



## Comprehensive Transportation Plan



## Town of Norwood

July 2010

---

# Comprehensive Transportation Plan

## Town of Norwood

**Prepared by:** Reuben Q. Crummy, Project Engineer  
Jamal Alavi, P.E., Metrolina Planning Group Supervisor  
Transportation Planning Branch  
N.C. Department of Transportation

**In Cooperation with:** Stanly County  
Town of Norwood  
Rocky River Rural Planning Organization

**July 2010**

## Executive Summary

---

---

In February of 2005, the Transportation Planning Branch of the North Carolina Department of Transportation (NCDOT) and the Town of Norwood initiated a study to cooperatively develop the Town of Norwood Comprehensive Transportation Plan (CTP). This is a long range multi-modal transportation plan that covers transportation needs through 2030. Modes of transportation evaluated as part of this plan include: highway, public transportation and rail, bicycle, and pedestrian. This plan does not cover standard bridge replacements, routine maintenance, or minor operations issues. Refer to Appendix A for contact information on these types of issues.

Findings of this CTP study were based on an analysis of the transportation system, environmental screening, and public input. Refer to Figure 1 for the CTP maps, which were mutually endorsed/adopted in 2009. Implementation of the plan is the responsibility of the Town of Norwood and NCDOT. Refer to Chapter 1 for information on the implementation process.

This report documents the recommendations for improvements that are included in the Town of Norwood CTP. The major recommendation for improvement is listed below. More detailed information about this and other recommendations can be found in Chapter 1.

- **US 52 (R-2320):** Widen to a four-lane divided boulevard from the Stanly County line to NC 731 and from the northern Norwood Planning Area to the proposed US 52 Bypass. Construct a four-lane divided expressway on new location from NC 731 to US 52 south of Bowers Road (SR 1745). The proposed bypass will use a portion of the existing Riverview Road (SR 1927).

## Table of Contents

---

---

I. Recommendations	I-1
Implementation	I-1
Problem Statements and Project Descriptions	I-2
II. Analysis of the Existing and Future Transportation System	II-1
Analysis Methodology and Data Requirements	II-1
Roadway System Analysis	II-1
Traffic Crash Analysis	II-2
Bridge Deficiency Assessment	II-7
Public Transportation and Rail	II-7
Public Transportation	II-7
Rail	II-8
Bicycles and Pedestrians	II-8
Land Use	II-9
Consideration of the Natural and Human Environment	II-15
Public Involvement	II-19

## Appendices

---

---

Appendix A: Resources and Contacts	A-1
Appendix B: Comprehensive Transportation Plan Definitions	B-1
Appendix C: CTP Inventory and Recommendations	C-1
Appendix D: Typical Cross-Sections	D-1
Appendix E: Level of Service Definitions	E-1
Appendix F: Bridge Deficiency Assessment	F-1
Appendix G: Public Involvement	G-1
Appendix H: Additional Transportation Alternatives & Scenarios Studied	H-1

## List of Figures

---

---

Figure 1	Comprehensive Transportation Plan	I-7
Figure 2	Existing Roadway Deficiency	II-3
Figure 3	Future Roadway Deficiency	II-5
Figure 4	Deficient Bridges	II-11
Figure 5	Future Land Use Map	II-13
Figure 6	Environmental Features	II-17
Figure 7	Typical Cross Sections	D-5
Figure 8	Level of Service Illustrations	E-2
Figure 9	Norwood Comprehensive Transportation Plan Highway Alternatives	H-3

## List of Tables

---

---

Table 1	Environmental Features	II-15
Table 2	Restricted Environmental Features	II-16
Table 3	CTP Inventory and Recommendations	C-2
Table 4	Deficient Bridges	F-2

# I. Recommendations

---

---

A Comprehensive Transportation Plan (CTP) is developed to ensure that the progressively developed transportation system will meet the needs of the region for the planning period. The CTP serves as an official guide to providing a well-coordinated, efficient, and economical transportation system for the future of the region. This document should be utilized by the local officials to ensure that planned transportation facilities reflect the needs of the public, while minimizing the disruption to local residents, businesses and the environment.

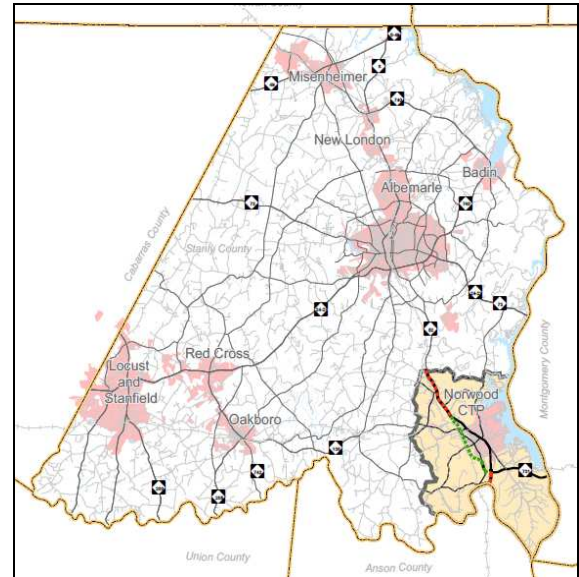
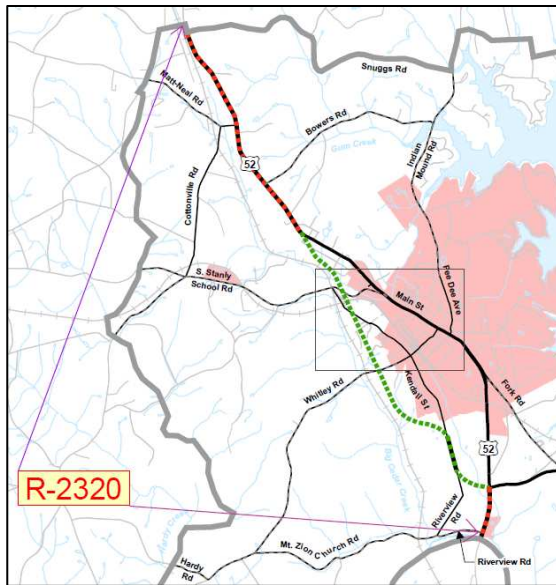
This report documents the development of the Norwood CTP as shown in Figure 1. This chapter presents recommendations for each mode of transportation in the Town.

Following are problems statements or project descriptions for each recommendation, organized by CTP modal element.

## **Implementation**

The CTP is based on the projected growth for the planning area. It is possible that actual growth patterns will differ from those logically anticipated. As a result, it may be necessary to accelerate or delay the implementation of some recommendations found within this plan. Some portions of the plan may require revisions in order to accommodate unexpected changes in development. Therefore, any changes made to one element of the CTP should be consistent with the other elements.

Initiative for implementing the CTP rests predominately with the policy boards and citizens of Norwood. As transportation needs throughout the State exceed available funding, it is imperative that the local planning area aggressively pursue funding for priority projects. Projects should be prioritized locally and submitted to the Rocky River RPO for regional prioritization and submittal to NCDOT. Refer to Appendix A for contact information on funding. Local governments may use the CTP to guide development and protect corridors for the recommended projects. It is critical that NCDOT and local government coordinate on relevant land development reviews and all transportation projects to ensure proper implementation of the CTP. Local governments and the North Carolina Department of Transportation share the responsibility for access management and the planning, design and construction of the recommended projects.



**US 52 Project Location Map**

**Problem Statement:**

US 52 (Main Street) is projected to be near or over capacity by 2030 in the Norwood area, from Bowers Road (SR 1923) to Fork Road (SR 1766). The primary purpose of improving US 52 is to relieve congestion and accommodate projected traffic by maintaining a LOS “D”.

**Justification of Need**

US 52 is a major north-south corridor in Stanly County, connecting the county seat of Albemarle with other municipal centers, such as New London and the Village of Misenheimer. The facility is a vital artery in moving people, services and goods through North Carolina, connecting Winston–Salem to urban areas such as Salisbury and Lexington, ultimately connecting to Virginia and South Carolina.

US 52 is currently a principal arterial (two-lane cross-section) from Porter Road (SR 1908) to the Rocky River, and (three-lane cross-section) from South Stanly School Road (SR 1923) to Whitley Street and Pee Dee Avenue (SR 1740) to Fork Road (SR 1766). The existing US 52 is ultimately envisioned to be a boulevard facility at a minimum, based on the Strategic Highway Corridor Vision Plan, which will improve regional and statewide mobility and connectivity. US 52 is part of the statewide tier of the NC Multimodal Investment Network (NCOMIN).

By 2030 the facility is projected to be over capacity throughout the Norwood area based on providing a LOS D capacity. North of Norwood, traffic is projected to increase from 10,000 vehicles per day (vpd) in 2000 to 11,600 vpd in 2030, compared to a capacity of 11,900 vpd. The downtown traffic is projected to increase from 11,500 vpd in 2000 to 16,300 vpd in 2030, compared to the capacity of 11,900 vpd.

## **Community Vision and Problem History**

The Town of Norwood envisions their transportation system as a safe, efficient, and convenient roadway system that promotes economic development and vitality and serves the existing and future vehicular travel needs within the planning area. The US 52 Bypass will assist in reducing the expected traffic congestion in and out of the downtown business and commercial areas. While assisting in maintaining a more attractive appearance to the community in which they live. The Town also envisions providing bikeways, sidewalks, and pedestrian oriented travel options to increase recreational opportunities and provide alternative modes of transportation.

## **CTP Project Proposal**

### **Project Description and Overview**

The CTP proposed project (Local ID R-2320) is to:

- Widen US 52 from a two-lane facility to a four-lane divided boulevard from the Stanly County line to NC 731 and from the northern Norwood Planning Area to the proposed US 52 Bypass.
- Construct a four-lane divided expressway from NC 731 to Riverview Road (SR 1927) and from Kendall Street to existing US 52, south of Bowers Road (SR 1745)
- Widen to a four-lane divided expressway from Riverview Road (SR 1927) to Kendall Street.
- Grade separations are proposed at South Stanly School Road (SR 1923) and the Winston-Salem Southbound Railway (WSS) corridor.
- There are recommendations for off-road multi-use paths throughout the planning area boundary for the Norwood area.

The CTP project proposal for US 52 would reduce congestion in downtown Norwood and provide better efficiency for through traffic. The CTP recommendation would provide for a LOS D or better along existing US 52 (Main Street) through Norwood and a LOS C or better on the new location for US 52. This CTP proposed project would allow through traffic to move around the downtown area of Norwood without having to use the congested town streets and would provide better access to the NC 731. It is the goal of this recommendation to allow through trips to move around the area and at the same time make a more efficient and direct connection for Stanly County residents and visitors.



## **Linkages to Other Plans and Proposed Project History**

The proposed US 52 recommendation is an important link to many of the recommendations in Stanly County CTP. US 52 is a principal arterial on the Federal Functional Classification System and is a north-south facility directly connected to proposed improvements to NC 731, NC 24-27, NC 73, NC 740, NC 8, NC 49. Additionally, the 2003 Stanly County Thoroughfare Plan recommends improvement of US 52 to a multi-lane facility.

