	-	-
0.25 S of NC 108 - 0.23 N of SR 1138 (Silver Creek Rd)	0.6	11	60	2	11,600	3,000	6,600	-	-
0.23 N of SR 1138 (Silver Creek Rd) - SR 1309 (Bill Helton Rd)	5.4	11	60	2	15,800	3,200	7,100	-	-
SR 1309 (Bill Helton Rd) - 0.25 N of SR 1161 (Coopers Gap Rd)	0.5	11	60	2	11,600	2,100	4,600	-	-
0.25 N of SR 1161 (Coopers Gap Rd) - Rutherford Co Line	1.5	11	60	2	15,800	2,100	4,600	-	-
<b>SR 1004 (Poors Ford Rd)</b>									
SR 1343 (Chesnee Rd) - Rutherford Co Line	6.3	10	60	2	15,800	700	1,800	-	-
<b>SR 1005 (Sandy Plains Rd)</b>									
Rutherford Co Line - SR 1332 (Moore Rd)	5.5	10	60	2	15,800	1,000	2,400	-	K
SR 1332 (Moore Rd) - NC 9	0.9	10	60	2	15,800	1,800	4,200	-	K
<b>SR 1105 (Greenville Rd)</b>									
Henderson Co Line - US 176	0.9	10	60	2	10,400	2,000	4,300	B-4	-
<b>SR 1121 (Harmon Field Rd)</b>									
US 176 - NC 108	0.7	11	60	2	15,800	2,000	4,300	-	-
<b>SR 1122 (Howard Gap Rd/Warrior Mountain Rd)</b>									
NC 108 - SR 1128 (Old Howard Gap Rd)	0.8	9	60	2	10,400	500	1,300	-	-
SR 1128 (Old Howard Gap Rd) - 0.87 miles E of SR 1143 (Earley Rd)	1.9	10	60	2	10,400	500	1,300	-	-
0.87 miles E of SR 1143 (Earley Rd) - 0.21 miles W of SR 1143 (Earley Rd)	1.1	11	60	2	15,800	500	1,300	-	-
0.21 miles W of SR 1143 (Earley Rd) - SR 1142 (Ozone Dr)	2.8	10	60	2	10,400	700	1,600	-	-
SR 1142 (Ozone Dr) - I-26	1.2	10	60	2	10,400	600	1,300	-	-
<b>SR 1125 (Warrior Dr)</b>									
US 176 - SR 1128 (Old Howard Gap Rd)	2.5	10	60	2	10,400	900	2,100	B-4	-
<b>SR 1128 (Old Howard Gap Rd)</b>									
NC 108 - SR 1122 (Howard Gap Rd)	0.8	9	60	2	10,400	800	1,900	B-4	-
<b>SR 1135 (Skyuka Rd)</b>									
NC 108 - SR 1137 (Houston Rd)	3.5	10	60	2	15,800	800	1,900	B-4	-
<b>SR 1137 (Houston Rd)</b>									
NC 108 - SR 1135 (Skyuka Rd)	2.9	9	60	2	15,800	400	900	B-4	K
SR 1135 (Skyuka Rd) - NC 108	0.5	10	60	2	15,800	1,800	4,000	B-4	K
NC 108 - SR 1521 (Peniel Rd)	0.2	10	60	2	15,800	1,800	4,000	-	K
<b>SR 1138 (Silver Creek Rd/Lake Adger Rd)</b>									
NC 9 - SR 1155 (Palmer Rd)	5.4	11	100	2	15,800	1,200	2,800	B-4	K
SR 1155 (Palmer Rd) - SR 1161 (Coopers Gap Rd)	4.4	10	60	2	15,800	900	2,700	B-4	K