## **Land Use Patterns**

The 2008 Norwood Land Use Plan indicates that western Norwood along the proposed 52 Bypass will be urbanized by 2030. Mixed use development is expected along this corridor. Mobility on this proposed facility can be maximized by limiting driveway access.

## **Natural & Human Environmental Context**

In the development of the CTP, various options were studied for the US 52 improvements. A new location route was chosen west of the municipal limits of Norwood due to substantial human impacts to businesses and residents if the existing facility were to be widened. Several options for the new location route were studied and are documented in Appendix H. The selected alternative minimizes the impacts to homes and businesses. Based on available GIS data, none of the natural and human environmental features examined as a part of this study were identified in the immediate vicinity of the project.

## **Multi-modal Considerations**

The CTP includes recommendations for bicycle and pedestrian transportation facilities around the Town of Norwood. Freight mobility is expected to be improved by the proposed US 52 Bypass and US 52 widening. In addition, there is not a transit system currently in operation or planned through the year 2030 that would reduce the need to improve this facility.

## **Public/ Stakeholder Involvement**

As part of developing the CTP recommendation for US 52, multiple options were considered by the Norwood CTP Task Force Members, the Norwood Planning Board, the Norwood Town Council and the Rocky River RPO. The groups analyzed in detail five corridor options, considering transportation needs and impacts to the natural and human environment, before recommending the proposed US 52 Bypass shown on the Norwood CTP. From the public meetings and other comment opportunities, the primary public concern was that no new location be located east of Norwood in order to protect the rural character of the area and limit the impacts to environmentally sensitive areas.

## Other Minor Recommendations

- **STAN0001-H, Bowers Road (SR 1745):** Widen to a 20 ft roadway with 2 ft paved shoulders from US 52 (Main Street) to Indian Mound Road (SR 1740).
- **STAN0002-H, Cottonville Road (SR 1918):** Widen to a 20 ft roadway with 2 ft paved shoulders from Hardy Creek to South Stanly School Road (SR 1923).
- **STAN0003-H, Fork Road (SR 1766):** Widen to a 22 ft roadway with 11 ft travel lanes and 4 ft paved shoulders from US 52 (Main St) to NC 731 and realign the intersection at US 52 (Main St) to improve connectivity.
- **STAN0004-H, Hardy Road (SR 1937):** Widen to a 24 ft roadway with 12 ft travel lanes and 4 ft paved shoulders from Mount Zion Church Road (SR 1934) to Hardy Creek.
- **STAN0005-H, Indian Mound Road (SR 1740)/Pee Dee Avenue:** Widen to a 24-ft roadway with 4-ft paved shoulders from Summit Street to Randalls Church Road (SR 1743).
- **STAN0006-H, Matt-Neal Road (SR 1914):** Widening of this roadway to a 22-ft roadway with 11-ft travel lanes and 2-ft paved shoulders from Swearingen Road (SR 1913) to Cottonville Road (SR 1918).
- **STAN0007-H, Mount Zion Church Road (SR 1934):** Widen to a 24 ft roadway with 12 ft travel lanes and 4 ft paved shoulders from Hardy Road (SR 1937) to Riverview Road (SR 1927).
- **STAN0008-H, Riverview Road (SR 1934):** Widening of this roadway to a 22-ft roadway with 11-ft travel lanes and 2-ft paved shoulders from Riverview Road (SR 1927) to US 52.
- **STAN0009-H, South Stanly School Road (SR 1923) Intersection Improvements:** Realignment of this roadway from its existing angular intersection with US 52 to a more standard “T” intersection and widening of this roadway to a 24-ft roadway with 12-ft travel lanes and 2-ft paved shoulders from US 52 (Main Street) to Hardy Creek.
- **STAN0010-H, Snuggs Road (SR 1744):** Widening of this roadway to a 22-ft roadway with 11-ft travel lanes and 2-ft paved shoulders from US 52 to Indian Mound Road (SR 1740).
- **STAN0011-H, Whitley Road (SR 1933):** Widen to a 22-ft roadway with 11-ft travel lanes and 2-ft paved shoulders from Rock Haven Drive to Mount Zion Church Road (SR 1934).

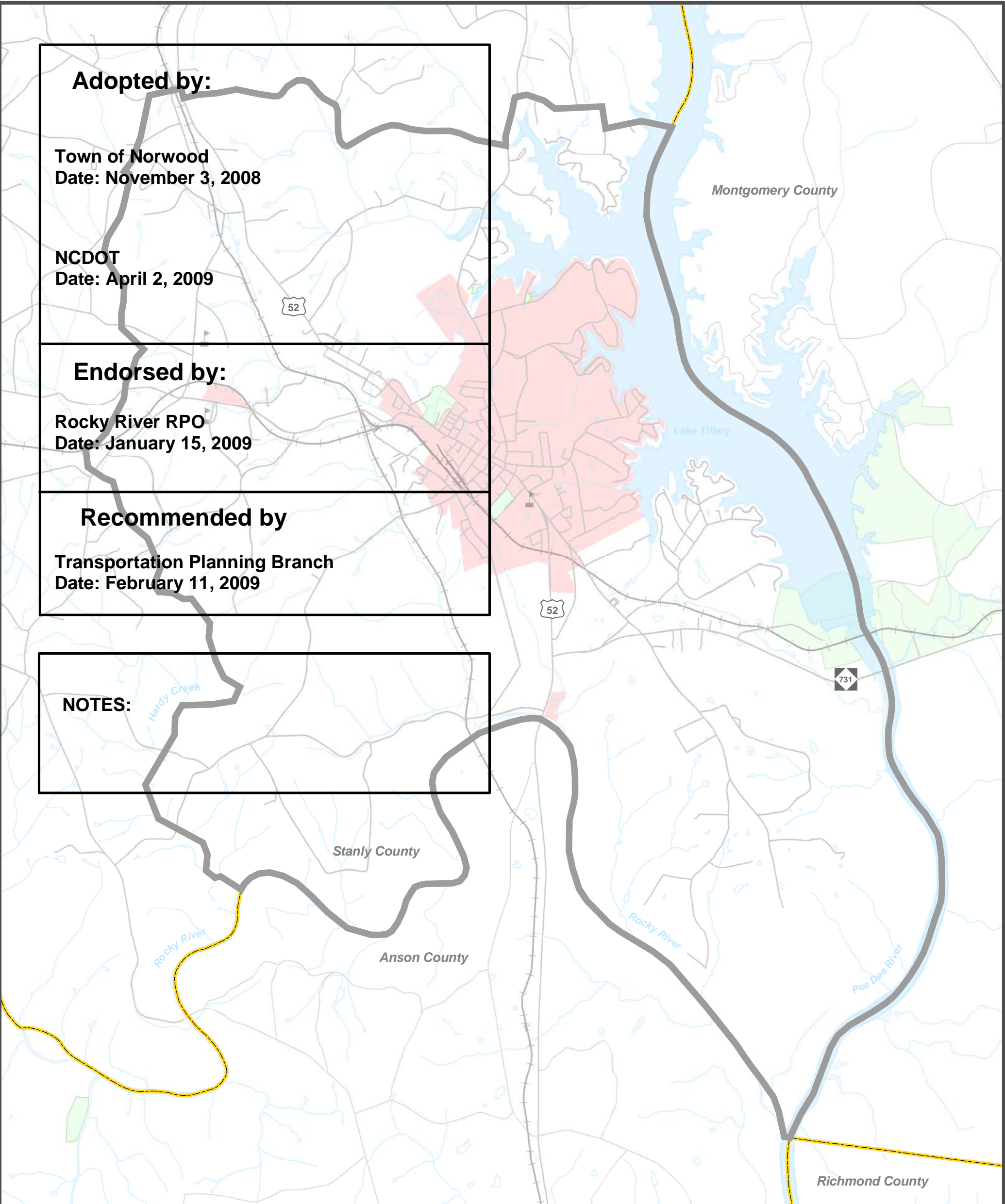
**Adopted by:**  
**Town of Norwood**  
**Date: November 3, 2008**

**NCDOT**  
**Date: April 2, 2009**

**Endorsed by:**  
**Rocky River RPO**  
**Date: January 15, 2009**

**Recommended by**  
**Transportation Planning Branch**  
**Date: February 11, 2009**

**NOTES:**



Sheet 1	Adoption Sheet
Sheet 2	Highway Map
Sheet 3	Public Transportation and Rail Map
Sheet 4	Bicycle Map
Sheet 5	Pedestrian Map

**Legend**

- Planning Boundary
- County Boundary
- Schools
- Roads
- Railroads
- Rivers and Streams
- Water Bodies
- Parks & Game Land
- Town Limits

0 0.2 0.4 0.8 1.2 Miles

Sheet 1 of 5

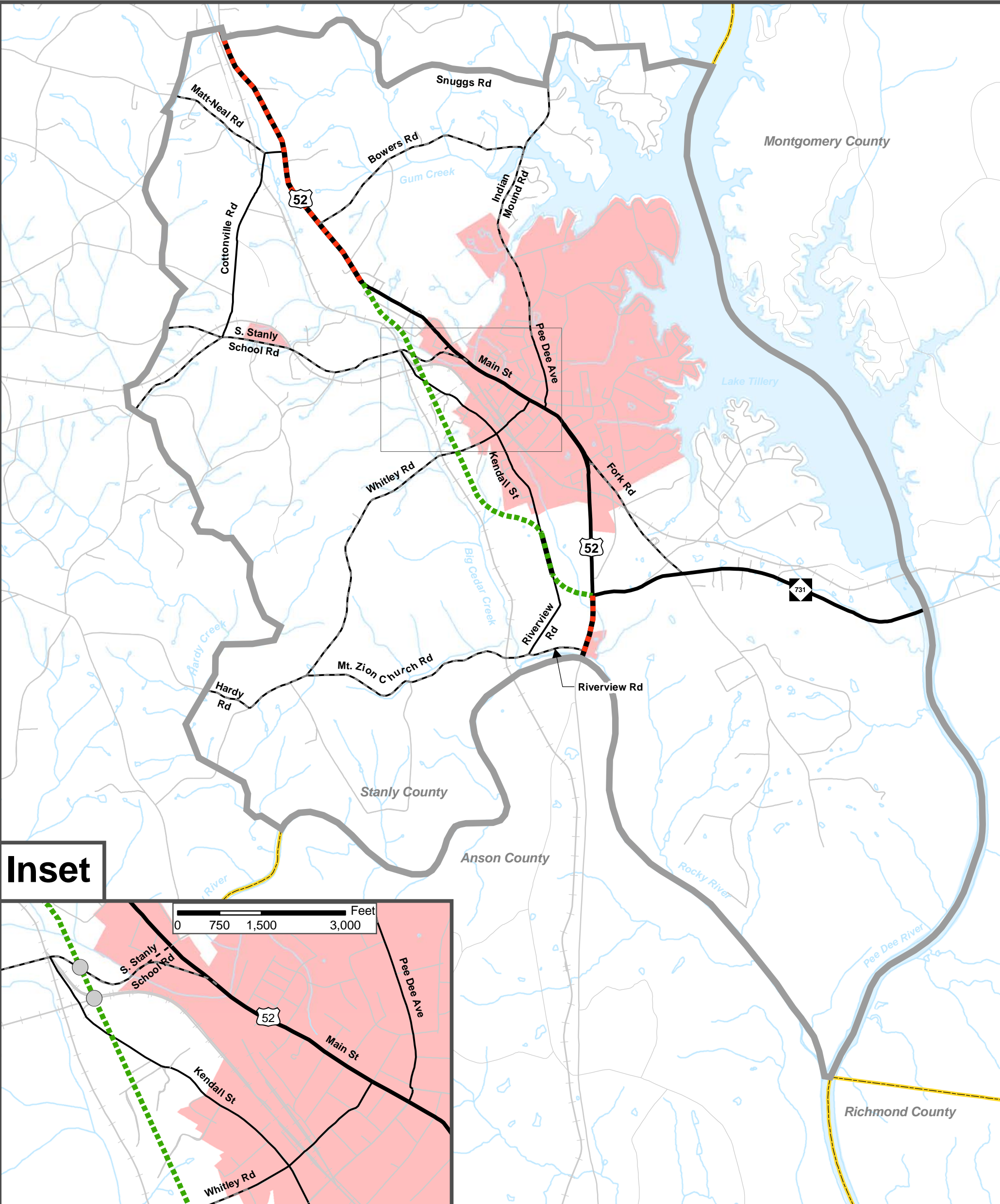
Base map date: August 4, 2006  
 Refer to CTP document for more details

**Norwood**  
 Stanly County  
 North Carolina

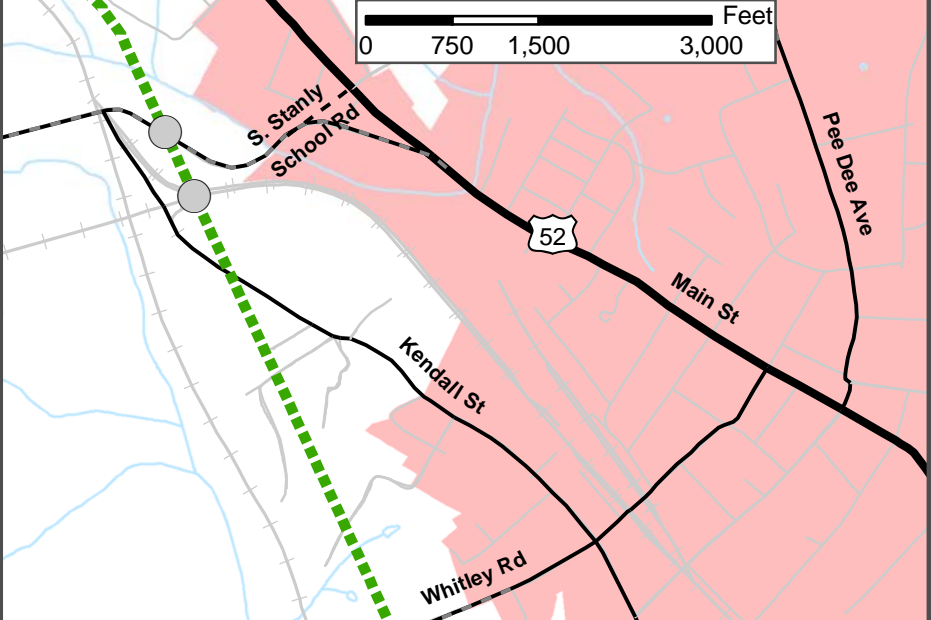
**Comprehensive  
 Transportation Plan**

Plan date: June 20, 2008

Figure 1 - Sheet 1



**Inset**



<b>Freeways</b>	<b>Other Major Thoroughfares</b>
Existing	Existing
Needs Improvement	Needs Improvement
Recommended	Recommended
<b>Expressways</b>	<b>Minor Thoroughfares</b>
Existing	Existing
Needs Improvement	Needs Improvement
Recommended	Recommended
<b>Boulevards</b>	Existing Interchange
Existing	Proposed Interchange
Needs Improvement	Existing Grade Separation
Recommended	Proposed Grade Separation

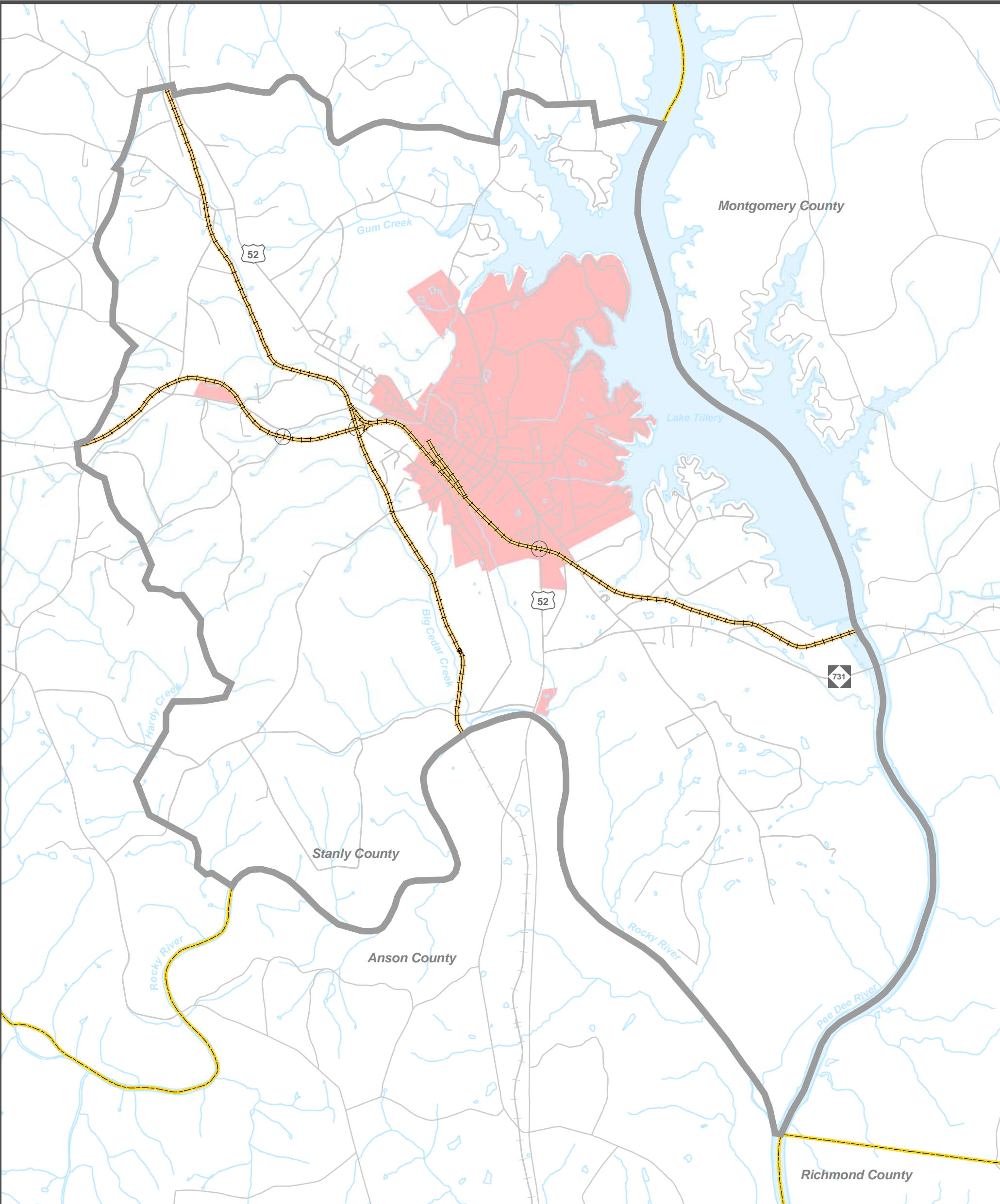
0 0.2 0.4 0.8 1.2 Miles

Sheet 2 of 5  
 Base map date: August 4, 2006  
 Refer to CTP document for more details

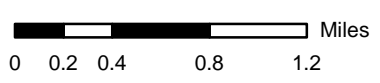
**Highway Map**

**Norwood**  
**Comprehensive**  
**Transportation Plan**  
 Plan date: June 20, 2008

Figure 1 - Sheet 2



<b>Bus Routes</b> Existing Needs Improvement Recommended	<b>Rail Corridor</b> Active Inactive Recommended	Existing Grade Separation Proposed Grade Separation
<b>Fixed Guideway</b> Existing Needs Improvement Recommended	<b>High Speed Rail Corridor</b> Existing Recommended	<b>Intermodal Connector</b> Existing Recommended
<b>Operational Strategies</b> Existing Needs Improvement Recommended	<b>Park and Ride Lot</b> Existing Recommended	<b>Rail Stops</b> Existing Recommended