FACILITY & SECTION	DIST (mi)	EXISTING CONDITIONS			CAPACITY (vpd)	ADT		BICYCLE RECOMMENDATION	HIGHWAY RECOMMENDATION
		RDWY (ft)	ROW (ft)	NO. of LANES		2003 (vpd)	2030 (vpd)		
<b>SR 1140 (Garret Rd)</b>									
NC 9 - SR 1137 (Silver Creek Rd)	1.3	10	60	2	15,800	400	900	-	-
<b>SR 1142 (Ozone Dr)</b>									
US 176 - I-26	1.1	10	100	2	15,800	3,000	6,200	-	-
<b>SR 1146 (Seminary St)</b>									
SR 1147 (Henderson St) - SR 1142 (Ozone Dr)	0.6	9	60	2	9,300	600	1,400	-	-
<b>SR 1147 (Henderson St/Esseola Road)</b>									
US 176 - SR 1122 (Howard Gap Rd)	1.3	10	60	2	10,400	650	2,000	-	-
<b>SR 1159 (McGuinn Rd)</b>									
NC 9 - SR 1161 (Big Level Rd)	2	10	60	2	15,800	1,000	2,500	-	-
<b>SR 1161 (Coopers Gap Rd/Big Level Rd)</b>									
SR 1138 (Lake Adger Rd) - NC 9	1.7	10	60	2	15,800	1,200	2,800	B-4	K
NC 9 - SR 1309 (Bill Hinton Rd)	0.4	10	60	2	10,400	900	2,000	B-4	-
SR 1309 (Bill Hinton Rd) - SR 1311 (Rock Spring Rd)	3.4	10	60	2	15,800	900	2,000	B-4	-
<b>SR 1311 (Rock Spring Rd)</b>									
Rutherford Co Line - SR 1161(Big Level Rd)	2.2	9	60	2	15,800	900	2,000	-	-
SR 1161(Big Level Rd) - NC 108	4	10	60	2	15,800	900	2,000	B-4	-
<b>SR 1324 (Whiteside Rd)</b>									
NC 108 - NC 9	2.7	-	-	-	-	-	-	B-4	-
<b>SR 1326 (Pea Ridge Rd)</b>									
NC 108 - SR 1337 (Coxe Rd)	9.1	10	60	2	15,800	700	1,700	-	-
<b>SR 1332 (Moore Rd)</b>									
SR 1326 (Pea Ridge Rd) - SR 1005 (Sandy Plains Rd)	2.6	10	60	2	15,800	300	700	-	-
<b>SR 1337 (Floyd Blackwell Rd/Coxe Rd)</b>									
SR 1005 (Sandy Plains Rd) - SR 1326 (Pea Ridge Rd)	2	9	60	2	15,800	500	1,500	-	-
SR 1326 (Pea Ridge Rd) - NC 9	1.8	9	60	2	15,800	700	1,100	-	-
<b>SR 1340 (Green Creek Dr)</b>									
NC 9 - SR 1337 (Coxe Rd)	3.8	9	60	2	15,800	550	1,300	-	-
<b>SR 1343 (Chesnee Rd)</b>									
NC 9 - SR 1004 (Poors Ford Rd)	3.1	10	60	2	15,800	1,400	3,400	-	K
SR 1004 (Poors Ford Rd) - Rutherford Co Line	1.8	10	60	2	15,800	1,000	2,300	-	K
<b>SR 1348 (Melvin Hill Rd)</b>									
SR 1343 (Chesnee Rd) - South Carolina State Line	1.7	9	60	2	15,800	800	1,800	-	-
<b>SR 1514 (Shufford Rd/Old US 19)</b>									
NC 108 - NC 108	2	10	60	2	15,800	500	1,300	-	-
<b>SR 1519 (Smith Dairy Rd/Red Fox Rd/Jackson Grove Rd)</b>									
SR 1531 (Fox Mtn Rd) - SR 1521 (Peniel Rd)	2.69	9	60	2	15,800	550	1,300	B-4	-
SR 1521 (Peniel Rd) - SR 1525 (Henderson Rd)	1.1	10	60	2	15,800	1,250	2,900	B-4	K
SR 1525 (Henderson Rd) - SR 1520 (Landrum Rd)	2.27	10	60	2	15,800	1,300	3,000	-	K
SR 1520 (Landrum Rd) - South Carolina State Line	1.95	10	60	2	15,800	600	1,500	-	-
<b>SR 1520 (Landrum Rd)</b>									
South Carolina State Line - NC 9	4.75	10	60	2	15,800	1,500	3,600	-	-
<b>SR 1521 (Peniel Rd/Collinsville Rd)</b>									
SR 1137 (Houston Rd) - SR 1519 (Red Fox Rd)	2.8	9	60	2	15,800	2,000	4,500	-	K
SR 1519 (Red Fox Rd) - SR 1525 (Hugh Champion Rd)	1.4	9	60	2	15,800	800	2,100	-	-
SR 1525 (Hugh Champion Rd) - NC 9	7.1	9	60	2	15,800	900	2,000	-	-
<b>SR 1525 (Hugh Champion Rd/Henderson Rd)</b>									
NC 9 - SR 1526 (Bill Collins Rd)	2.1	10	60	2	15,800	1,500	3,600	-	K
SR 1526 (Bill Collins Rd) - SR 1521 (Peniel Rd)	1.6	9	60	2	15,800	1,500	3,600	-	K
SR 1521 (Peniel Rd) - SR 1519 (Red Fox Rd)	1.3	9	60	2	15,800	500	1,000	-	K
<b>SR 1526 (Bill Collins Rd)</b>									
NC 108 - SR 1525 (Hugh Champion Rd)	4.9	10	60	2	15,800	600	1,500	B-4	-
SR 1525 (Hugh Champion Rd)- NC 9	1.7	10	60	2	15,800	1,000	2,400	-	-
<b>SR 1528 (Smith Waldrop Rd)</b>									
NC 9 - SR 1531 (Fox Mountain Rd)	2.8	-	-	-	-	-	-	B-4	-
<b>SR 1531 (Fox Mountain Rd)</b>									
NC 108 - SR 1519 (Smith Dairy Rd)	2	10	60	2	15,800	950	2,200	B-4	-
SR 1519 (Smith Dairy Rd) - SR 1526 (Bill Collins Rd)	1	10	60	2	15,800	500	1,200	B-4	-
<b>SR 1533 (Walker Rd)</b>									
SR 1531 (Fox Mountain Rd) - SR 1534 (Hayes Rd)	0.6	10	60	2	15,800	600	1,400	B-4	-
<b>SR 1534 /Peak St/Hayes St)</b>									
NC 108 - 0.1 miles SE NC 108	0.1	11	100	3	15,800	2,300	5,000	B-4	-
0.1 miles SE NC 108 - SR 1533 (Walker Rd)	1.2	10	100	2	15,800	2,300	5,000	B-4	-
SR 1533 (Walker Rd) - SR 1521 (Peniel Rd)	0.9	10	60	2	15,800	2,000	4,500	B-4	-
<b>Erwin St (Saluda CBD)</b>									
US 176 - SR 1105 (Greenville Rd)	0.1	10	60	2	9,300	2,000	3,900	-	-

## Appendix C: Typical Cross Sections

Cross section requirements for roadways vary according to the capacity and level of service to be provided. Universal standards in the design of roadways are not practical. Each roadway section must be individually analyzed and its cross section determined based on the volume and type of projected traffic, existing capacity, desired level of service, and available right-of-way. The cross sections are typical for facilities on new location and where right-of-way constraints are not critical. For widening projects and urban projects with limited right-of-way, special cross sections should be developed that meet the needs of the project. On all existing and proposed roadways delineated on the transportation plan, adequate right-of-way should be protected or acquired for the recommended cross sections.

### **A: Four Lanes Divided with Median - Freeway**

Cross section "A" is typical for four-lane divided highways in rural areas that may have only partial or no control of access. The minimum median width for this cross section is 46 feet, but a wider median is desirable.

### **B: Seven Lanes - Curb & Gutter**

Cross section "B" is typically not recommended for new projects. When the conditions warrant six lanes, cross section "D" should be recommended. Cross section "B" should be used only in special situations such as when widening from a five-lane section where right-of-way is limited. Even in these situations, consideration should be given to converting the center turn lane to a median so that cross section "D" is the final cross section.

### **C: Five Lanes - Curb & Gutter**

Typical for major thoroughfares, cross section "C" is desirable where frequent left turns are anticipated as a result of abutting development or frequent street intersections.

### **D: Six Lanes Divided with Raised Median - Curb & Gutter**

### **E: Four Lanes Divided with Raised Median - Curb and Gutter**

Cross sections "D" and "E" are typically used on major thoroughfares where left turns and intersection streets are not as frequent. Left turns would be restricted to a few selected intersections. The 16-ft median is the minimum recommended for an urban boulevard-type cross section. In most instances, monolithic construction should be utilized due to greater cost effectiveness, ease and speed of placement, and reduced future maintenance requirements. In certain cases, grass or landscaped medians result in greatly increased maintenance costs and an increase danger to maintenance personnel. Non-monolithic medians should only be recommended when the above concerns are addressed.

**F: Four Lanes Divided - Boulevard, Grass Median**

Cross section "F" is typically recommended for urban boulevards or parkways to enhance the urban environment and to improve the compatibility of major thoroughfares with residential areas. A minimum median width of 24 ft is recommended, with 30 ft being desirable.

**G: Four Lanes - Curb and Gutter**

Cross section "G" is recommended for major thoroughfares where projected travel indicates a need for four travel lanes but traffic is not excessively high, left turning movements are light, and right-of-way is restricted. An additional left turn lane would likely be required at major intersections. This cross section should be used only if the above criteria are met. If right-of-way is not restricted, future strip development could take place and the inner lanes could become de facto left turn lanes.

**H: Three Lanes - Curb and Gutter**

In urban environments, thoroughfares that are proposed to function as one-way traffic carriers would typically require cross section "H".

**I: Two Lanes – Curb and Gutter, Parking both sides**

**J: Two Lanes – Curb and Gutter, Parking one side**

Cross section "I" and "J" are usually recommended for urban minor thoroughfares since these facilities usually serve both land service and traffic service functions. Cross-section "I" would be used on those minor thoroughfares where parking on both sides is needed as a result of more intense development.

**K: Two Lanes - Paved Shoulder**

Cross section "K" is used in rural areas or for staged construction of a wider multilane cross section. On some thoroughfares, projected traffic volumes may indicate that two travel lanes will adequately serve travel for a considerable period of time. For areas that are growing and future widening will be necessary, the full right-of-way of 100 ft should be required. In some instances, local ordinances may not allow the full 100 ft. In those cases, 70 ft should be preserved with the understanding that the full 70 ft will be preserved by use of building setbacks and future street line ordinances.

**L: Six Lanes Divided with Grass Median - Freeway**

Cross section "L" is typical for controlled access freeways. The 46-ft grass median is the minimum desirable width, but variation from this may be permissible depending upon design considerations. Right-of-way requirements are typically 228 ft or greater, depending upon cut and fill requirements.

**M: Eight Lanes Divided with Raised Median - Curb and Gutter**

Also used for controlled access freeways, cross section "M" may be recommended for freeways going through major urban areas or for routes projected to carry very high volumes of traffic.

**N: Five Lanes with Curb & Gutter, Widened Curb Lanes**

**O: Two Lanes/Shoulder Section**

**P: Four Lanes Divided with Raised Median – Curb and Gutter, Widened Curb Lanes**

If there is sufficient bicycle travel along the thoroughfare to justify a bicycle lane or bikeway, additional right-of-way may be required to contain the bicycle facilities. The North Carolina Bicycle Facilities Planning and Design Guidelines should be consulted for design standards for bicycle facilities. Cross sections "N", "O" and "P" are typically used to accommodate bicycle travel.

**General**

The urban curb and gutter cross sections all illustrate the sidewalk adjacent to the curb with a buffer or utility strip between the sidewalk and the minimum right-of-way line. This permits adequate setback for utility poles. If it is desired to move the sidewalk farther away from the street to provide additional separation for pedestrians or for aesthetic reasons, additional right-of-way must be provided to insure adequate setback for utility poles.

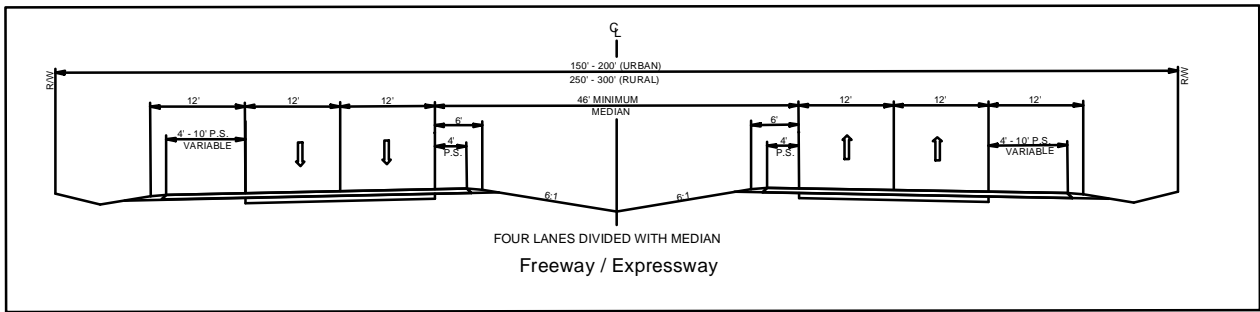
The right-of-way shown for each typical cross section is the minimum amount required to contain the street, sidewalks, utilities, and drainage facilities. Cut and fill requirements may require either additional right-of-way or construction easements. Obtaining construction easements is becoming the more common practice for urban thoroughfare construction.