Sheet 3 of 5

Base map date: August 4, 2006  
 Refer to CTP document for more details

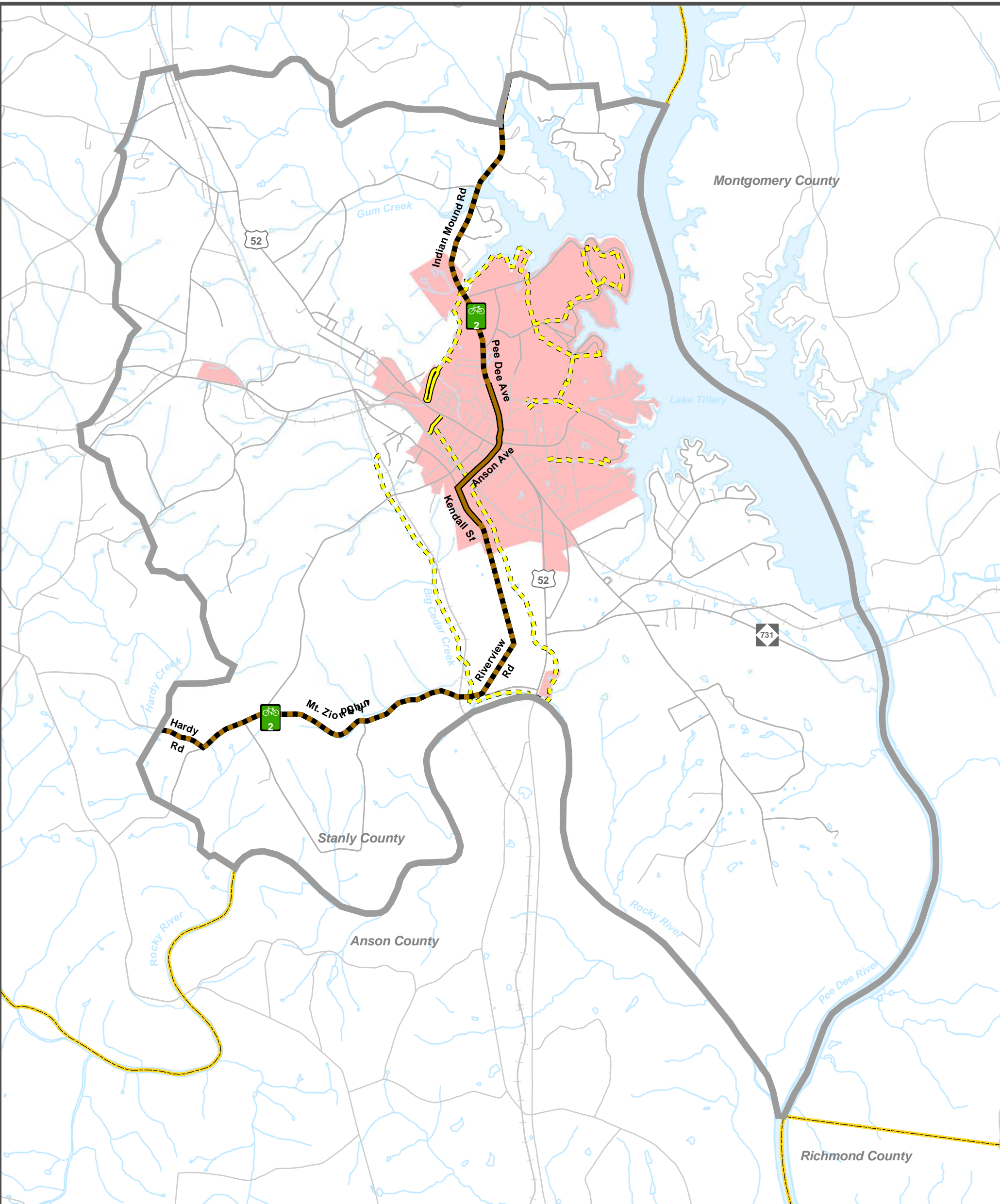
## Public Transportation and Rail Map



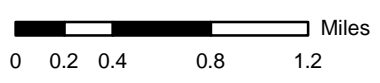
# Norwood Comprehensive Transportation Plan

Plan date: June 20, 2008

Figure 1 - Sheet 3



- |                   |                           |
|-------------------|---------------------------|
| <b>On-road</b>    | <b>Multi-Use Paths</b>    |
| Existing          | Existing                  |
| Needs Improvement | Needs Improvement         |
| Recommended       | Recommended               |
| <b>Off-road</b>   |                           |
| Existing          | Existing Grade Separation |
| Needs Improvement | Proposed Grade Separation |
| Recommended       |                           |



Sheet 4 of 5

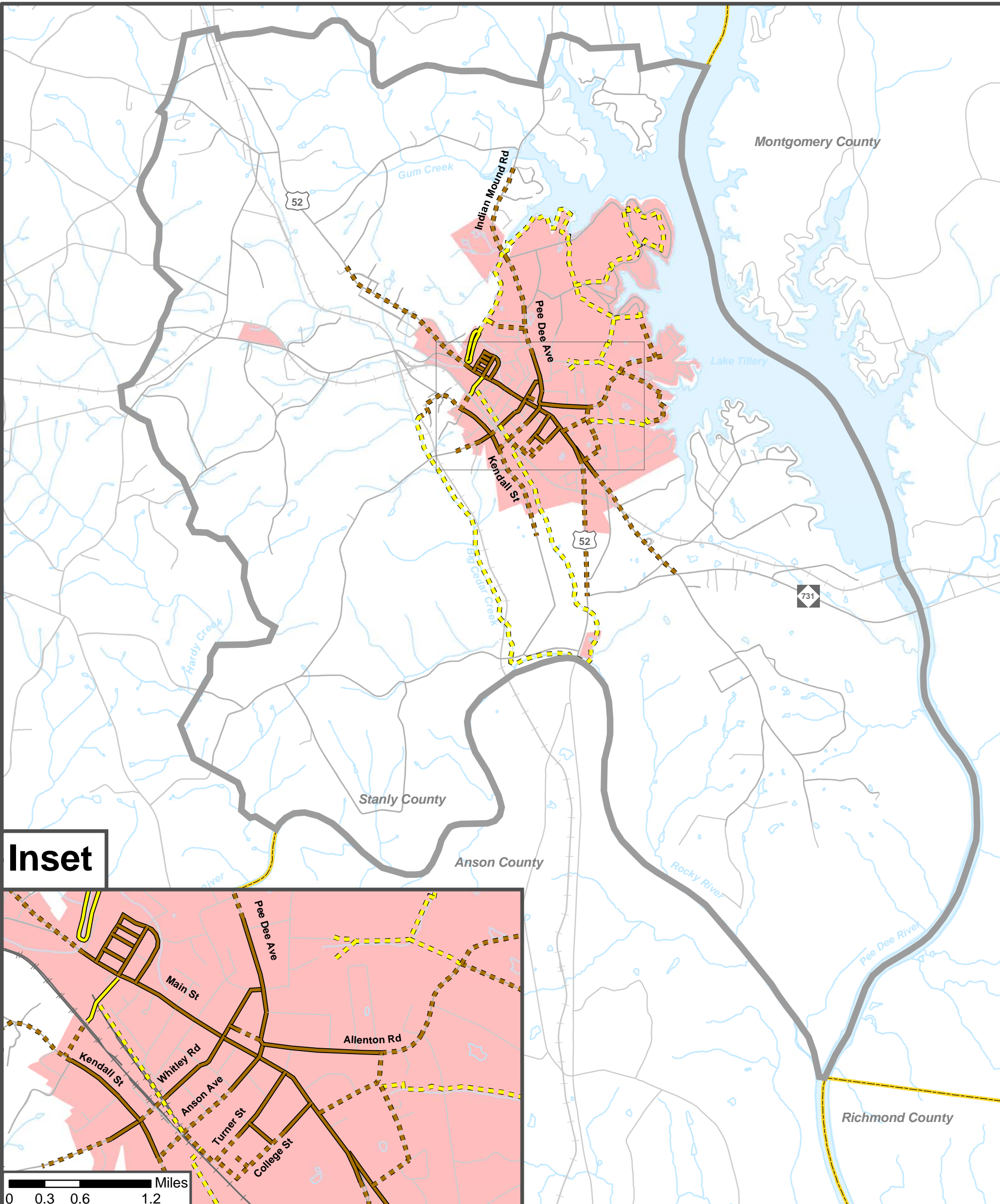
Base map date: August 4, 2006  
Refer to CTP document for more details

### Bicycle Map



**Norwood**  
**Comprehensive**  
**Transportation Plan**  
Plan date: June 20, 2008

Figure 1 - Sheet 4



**Inset**



<b>Sidewalks</b>		<b>Multi-Use Paths</b>	
	Existing		Existing
	Needs Improvement		Needs Improvement
	Recommended		Recommended
<b>Off-Road</b>			Existing Grade Separation
	Existing		Proposed Grade Separation
	Needs Improvement		
	Recommended		

0 0.2 0.4 0.8 1.2 Miles

Sheet 5 of 5

Base map date: August 4, 2006  
Refer to CTP document for more details

**Pedestrian Map**

**Norwood**  
**Comprehensive**  
**Transportation Plan**

Plan date: June 20, 2008

Figure 1 - Sheet 5

## **II. Analysis of the Existing and Future Transportation System**

---

---

In order to develop a Comprehensive Transportation Plan (CTP), the following are considered:

- Analysis of the transportation system, including any local and statewide initiatives;
- Impacts to the natural and human environment, including natural resources, historic resources, homes, and businesses;
- Public input, including community vision and goals and objectives.

### ***Analysis Methodology and Data Requirements***

Reliable forecasts of future travel patterns must be estimated in order to analyze the ability of the transportation system to meet future travel demand. These forecasts depend on careful analysis of the character and intensity of existing and future land use and travel patterns.

An analysis of the transportation system looks at both current and future travel patterns and identifies existing and anticipated deficiencies. This is usually accomplished through a capacity deficiency analysis, a traffic crash analysis, and a system deficiency analysis. This information, along with population growth, economic development potential, and land use trends, is used to determine the potential impacts on the future transportation system.

### ***Roadway System Analysis***

An important stage in the development of a CTP is the analysis of the existing transportation system and its ability to serve the area's travel desires. Emphasis is placed not only on detecting the existing deficiencies, but also on understanding the causes of these deficiencies. Roadway deficiencies may result from inadequacies such as pavement widths, intersection geometry, and intersection controls; or system problems, such as the need to construct missing travel links, bypass routes, loop facilities, or additional radial routes.

In the development of this plan, travel demand was projected from 2000 to 2030 using a trend line analysis based on Annual Average Daily Traffic (AADT) from 1983 to 2005. In addition, local land use plans and growth expectations were used to further refine future growth rates and patterns.

Existing and future travel demand is compared to existing roadway capacities. Capacity deficiencies occur when the traffic volume of a roadway exceeds the roadway's capacity. Roadways are considered near capacity when the traffic volume is at least eighty percent of the capacity. Refer to Figures 2 and 3 for existing and future capacity deficiencies.



Capacity is the maximum number of vehicles which have a “reasonable expectation” of passing over a given section of roadway, during a given time period under prevailing roadway and traffic conditions. Many factors contribute to the capacity of a roadway including the following:

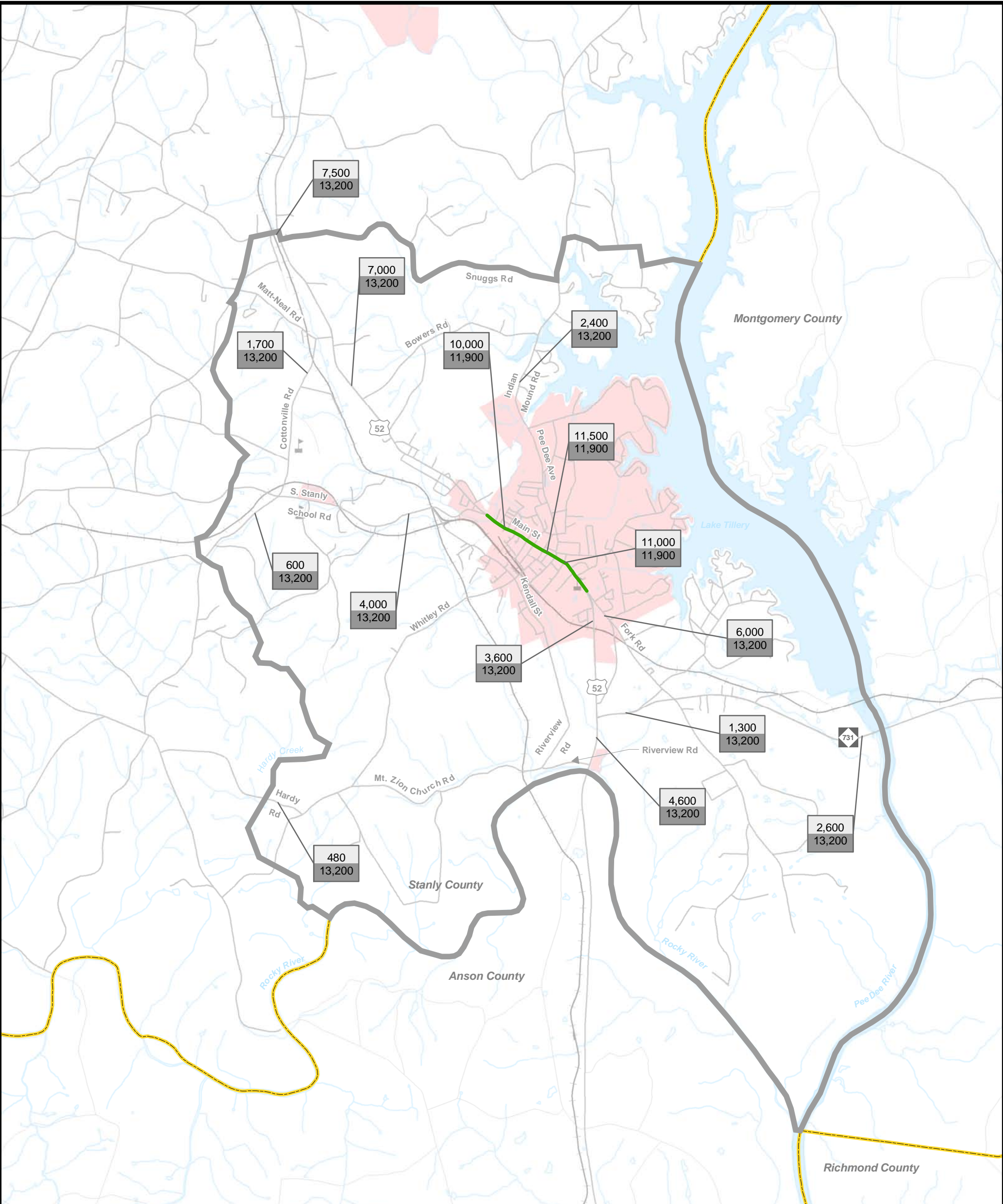
- Geometry of the road (including number of lanes), horizontal and vertical alignment, and proximity of perceived obstructions to safe travel along the road;
- Typical users of the road, such as commuters, recreational travelers, and truck traffic;
- Access control, including streets and driveways, or lack thereof, along the roadway;
- Development along the road, including residential, commercial, agricultural, and industrial developments;
- Number of traffic signals along the route;
- Peaking characteristics of the traffic on the road;
- Characteristics of side-roads feeding into the road; and
- Directional split of traffic or the percentages of vehicles traveling in each direction along a road at any given time.

The relationship of travel demand compared to the roadway capacity determines the level of service (LOS) of a roadway. Six levels of service identify the range of possible conditions. Designations range 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 practical capacity for each roadway was developed based on the 2000 Highway Capacity Manual using the North Carolina Level of Service (NCLOS) program. Recommended improvements and overall design of the transportation plan were based upon achieving a minimum LOS D on existing facilities and a LOS C for new facilities. Refer to Appendix E for detailed information on LOS.

### Traffic Crash Analysis

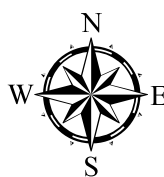
Traffic crashes are often used as an indicator for locating congestion and roadway problems. Crash patterns obtained from an analysis of crash data can lead to the identification of improvements that will reduce the number of crashes. A crash analysis was performed for the Norwood CTP for crashes occurring in the planning area between January 1, 2003 and December 31, 2005. In a crash analysis, intersections are identified as a high crash location when 10 or more crashes occur within 150-ft of the intersection. During this period, no intersections were identified as high crash locations. To request a detailed analysis for any intersection within the area, contact the Division Traffic Engineer (refer to Appendix A).



### Legend

- Schools
- Roads
- Railroads
- Rivers and Streams
- County Boundary
- Water Bodies
- Municipal Boundary
- Planning Boundary
- Near Capacity
- Over Capacity
- 2000 Volumes (AADT)
- 2000 Capacity

0 0.25 0.5 1 1.5 Miles



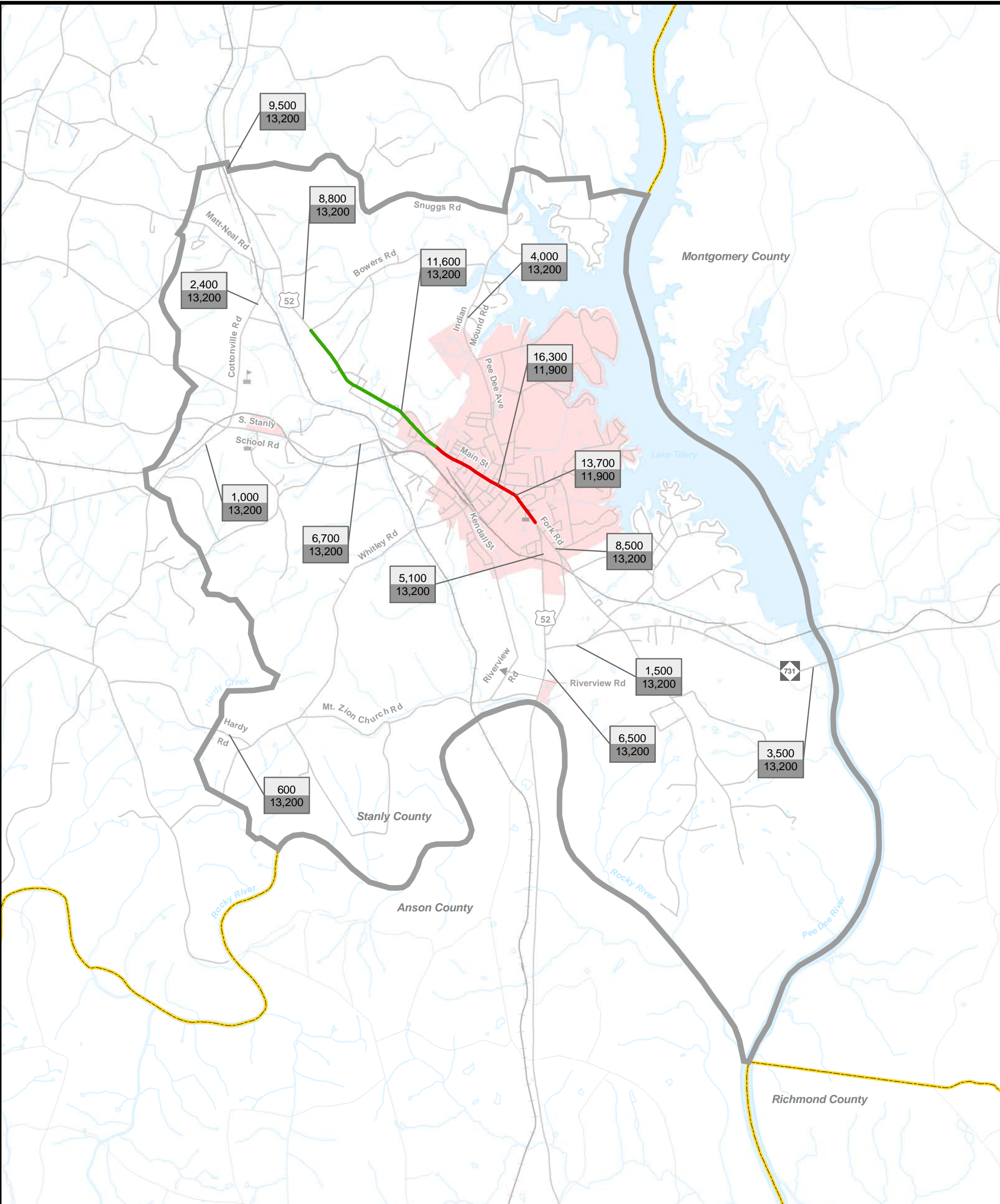
Base map date: August 4, 2006  
Refer to CTP document for more details

Figure 2

### 2000 Volumes and Capacity Deficiencies



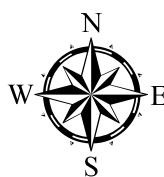
## Norwood Comprehensive Transportation Plan



**Legend**

- Schools
- Roads
- Railroads
- Rivers and Streams
- County Boundary
- Water Bodies
- Municipal Boundary
- Planning Boundary
- Near Capacity
- Over Capacity
- 2030 Volumes (AADT)
- 2000 Capacity

0 0.25 0.5 1 1.5 Miles



Base map date: August 4, 2006  
Refer to CTP document for more details

Figure 3  
**2030 Volumes and Capacity Deficiencies**



**Norwood Comprehensive Transportation Plan**

## Bridge Deficiency Assessment

Bridges are a vital and unique element of a highway system. First, they represent the highest unit investment of all elements of the system. Second, any inadequacy or deficiency in a bridge reduces the value of the total investment. Third, a bridge presents the greatest opportunity of all potential highway failures for disruption of community welfare. Finally, and most importantly, a bridge represents the greatest opportunity of all highway failures for loss of life. For these reasons, it is imperative that bridges be constructed to the same design standards as the system of which they are a part.

The NCDOT Bridge Maintenance Unit inspects all bridges in North Carolina at least once every two years. Bridges having the highest priority are replaced as Federal and State funds become available. Four deficient bridges were identified within the planning area and are illustrated in Figure 4. Refer to Appendix G for more detailed information.

## ***Public Transportation and Rail***

Public transportation and rail are vital modes of transportation that give alternative options for transporting people and goods from one place to another.

### Public Transportation

North Carolina's public transportation systems serve more than 50 million passengers each year. Five categories define North Carolina's public transportation: community, regional community, urban, regional urban and intercity.

- Community Transportation - Local transportation efforts formerly centered on assisting clients of human service agencies. Today, the vast majority of rural systems serve the general public as well as those clients.
- Regional Community Transportation - Regional community transportation systems are composed of two or more contiguous counties providing coordinated / consolidated service. Although such systems are not new, the NCDOT Board of Transportation is encouraging single-county systems to consider mergers to form more regional systems.
- Urban Transportation – There are currently nineteen urban transit systems operating in North Carolina, from locations such as Asheville and Hendersonville in the west to Jacksonville and Wilmington in the east. In addition, small urban systems are at work in three areas of the state. Consolidated urban-community transportation exists in five areas of the state. In those systems, one transportation system provides both urban and rural transportation within the county.
- Regional Urban Transportation - Regional urban transit systems currently operate in three areas of the state. These systems connect multiple municipalities and counties.

- Intercity Transportation - Intercity bus service is one of a few remaining examples of privately owned and operated public transportation in North Carolina. Intercity buses serve many cities and towns throughout the state and provide connections to locations in neighboring states and throughout the United States and Canada. Greyhound/Carolina Trailways operates in North Carolina. However, community, urban and regional transportation systems are providing increasing intercity service in North Carolina.

There are no existing or planned fixed public transportation routes within the planning area. Stanly County Umbrella of Services Association (SCUSA) provides community transportation services responsive to the current and changing needs of Stanly County residents. Services are provided utilizing vans and buses through subscription and demand response routes. Vehicles are available to better serve the disabled population. All recommendations for public transportation were coordinated with the local governments and the Public Transportation Division of NCDOT. Refer to Appendix A for contact information.

### Rail

Today North Carolina has 3,684 miles of railroad tracks throughout the state. There are two types of trains that operate in the state, passenger trains and freight trains.