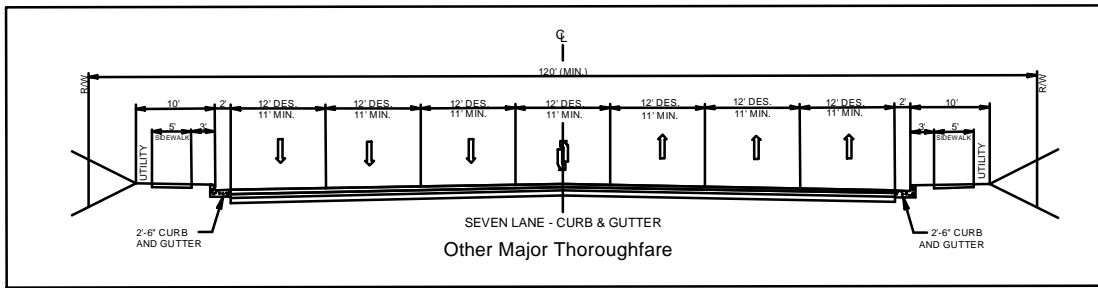
# Appendix C

## TYPICAL HIGHWAY CROSS SECTIONS

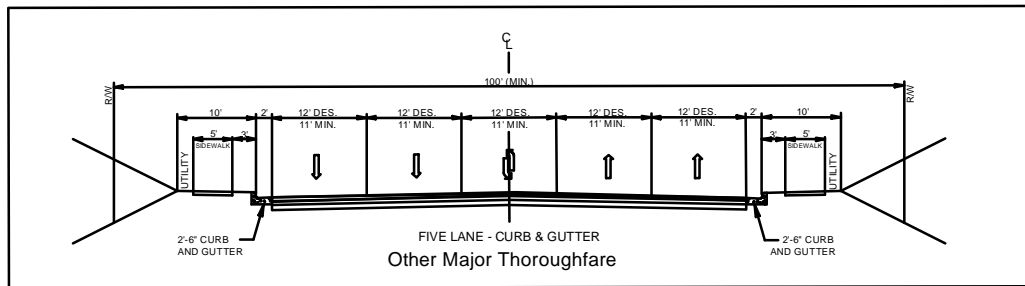
A



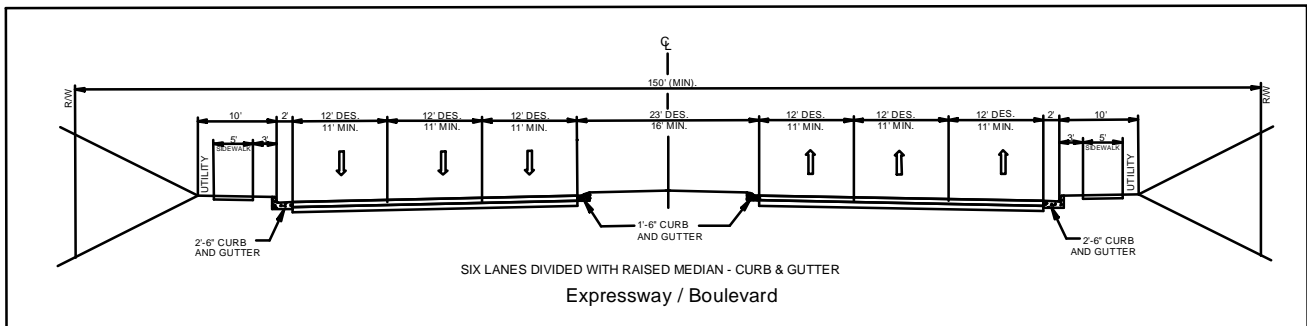
B



C

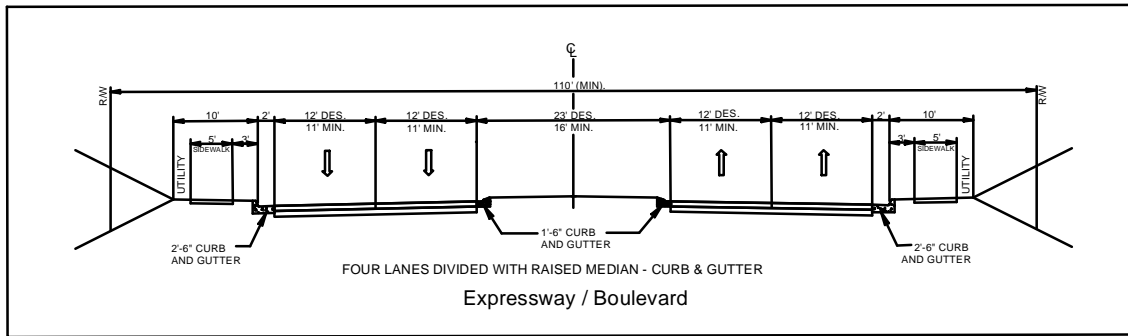


D

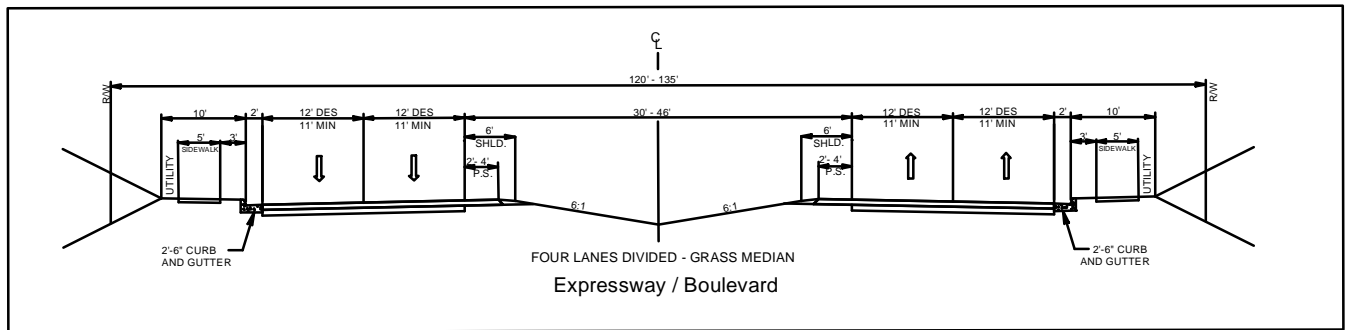


# TYPICAL HIGHWAY CROSS SECTIONS

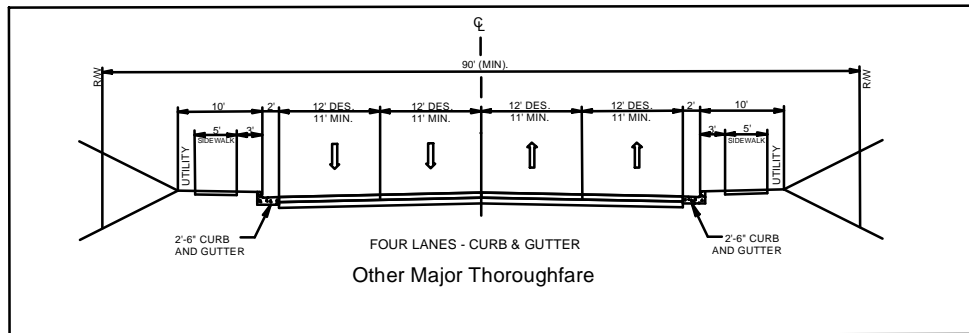
E



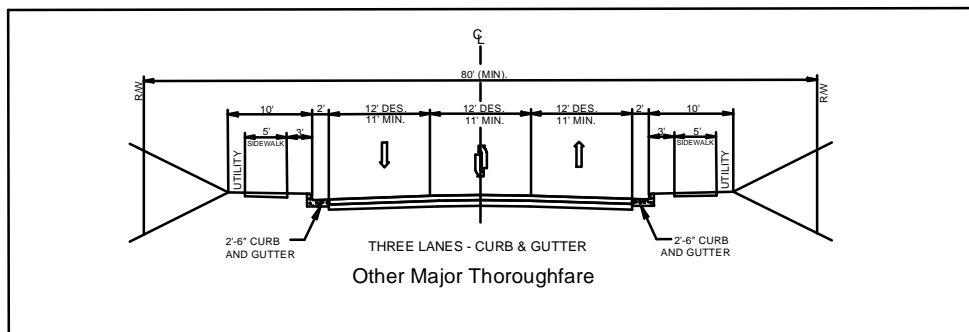
F



G

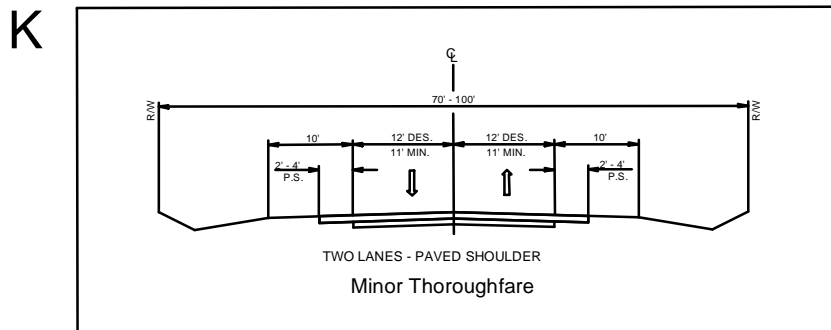
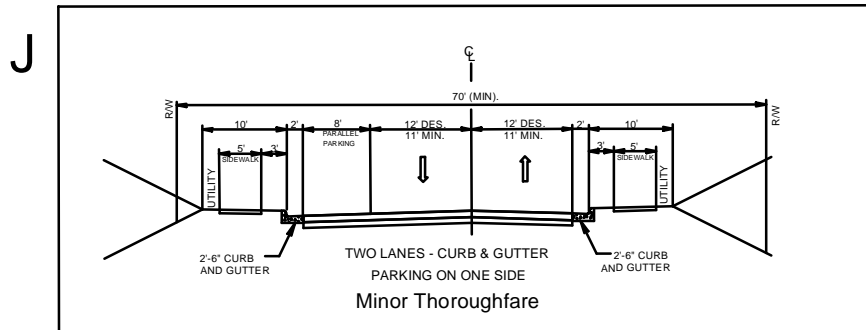
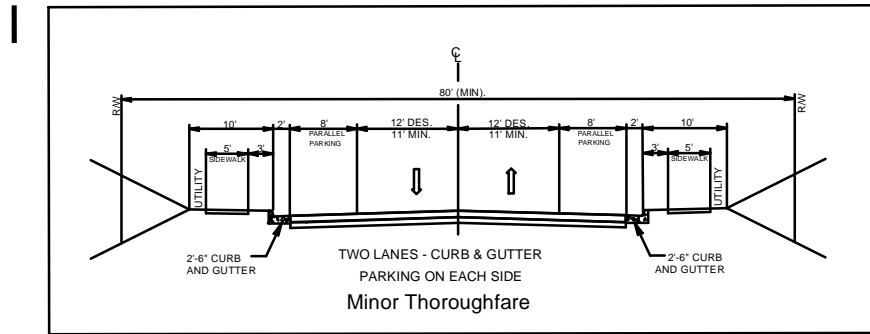


H

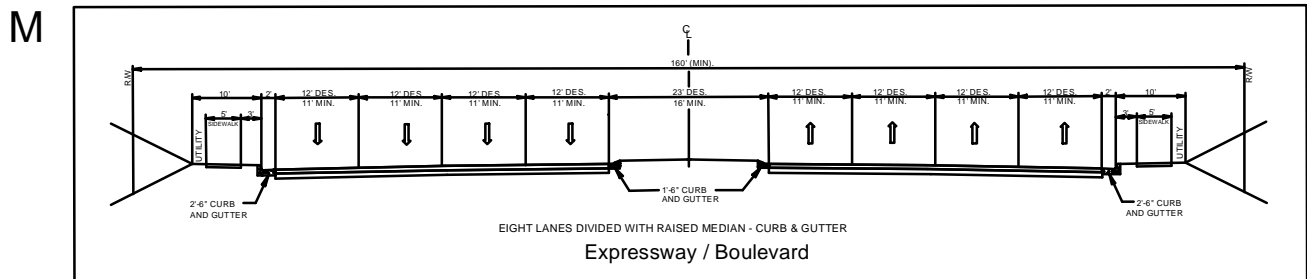
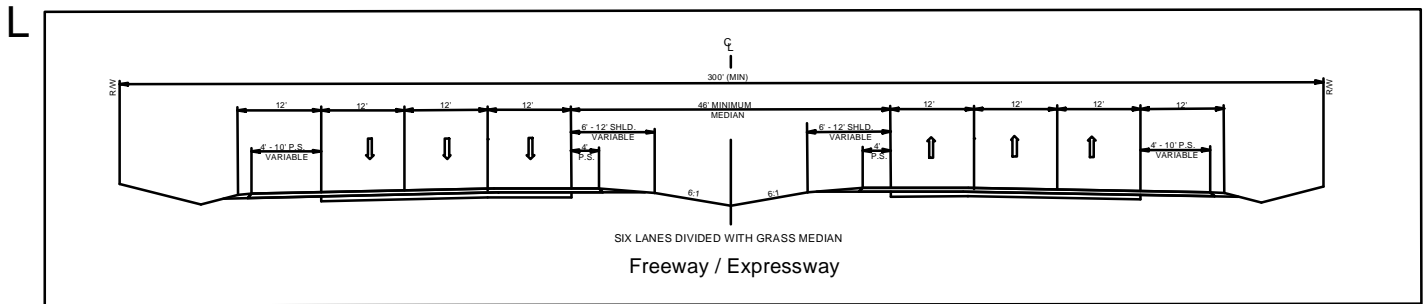