The North Carolina Department of Transportation sponsors two passenger trains, the Carolinian and Piedmont. The Carolinian runs between Charlotte and New York City, while the Piedmont train carries passengers from Raleigh to Charlotte and back everyday. Combined, the Carolinian and Piedmont carry more than 200,000 passengers each year.

There are two major freight railroad companies that operate in North Carolina, CSX Transportation and Norfolk Southern Corporation. Also, there are more than 20 smaller freight railroads, known as shortlines.

An inventory of existing and planned rail facilities for the planning area is presented on Sheet 3 of Figure 1. Currently, the Aberdeen, Carolina, and Western Railway (ACWR) provides freight service on the existing rail. The State of North Carolina, in conjunction with Amtrak, commissioned JBM Engineers and Planners, Inc to conduct an engineering analysis of the Northern and Southern Routes between Raleigh and Charlotte for a high speed rail service. The Southern Route would potentially travel through the Town of Norwood. Additional studies are currently underway. All recommendations for rail were coordinated with the local governments and the Rail Division of NCDOT. Refer to Appendix A for contact information.

### ***Bicycles & Pedestrians***

Bicyclists and pedestrians are a growing part of the transportation equation in North Carolina. Many communities are working to improve mobility for both cyclists and pedestrians.

NCDOT's Bicycle Policy, updated in 1991, clarifies responsibilities regarding the provision of bicycle facilities upon and along the 77,000-mile state-maintained highway system. The policy details guidelines for planning, design, construction, maintenance, and operations pertaining to bicycle facilities and accommodations. All bicycle improvements undertaken by the NCDOT are based upon this policy.

The 2000 NCDOT Pedestrian Policy Guidelines specifies that NCDOT will participate with localities in the construction of sidewalks as incidental features of highway improvement projects. At the request of a locality, state funds for a sidewalk are made available if matched by the requesting locality, using a sliding scale based on population.

NCDOT's administrative guidelines, adopted in 1994, ensure that greenways and greenway crossings are considered during the highway planning process. This policy was incorporated so that critical corridors which have been adopted by localities for future greenways will not be severed by highway construction.

Inventories of existing and planned bicycle and pedestrian facilities for the planning area are presented on Sheet 4 and 5 of Figure 1. The Stanly County Bicycle Plan and the 2005 Norwood Pedestrian Plan were utilized in the development of these elements of the CTP. Stanly County Bicycle Route 2 goes through Norwood and most of the urban areas within the County. All recommendations for bicycle and pedestrian facilities were coordinated with the local governments and the NCDOT Division of Bicycle and Pedestrian Transportation. Refer to Appendix A for contact information.

### ***Land Use***

G.S. §136-66.2 requires that local areas have a current (less than five years old) land development plan prior to adoption of the CTP. For this CTP, the 2008 Norwood Land Use Plan was used to meet this requirement and is illustrated in Figure 5.

Land use refers to the physical patterns of activities and functions within an area. Traffic demand in a given area is, in part, attributed to adjacent land use. For example, a large shopping center typically generates higher traffic volumes than a residential area. The spatial distribution of different types of land uses is a predominant determinant of when, where, and to what extent traffic congestion occurs. The travel demand between different land uses and the resulting impact on traffic conditions varies depending on the size, type, intensity, and spatial separation of development. Additionally, traffic volumes have different peaks based on the time of day and the day of the week. For transportation planning purposes, land use is divided into the following categories:

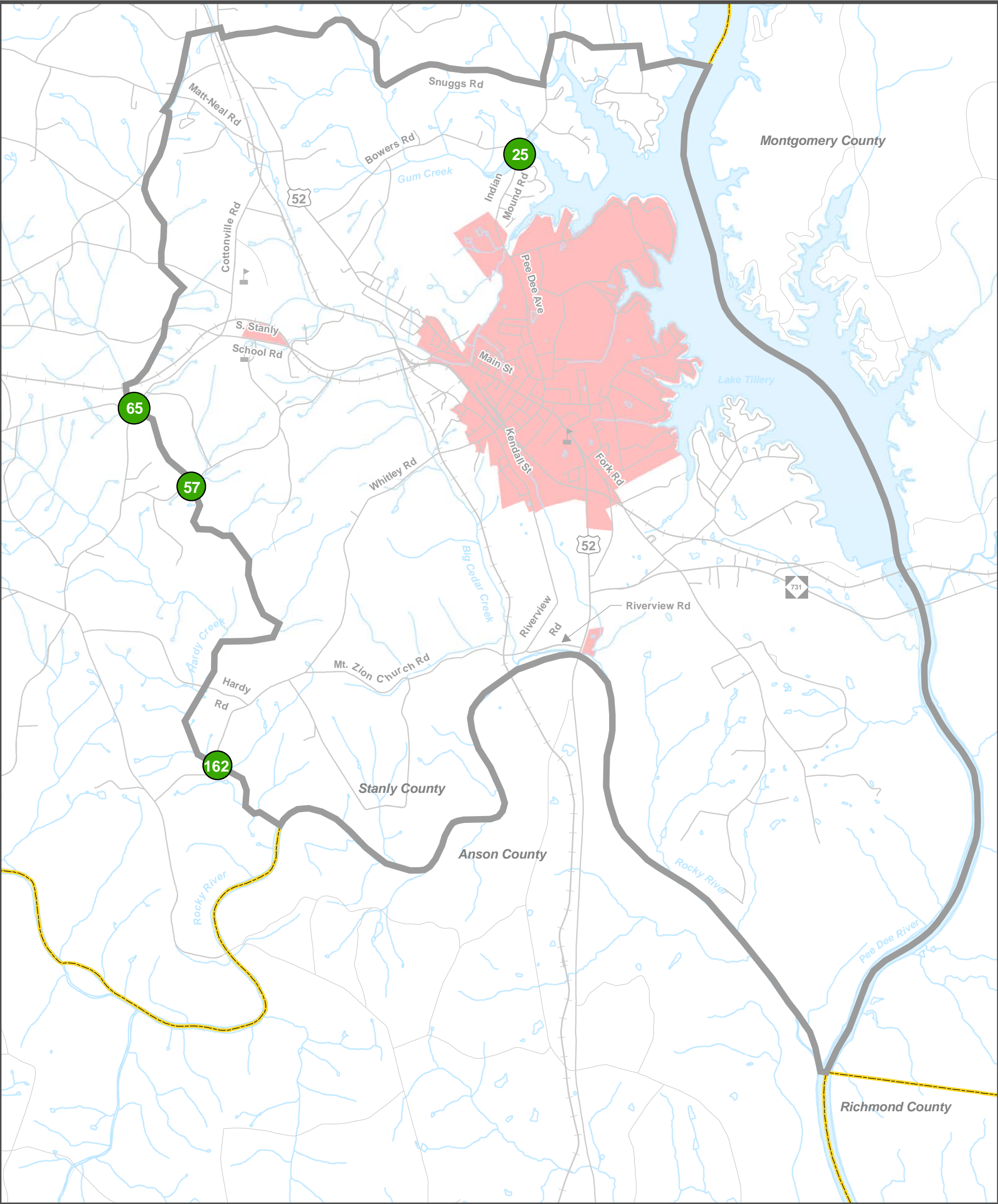
- **Residential**: Land devoted to the housing of people, with the exception of hotels and motels which are considered commercial.
- **Commercial**: Land devoted to retail trade including consumer and business services and their offices; this may be further stratified into retail and special

retail classifications. Special retail would include high-traffic establishments, such as fast food restaurants and service stations; all other commercial establishments would be considered retail.










- Industrial: Land devoted to the manufacturing, storage, warehousing, and transportation of products.
- Public: Land devoted to social, religious, educational, cultural, and political activities; this would include the office and service employment establishments.
- Agricultural: Land devoted to the use of buildings or structures for the raising of non-domestic animals and/or growing of plants for food and other production.
- Mixed Use: Land devoted to a combination of any of the categories above.

Anticipated future land development is, in general, a logical extension of the present spatial land use distribution. Locations and types of expected growth within the planning area help to determine the location and type of proposed transportation improvements.

Norwood primarily anticipates growth in areas designated as residential, commercial and public land use, as depicted in Figure 5. These areas tend to be established populated areas and are located throughout the planning area, typically along major routes.



**Legend**

-  Schools
-  Local Roads
-  Railroads
-  Rivers and Streams
-  County Boundaries
-  Water Bodies
-  Municipal Boundary
-  Planning Boundary
-  Deficient Bridges



Base map date: August 4, 2006  
Refer to CTP document for more details

Figure 4

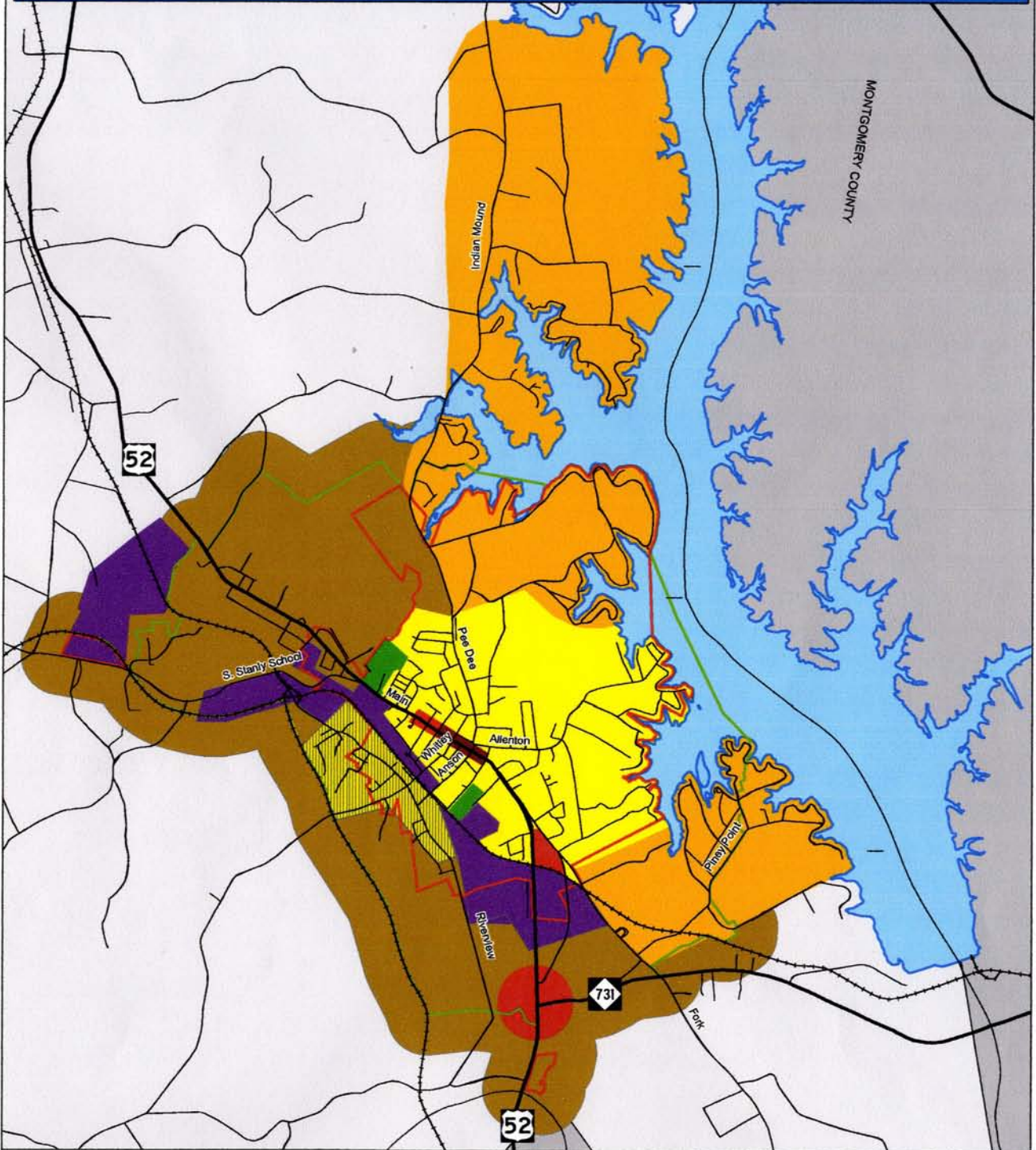
**Deficient Bridges**



**Norwood  
Comprehensive  
Transportation Plan**



# Future Land Use Map



Town of Norwood  
 Stanly County  
 North Carolina



Legend		
<span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> Neighborhood Residential	<span style="display:inline-block; width:15px; height:15px; background-color:purple; border:1px solid black;"></span> Industrial	<span style="display:inline-block; width:15px; height:15px; border:1px solid red;"></span> Norwood Town Limits
<span style="display:inline-block; width:15px; height:15px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, green 2px, green 4px); border:1px solid black;"></span> Special Planning Area	<span style="display:inline-block; width:15px; height:15px; background-color:red; border:1px solid black;"></span> Commercial	<span style="display:inline-block; width:15px; height:15px; border:1px solid green;"></span> ETJ
<span style="display:inline-block; width:15px; height:15px; background-color:orange; border:1px solid black;"></span> General Residential	<span style="display:inline-block; width:15px; height:15px; background-color:darkbrown; border:1px solid black;"></span> Town Center	<span style="display:inline-block; width:15px; height:15px; background-color:lightblue; border:1px solid black;"></span> Lake Tillery
<span style="display:inline-block; width:15px; height:15px; background-color:brown; border:1px solid black;"></span> Rural Residential	<span style="display:inline-block; width:15px; height:15px; background-color:green; border:1px solid black;"></span> Parks and Open Space	

Figure 5

## ***Consideration of Natural and Human Environment***

In recent years, the environmental considerations have come to the forefront of the transportation planning process. Section 102 of the National Environmental Policy Act (NEPA) requires consideration of impacts on wetlands, wildlife, water quality, historic properties, and public lands. While a full NEPA evaluation was not conducted as part of the CTP, potential impacts to these resources were identified as a part of the project recommendations in Chapter 1 of this report. Prior to implementing transportation recommendations of the CTP, a more detailed environmental study would need to be completed in cooperation with the appropriate environmental resource agencies.

A full listing of environmental features that were examined as a part of this study is shown in the following table. Environmental features occurring within Norwood are shown in Figure 6.

---

**Table 1 – Environmental Features**

---

- |   |   |
|---|---|
| • Air Quality Pollution Discharge Points                              | • Fish Community Sampling Sites   |
| • Ambient Water Quality Monitoring Sites                              | • Fisheries Nursery Areas   |
| • Anadromous Fish Spawning Areas                                      | • Game Lands – Wildlife Resources Commission                                      |
| • Animal Operation Permits  | • Groundwater Incidents, unverified   |
| • Artificial Marine Reefs   | • Groundwater Recharge/Discharge  |
| • Beach Access Sites  | • Hazardous Substance Disposal Sites  |
| • Benthic Monitoring Results  | • Hazardous Waste Facilities  |
| • Bottom Sediment Sampling Sites                                      | • Heavy Metal & Organic-Rich Mud Pollutant Sample Sites                           |
| • Citizen Water Quality Monitoring Sites                              | • High Quality Water and Outstanding Resource Water Management Zones              |
| • Closed Shellfish Harvesting Areas                                   | • Hurricane Storm Surge Inundation Areas  |
| • Coastal Reserves  | • Land Trust Conservation Properties  |
| • Conditionally Approved Shellfish Harvesting Areas                   | • Land Trust Priority Areas   |
| • Conservation Easements, US Fish & Wildlife Service                  | • Lands Managed for Conservation & Open Space                                     |
| • Conservation Tax Credit Properties                                  | • Macrosite Boundaries  |
| • Discharger Coalitions' Monitoring Sites                             | • Megosite Boundaries   |
| • Ecosystem Enhancement Program (EEP) Local Watershed Plans, 2004     | • National Pollutant Discharge Elimination System Sites (NPDES) – Major and Minor |
| • Ecosystem Enhancement Program (EEP) Targeted Local Watersheds, 2004 | • National Wetlands Inventory   |
| • Federal Land Ownership  | • North Carolina Coastal Region Evaluation of Wetland Significance (NC-CREWS)     |

---

**Table 1 – Environmental Features (cont.)**

---

- Public Water Supply Water Sources
- Recreation Projects – Land and Water
- Conservation Fund
- Shellfish Strata
- Significant Aquatic Endangered Species Habitats
- Solid Waste Facilities
- State Parks
- Submersed Rooted Vasculars
- Surface Water Intakes
- Trout Streams (DWQ)
- Water Distribution Systems – Water Treatment Plants
- Water Supply Watersheds
- Well Ground Water Intakes

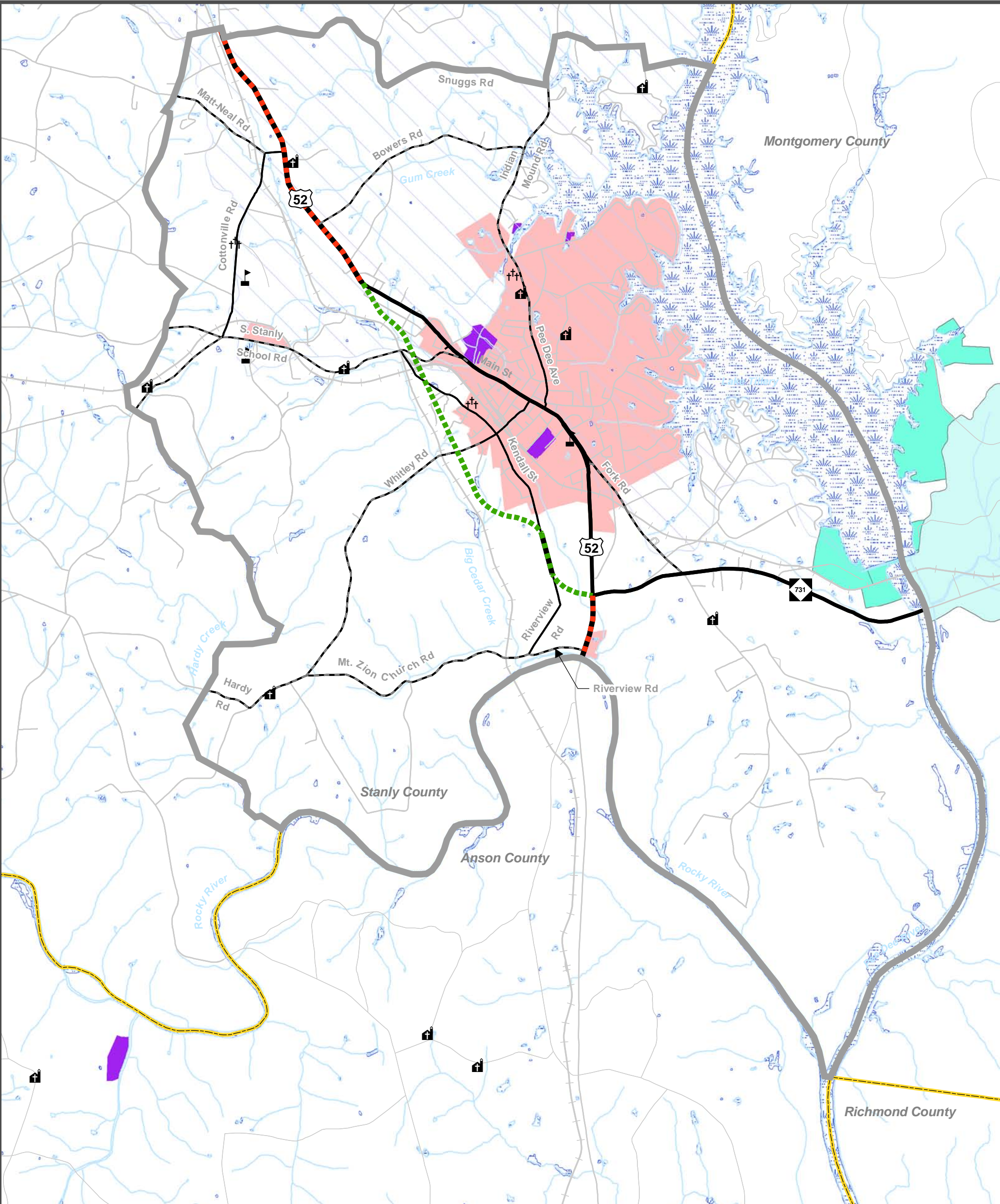
Additionally, the following environmental features were considered but are not mapped due to restrictions associated with the sensitivity of the data.

---













**Table 2 – Restricted Environmental Features**

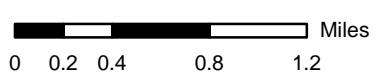
---

- Archaeological Sites
- Dedicated Nature Preserves and Registered Heritage Areas
- Historic National Register Districts
- Historic National Register Structures
- Historic Study List Districts Historic Study List Structures
- Managed Areas National Heritage Element Occurrences
- Significant Natural Heritage Areas



**Legend**

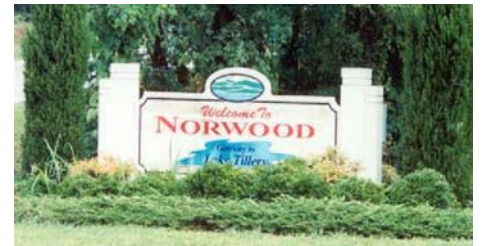
-  Planning Boundary
-  Municipal Boundary
-  County Boundary
-  Roads
-  Railroads
-  Schools
-  Cemeteries
-  Churches
-  EEP Local Watershed Plans
-  National Wetlands Inventory
-  Lands Managed Conservation Open Space
-  WRC Game Lands



Base map date: August 4, 2006  
 Refer to CTP document for more details

Figure 6

**Environmental Map**



**Norwood  
 Comprehensive  
 Transportation Plan**

## ***Public Involvement***

Public involvement is a key element in the transportation planning process. Adequate documentation of this process is essential for a seamless transfer of information from systems planning to project planning and design.

The Rocky River RPO requested the development of a comprehensive transportation plan for the Town of Norwood through a prioritized list of regional needs. A meeting was held with the Norwood Town Council in August 2005 to formally initiate the study, provide an overview of the transportation planning process, and to gather input on area transportation needs.