# TYPICAL HIGHWAY CROSS SECTIONS



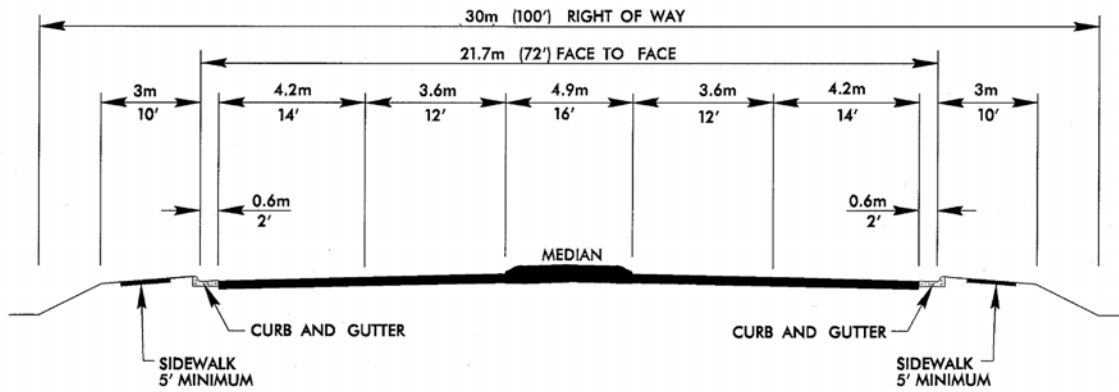
# TYPICAL HIGHWAY CROSS SECTIONS



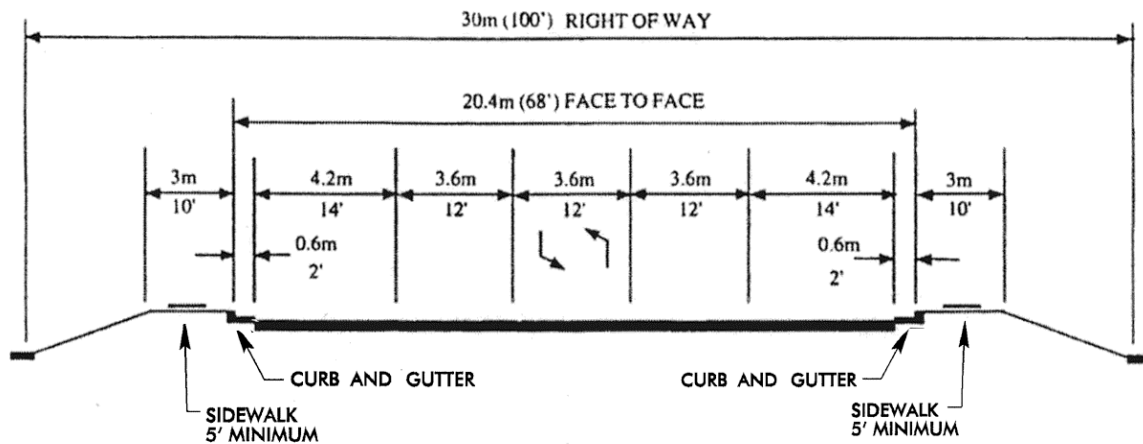
# Typical Bicycle Cross Sections

## WIDE CURB LANES

### B-1 4-LANE MEDIAN DIVIDED TYPICAL SECTION With Wide Outside Lanes

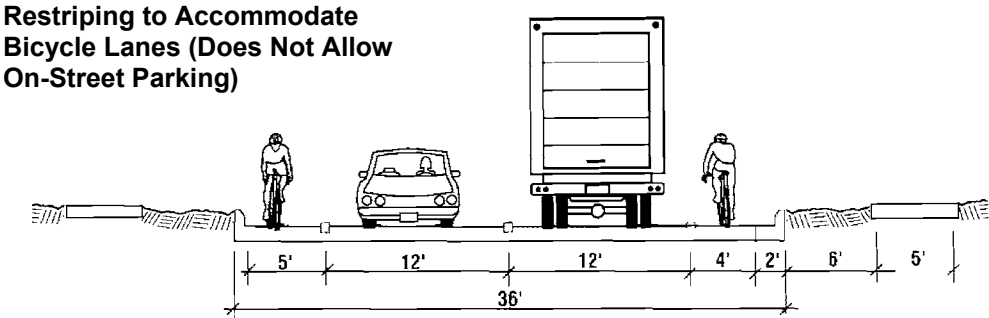
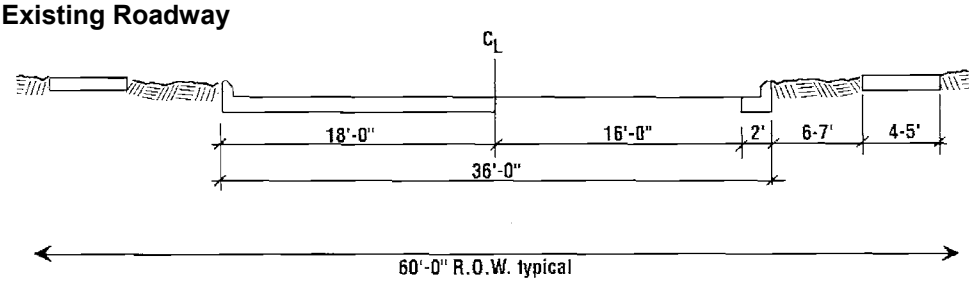


### B-2 5-LANE TYPICAL SECTION With Wide Outside Lanes



# Typical Bicycle Cross Sections

## **B-3 BICYCLE LANES ON COLLECTOR STREETS**

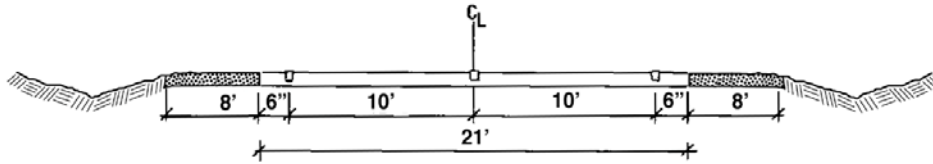


# Typical Bicycle Cross Sections

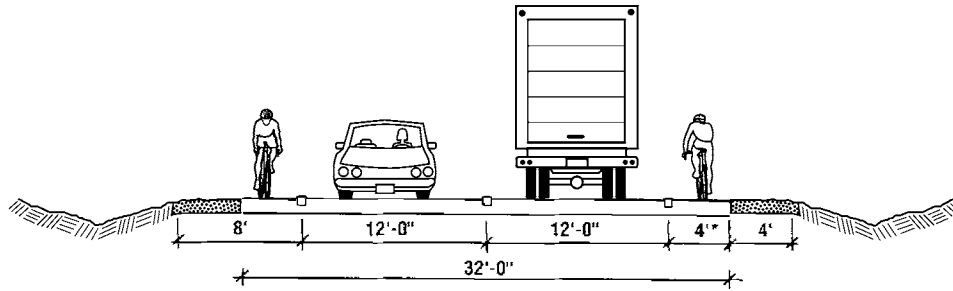
**B-4**

## **WIDE PAVED SHOULDERS**

**Existing Roadway**



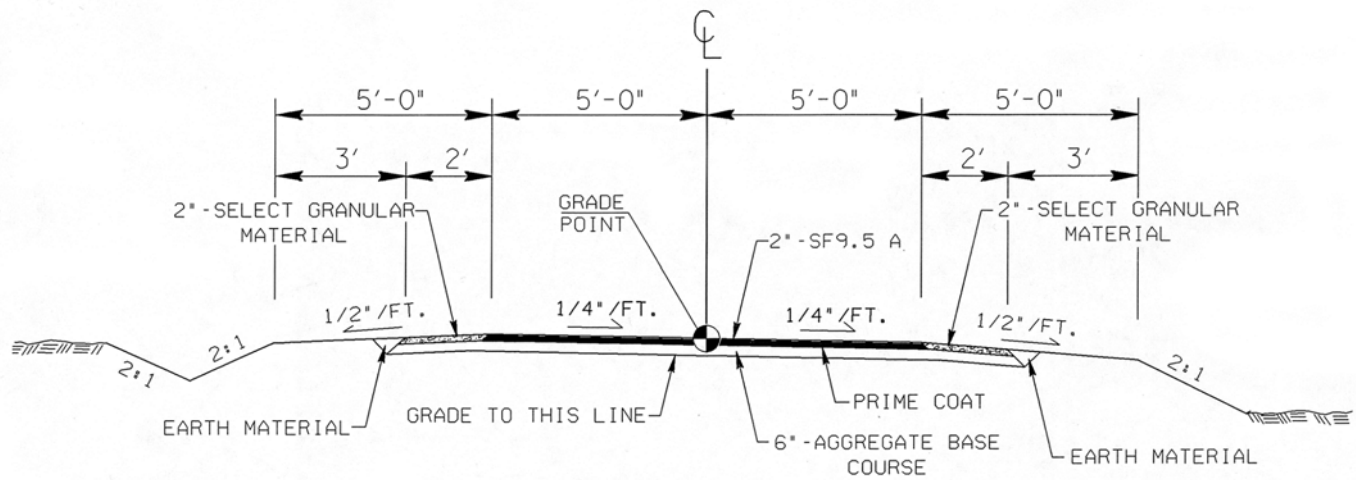
**Roadway Retrofitted with  
4-Ft Paved Shoulders**



\* If speeds are higher than 40 mph,  
shoulder widths greater than 4' are  
recommended.

## Typical Bicycle Cross Sections

### **B-5 RECOMMENDED TYPICAL SECTION OF 10-FT ASPHALT PATHWAY With 2-Ft Select Material Shoulder**



# POLK COUNTY Transportation Survey



## ORGANIZATION

Polk County, the Isothermal RPO and NCDOT's Transportation Planning Branch are seeking public input as part of Polk County's Comprehensive Transportation Plan.

Please complete this short survey, and let us know what the transportation issues and needs in your area are.

Polk County's Comprehensive Transportation Plan (CTP) will determine future transportation needs and recommend solutions to those needs. The CTP will address multiple modes of transportation, and will involve local government officials and the public. Public hearings will be held to receive input on transportation in the County.

For more information, visit [www.regionc.org/polkctp](http://www.regionc.org/polkctp).

Thank you for your input!

**Please complete this survey and return to any Town  
Hall or the Womack Building**

Feel free to add additional pages if necessary!

1. Please identify any locations in Polk County where you experience congestion on a consistent basis.
2. Do you sometimes prefer to take another route in order to avoid congestion? (If so, which road do you avoid, which road do you take)
3. During what time of the day does congestion occur?
4. What do you think is a possible reason for congestion:  
 Rush hour traffic                       School bus pick-up or drop-off     Truck traffic  
 Lack of a left turn lane               Other, please explain:
5. Are there any roads or intersections where you feel safety is a concern?
6. What roads do you think need improvement other than maintenance? For example; where are wider lanes, more lanes, or shoulders needed?
7. What areas or roads would you like to see improved access to?
8. What alternative modes of transportation (transit, bicycling and pedestrian) would you like to see improved?
9. Where in the county are such alternative modes most needed?
10. What are the key transportation issues in your area?
11. Where in Polk County do you live?  
 Columbus                       Saluda                                       Tryon  
 Columbus Township                       Coopers Gap Township     Green Creek Township  
 Saluda Township                       Tryon Township                       White Oak Township  
 Do not live in Polk County:

**Take the survey online by visiting [www.regionc.org/polkctp](http://www.regionc.org/polkctp) and clicking on the Polk County Transportation Survey link in the lower left-hand corner!**



# Compiled Survey Results

**Please identify any locations in Polk County where you experience congestion on a consistent basis?**

- I-26/NC 108 Interchange
- I-26/NC 108 Interchange
- I-26/NC 108 interchange
- River Rd in Tryon and Hunting Country Rd, as well as Peniel Rd, speed limit is too high
- I-26/NC 108 Interchange
- You cannot build roads for rush hour traffic congestion. Most roads are fine. Widening roads will increase speeding, causing more problems
- All of the Columbus and I-26 area
- I-26/NC 108 Interchange
- I-26/NC 108 Interchange
- I-26/NC 108 Interchange

**Do you sometimes prefer to take another route in order to avoid congestion? (If so, which road do you avoid, which road do you take?)**

- Skyuka Rd
- Avoid NC 108 bridge; take Peniel Rd
- Rt 108 @ I 26/Huston Skyuka or Golden-Morgan Chapel - Hunting Country
- Shop at Food Lion instead of Bi-Lo so I don't have to cross I-26
- Take a deep breath. If it takes an extra 5 minutes, get over it
- Yes, and I would go another way if there was one
- Skyuka Rd
- Hwy 108 in Columbus-Tryon
- No
- No
- Yes, Landrum Rd and I-26
- No
- I avoid Hwy 108 and take Peniel Rd
- Yes, will sometimes take Skyuka Rd around Columbus. Also US 74 bypass to avoid Main Street, Columbus
- Skyuka Rd, to avoid Columbus altogether
- Impossible to do so - no alternate
- I would if there was one
- No, because the other routes are too far out of the way
- There is no other road
- Can not get around these
- Skyuka Road

**During what time of the day does congestion occur?**

- 7:30am-8:30am am and 2:30pm-4:30pm
- Varies
- 8:00am-10:00am and 3:00pm-5:00pm
- Not congestion, speed
- 4:00 PM
- Any time
- Morning and evening commutes, school bus times
- Mid day, and 3:00pm-6:00pm

- 3:30pm-5:30pm
- 8:00am-5:00pm weekdays
- All the time
- 7:30am and 5:00pm
- Mid to late afternoon
- Lunchtime and after work/school hours (3pm)
- Mornings and 5:00pm
- All times of day
- After school and the afternoons
- Noon and 5:00pm-6:00pm
- 7:30am and 4:30pm
- All daylight hours
- At all times of day

**What do you think is a possible reason for congestion:**

- Rush Hour Traffic – 19
- School Bus Pickup / Drop-off – 7
- Truck Traffic - 14
- Lack of a Left-turn Lane - 10
- Others:
  - Two lane bridge with traffic from I-26 going to US 74 across NC 108
  - Bad timing at the stop light
  - Road construction
  - Increase in population, roads too narrow.
  - Lack of roundabout

**Are there any roads or intersections where you feel safety is a concern?**

- US 176 too narrow
- NC 9 N of NC 108 is too narrow for the speed and size trucks that use it. They will go that fast so it needs to be wider as there are more houses going up off that road
- Near FENCE. The one lane bridge, on River Rd. The speed limit needs to be lower, and posted. The speed limit of 45 mph is too fast past FENCE (or near the FENCE entrance)
- NC 108 and NC 9 in Mill Spring. Also narrow winding NC 9 with heavy truck traffic
- Hunting Country Rd by FENCE
- Hwy 9 along Green River
- River Rd, Carriage Row and Hunting Country Rd. These roads are used by many. Cars go way too fast to be under control. Speed limit should be lower
- The 'one lane ' bridge which is very poorly marked, at F.E.N.C.E. on Hunting Country Rd and the section of Hunting Country Rd between Cherokee Hill Lane and Carriage Row
- NC 108 and NC 9
- Speed limit on River Road
- Red Fox rd, speeders passing on double yellow lines. I have had two close calls with being hit head on by illegal passers whom are speeding
- River Road
- NC 108 and NC 9
- Georgia Cliff, Merrick Rd, Country Club Rd and Georgia Cliff Road boulders very likely to fall down
- High School and Middle Schools
- NC-108 and NC-9 in Mill Spring, Corner of Skyuka Rd and Houston Rd
- Hunting Country Road - speed - Red Fox end // Columbus round-about needs better vision toward Columbus coming into it off I-26 east bound & also lighting at night

- NC 9 and NC 108 intersection, need a stop light during the day and Post Office Road made one way to stop people bypassing the intersection
- Howard Gap Rd, NC108 & Harmon Field Rd

**What roads do you think need improvement other than maintenance? For example; where are wider lanes, more lanes, or shoulders needed?**

- Bike lanes needed on 176
- Route 9: wider and shoulders. Peniel shoulders. I-26 interchange. &4 needs to be able to go straight from I-26 and vice versa, and NOT come out on 108
- Shoulders are needed most places
- More lanes for Rt 108 and Rt 9
- Hwy. 9 along Green River.
- Golf Course, Red Fox and Henderson need signs/police to keep away gravel trucks
- Shoulders would be useful safety feature. Many windy roads without shoulders create a major safety hazard when cars have to stop, particularly around curves
- See # 6 , the road 3-4 times by cars coming from landrum 3-4 feet in my lane and coming way too fast! Speed bumps, reduced speed , center marked etc!!!
- No
- Wider lanes or shoulders on Hwy 14 and Red Fox Road. Lots of horse trailer and large truck traffic on those roads. Too easy to go off the road and then over-correct into oncoming traffic.
- Fox Mtn curve
- Peniel Road needs Widening
- Georgia Cliff Road and Merrick Road and SR 1107
- Hwy 108 at schools and I-26 and 108
- I would like to see NC-108 widened (3 lanes) between Harmon Field Road and downtown Tryon.
- Hunting Country Road above Slater's - dangerous curve & narrow road
- NC 9 and NC 108
- Add bike 'lane' along NC 108, 176 & Warrior Drive

**What areas or roads would you like to see improved access to?**

- 74 from/to I-26 at 108
- Rt 9 from the Transfer Station
- None
- FENCE area
- Georgia Cliff Road and Merrick Road. Junction of Georgia Clifff Road nd SR 1107 is a mess which needs to be fixed
- Change I-26 exits
- I would like to see a connector road between Columbus and Highway 14 (Landrum Mill Road).

**What alternative modes of transportation (transit, bicycling and pedestrian) would you like to see improved?**

- Train, cycling paths
- Tansit, bike lanes on Peniel, 108
- Transit, bicycling and pedestrian. Need more sidewalks
- Bicycle & Pedestrian traffic is usually in jeopardy of accidents in almost all parts of Polk County
- Lanes for biking and walking should be considered with road improvements. More people would do so if it were safer.
- Bicycling lanes

- Lanes for biking and walking should be considered with road improvements. More people would do so if it were safer.
- Bike lanes
- Pedestrian
- Wider roads if bicycles use them
- Bicycling and pedestrian - now the county roads are NOT bicycle or pedestrian friendly.
- Too much industrial/commercial traffic for bicycling. I do not see any alternative transportation coming to Polk County.
- Transit
- None
- None
- Transit
- Bicycling and Pedestrian
- Bicycling

**Where in the county are such alternative modes most needed?**

- All areas
- Transit all over. Bike lanes on designated scenic would be nice
- Along 176
- Peniel Road, Hunting Country Road, Big Level Road, Route 9 (main arteries)
- Peniel Road, Red Fox Road
- Along NC 108
- Hwy 14. Lots of bicycle traffic on narrow road with dangerous curves
- All
- Perhaps bicycling trails in unincorporated parts of county, but they should be privately funded and not with tax dollars
- Everywhere
- Not needed
- Columbus and Tryon
- Everywhere
- Route of Metric Century bicycle tour

**What are key transportation issues in your area?**

- Wasted railbed right of way
- Staying ahead of the curve on the soon massive increase in population
- I-26/ US 74/nc 108 interchange
- Speeding
- Stupid drivers
- Many gravel trucks, from the cement plant roar down Golf Course, Henderson, and Red Fox. They destroy the rural residential character of the area, and are destroying these roads
- Cars driving way too fast. Better signage and enforcement
- Parking
- Traffic too fast, especially in horse areas
- Main roads too narrow. Speed limit on gravel roads with equestrian traffic
- Speed limits are too high
- Speeding
- Lack of bicycle & pedestrian lanes.
- Price of gas. With Lake Adger and Brights Creek in area, there will be increased residents on the road - the industrial/commercial traffic will still be there also
- Transit rides in the evening/After 9:00pm

- DOT flatly refuses to make Georgia Cliff Road and Merrick Roads State Road maintained in spite of Polk Commission approval. Something needs to be done to include all roads in the county in long range plan
- Need buses or trolley
- Safety
- Roads
- Narrow 2 lane roads at 55 mph, people overtaking and passing



## Appendix E: Resources and Contacts

### **Customer Service Office**

1-877-DOT4YOU  
(1-877-368-4968)

### **Secretary of Transportation**

1501 Mail Service Center  
Raleigh, NC 27699-1501  
(919) 733-2520

### **Board of Transportation Member**

Contact information for the current Board of Transportation Member may be accessed from the NCDOT homepage on the worldwide web (<http://apps01.dot.state.nc.us/apps/directory/30.html> /) or by calling 1-877-DOT4YOU.

## **Highway Division 14**

### **Division Engineer**

Contact the Division Engineer with general questions concerning NCDOT activities within Division 14 or information on Small Urban Funds.

253 Webster Road  
Sylva, NC 28779  
(828) 586-2141

### **Division Construction Engineer**

Contact the Division Construction Engineer for information concerning major roadway improvements under construction.

253 Webster Road  
Sylva, NC 28779  
(828) 586-2141

### **Division Traffic Engineer**

Contact the Division Traffic Engineer for information concerning high-collision locations.

253 Webster Road  
Sylva, NC 28779  
(828) 631-1185

### **District Engineer - District 1: Counties- Henderson, Polk, Transylvania**

Contact the District Engineer for information regarding Driveway Permits, Right of Way Encroachments, and Development Reviews.

4142 Haywood Rd  
Mills River, NC 28742  
(828) 891-7911

**County Maintenance Engineer**  
Contact the County Maintenance Engineer regarding any maintenance activities, such as drainage.

Box 905, 203 Locust St  
Columbus, NC 28722  
(828) 894-8208

## **Centralized Personnel**

**Transportation Planning Branch**  
Contact the Transportation Planning Branch with long-range planning questions.

1554 Mail Service Center  
Raleigh, NC 27699-1554  
(919) 733-4705

**Secondary Roads Office**  
Contact the Secondary Roads Office for information regarding the Industrial Access Funds Program.

1535 Mail Service Center  
Raleigh, NC 27699-1535  
(919) 733-3250

**Program Development Branch**  
Contact the Program Development Branch for information concerning Roadway Official Corridor Maps and the Transportation Improvement Program (TIP).

1542 Mail Service Center  
Raleigh, NC 27699-1542  
(919) 733-2031

**Project Development & Environmental Analysis Branch**  
Contact PDEA for information on environmental studies for projects that are included in the TIP.

1548 Mail Service Center  
Raleigh, NC 27699-1548  
(919) 733-3141

**Traffic Engineering & Safety Systems Branch**  
Contact the Traffic Engineering & Safety Systems Branch for information regarding Development Reviews and signals on state roads.

1561 Mail Service Center  
Raleigh, 27699-1561  
(919) 773-2800

**Highway Design Branch**  
Contact the Highway Design Branch for information regarding alignments for projects that are included in the TIP.

1584 Mail Service Center  
Raleigh, 27699-1584  
(919) 250-4001



**Bicycle and Pedestrian Division**

Contact the Bicycle and Pedestrian Division for information regarding projects in the TIP, funding, and events.

1552 Mail Service Center  
Raleigh, 27699-1552  
(919) 807-0777

**Public Transportation Division**

Contact the Public Transportation Division for information regarding fixed and demand responsive transit.

1550 Mail Service Center  
Raleigh, 27699-1550  
(919) 733-4713

**Rail Division**

Contact the Rail Division for information regarding engineering and safety, operations, and planning for passenger and freight rail transportation.

1553 Mail Service Center  
Raleigh, 27699-1553  
(919) 733-7245

**Other departments**

Contact information for other departments within the NCDOT not listed here are available at the NCDOT homepage on the worldwide web (<http://www.ncdot.org/board/>) or by calling 1-877-DOT4YOU.