Throughout the course of the study, the Transportation Planning Branch cooperatively worked with the Norwood CTP Task Force, which included representatives from the Town of Norwood, the RPO Coordinator, environmental partners, and others to provide information on current local plans, to develop transportation vision and goals, to discuss population and employment projections, and to develop proposed CTP recommendations. Refer to Appendix H for detailed information on the vision statement, the goals and objectives survey and a listing of committee members.

The public involvement process included holding two public drop-in sessions in Norwood to present the proposed Comprehensive Transportation Plan to the public and solicit comments. The first public meeting was held on March 14, 2006 at the Norwood Community Center to develop the pedestrian element of the CTP. A public workshop was held on October 21, 2007 at David Almond Park for the Draft CTP. Each session was publicized in the local newspaper and was held from 7:00pm to 9:00pm. Twenty comment forms were submitted during the session held on October 21, 2007.

A public hearing was held on November 3, 2008 during the Norwood Town Council meeting. The purpose of this meeting was to discuss the plan recommendations and to solicit further input from the public. The CTP was adopted during this meeting.

The Rocky River RPO endorsed the CTP on January 15, 2009. The North Carolina Board of Transportation voted to mutually adopt the Norwood CTP on April 02, 2009.

# APPENDICES

## Appendix A Resources and Contacts

### ***North Carolina Department of Transportation***

#### *Customer Service Office*

Contact information for other units within the NCDOT that are not listed in this appendix is available by calling the Customer Service Office or by visiting the NCDOT homepage:

1-877-DOT-4YOU

(1-877-368-4968)

<https://apps.dot.state.nc.us/dot/directory/authenticated/ToC.aspx>

#### *Secretary of Transportation*

Eugene A. Conti, Jr., Ph.D.

1501 Mail Service Center

Raleigh, NC 27699-1501

(919) 733-2520

<http://www.ncdot.org/about/leadership/secretary.html>

#### *Board of Transportation Member*

Mr. John Collett

1111 Metropolitan Avenue, Suite #700

Charlotte, NC 28204

(704) 206-8300

[jcollett@ncdot.gov](mailto:jcollett@ncdot.gov)

<http://www.ncdot.gov/about/board/default.html>

#### *Highway Division Engineer*

Contact the Division Engineer with general questions concerning NCDOT activities within each Division and for information on Small Urban Funds.

Mr. Barry Moose, PE

716 W. Main Street

Albemarle, NC 28001

(704) 982-0101

[bmoose@ncdot.gov](mailto:bmoose@ncdot.gov)

<http://www.ncdot.gov/doh/operations/division10/>

Division Project Manager

Contact the Division Project Manager with questions concerning transportation projects within each Division.

Mr. Ritchie Hearne, PE  
716 W Main St.  
Albemarle, NC 28001  
(704) 982-0101  
[rhearne@ncdot.gov](mailto:rhearne@ncdot.gov)

Division Construction Engineer

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

Ms. Tawana Brooks, PE  
716 W Main St.  
Albemarle, NC 28001  
(704) 982-0101  
[tbrooks@ncdot.gov](mailto:tbrooks@ncdot.gov)

Division Traffic Engineer

Contact the Division Traffic Engineer for information concerning traffic signals, highway signs, pavement markings and crash history.

Mr. J. Scott Cole, PE  
716 W Main St.  
Albemarle, NC 28001  
(704) 982-0101  
[scole@ncdot.gov](mailto:scole@ncdot.gov)

Division Operations Engineer

Contact the Division Operations Engineer for information concerning facility operations.

Mr. Tim Boland, PE  
716 W Main St.  
Albemarle, NC 28001  
(704) 982-0101  
[tboland@ncdot.gov](mailto:tboland@ncdot.gov)



Division Maintenance Engineer

Contact the Division Maintenance Engineer information regarding maintenance of all state roadways, improvement of secondary roads and other small improvement projects. The Division Maintenance Engineer also oversees the District Offices, the Bridge Maintenance Unit and the Equipment Unit.

Mr. Philip Moxley, PE  
716 W Main St.  
Albemarle, NC 28001  
(704) 982-0101  
[ptmoxley@ncdot.gov](mailto:ptmoxley@ncdot.gov)

District Engineer

Contact the District Engineer for information on outdoor advertising, junkyard control, driveway permits, road additions, subdivision review and approval, Adopt A Highway program, encroachments on highway right of way, issuance of oversize/overwidth permits, paving priorities, secondary road construction program and road maintenance.

Mr. Marc Morgan, PE  
615 Concord Road (NC 73)  
Albemarle, NC 28001  
(704) 982-0104  
[mmorgan@ncdot.gov](mailto:mmorgan@ncdot.gov)

Transportation Planning Branch (TPB)

Contact the Transportation Planning Branch for information on long-range multi-modal planning services.

1554 Mail Service Center  
Raleigh, NC 27699-1554  
(919) 733-4705  
<http://www.ncdot.gov/doh/preconstruct/tpb/>

Rocky River Rural Planning Organization (RPO)

Contact the RPO for information on long-range multi-modal planning services.

Ms. Dana Stoogenke, AICP  
1000 1st North Street  
Albemarle, NC 28001  
(704) 986-3876  
[dstoogenke@rockyriverrpo.org](mailto:dstoogenke@rockyriverrpo.org)  
<http://www.rockyriverrpo.org>

Strategic Planning Office

Contact the Strategic Planning Office for information concerning prioritization of transportation projects.

Mr. Don Voelker

1501 Mail Service Center

Raleigh, NC 27699-1501

(919) 715-0951

<https://apps.dot.state.nc.us/dot/directory/authenticated/UnitPage.aspx?id=11054>

Project Development & Environmental Branch (PDEA)

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

<http://www.ncdot.gov/doh/preconstruct/pe/>

Secondary Roads Office

Contact the Secondary Roads Office for information regarding the status for unpaved roads to be paved, additions and deletions of roads to the State maintained system and the Industrial Access Funds program.

1535 Mail Service Center

Raleigh, NC 27699-1535

(919) 733-3250

<http://www.ncdot.gov/doh/operations/secondaryroads/>

Program Development Branch

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

1534 Mail Service Center

Raleigh, NC 27699-1534

(919) 733-2039

<http://www.ncdot.org/planning/development/>

Public Transportation Division

Contact the Public Transportation Division for information public transit systems.

1550 Mail Service Center

Raleigh, NC 27699-1550

(919) 733-4713

<http://www.ncdot.org/transit/nctransit/>

### Rail Division

Contact the Rail Division for rail information throughout the state.

1553 Mail Service Center  
Raleigh, NC 27699-1553  
(919) 733-7245  
<http://www.bytrain.org/>

### Division of Bicycle and Pedestrian Transportation

Contact this Division for bicycle and pedestrian transportation information throughout the state.

1552 Mail Service Center  
Raleigh, NC 27699-1552  
(919) 807-0777  
<http://www.ncdot.gov/transit/bicycle/>

### Bridge Maintenance Unit

Contact the Bridge Maintenance Unit for information on bridge management throughout the state.

1565 Mail Service Center  
Raleigh, NC 27699-1565  
(919) 733-4362  
[http://www.ncdot.gov/doh/operations/dp\\_chief\\_eng/maintenance/bridge/](http://www.ncdot.gov/doh/operations/dp_chief_eng/maintenance/bridge/)

### Highway Design Branch

The Highway Design Branch consists of the Roadway Design, Structure Design, Photogrammetry, Location & Surveys, Geotechnical, and Hydraulics Units. Contact the Highway Design Branch for information regarding design plans and proposals for road and bridge projects throughout the state.

1584 Mail Service Center  
Raleigh, NC 27699-1584  
(919) 250-4001  
<http://www.ncdot.gov/doh/preconstruct/highway/>

## **Other State Government Offices**

### Department of Commerce – Division of Community Assistance

Contact the Department of Commerce for resources and services to help realize economic prosperity, plan for new growth and address community needs.

<http://www.nccommerce.com/en/CommunityServices/>

## Appendix B

# Comprehensive Transportation Plan Definitions

### ***Highway Map***

*For visual depiction of facility types for the following CTP classification, visit <http://www.ncdot.gov/doh/preconstruct/tpb/SHC/facility/>.*

#### Facility Type Definitions

- **Freeways**

- 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 1,000ft or for 350ft plus 650ft 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**

- 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 2,000ft; 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 (*US and NC routes may have less than four lanes*)
  - 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 55 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*

### Other Highway Map Definitions

- **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 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 an **existing** 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 only bicycle transportation and is physically separated from a highway facility either within the right-of-way or within an independent right-of-way.
- **Off Road-Needs Improvement** – A facility that accommodates only bicycle transportation and is physically separated from a highway facility either within the right-of-way or within an independent right-of-way that will not adequately serve future bicycle needs. Improvements may include but are not limited to, widening, paving (not re-paving or other maintenance activities), and improved horizontal or vertical alignment.

- **Off Road-Recommended** – A facility needed to accommodate only bicycle transportation and is physically separated from a highway facility either within the right-of-way or within an independent right-of-way.
- **Multi-use Path-Existing** – An existing facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that serves bicycle and pedestrian traffic. Sidewalks should not be designated as a multi-use path.
- **Multi-use Path-Needs Improvement** – An existing facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that serves bicycle and pedestrian traffic that will not adequately serve future needs. Improvements may include but are not limited to, widening, paving (not re-paving or other maintenance activities), and improved horizontal or vertical alignment. Sidewalks should not be designated as a multi-use path.
- **Multi-use Path-Recommended** – A facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that is needed to serve bicycle and pedestrian traffic. Sidewalks should not be designated as a multi-use path.
- **Existing Grade Separation** – Locations where existing “Off Road” facilities and “Multi-use Paths” are physically separated from existing highways, railroads, or other transportation facilities. These may be bridges, culverts, or other structures.
- **Proposed Grade Separation** – Locations where “Off Road” facilities and “Multi-use Paths” are recommended to be physically separated from existing or recommended highways, railroads, or other transportation facilities. These may be bridges, culverts, or other structures.

## ***Pedestrian Map***

- **Sidewalk-Existing** – Paved paths (including but not limited to concrete, asphalt, brick, stone, or wood) on both sides of a highway facility and within the highway right-of-way that are adequate to safely accommodate pedestrian traffic.
- **Sidewalk-Needs Improvement** – Improvements are needed to provide paved paths on both sides of a highway facility. The highway facility may or may not need improvements. Improvements do not include re-paving or other maintenance activities but may include: filling in gaps, widening sidewalks, or meeting ADA (Americans with Disabilities Act) requirements.
- **Sidewalk-Recommended** – At the systems level, it is desirable for a recommended highway facility to accommodate pedestrian transportation **or** to add sidewalks on an existing facility where no sidewalks currently exist. The highway should be designed and built to safely accommodate pedestrian traffic.



- **Off Road-Existing** – A facility that accommodates only pedestrian traffic and is physically separated from a highway facility usually within an independent right-of-way.
- **Off Road-Needs Improvement** – A facility that accommodates only pedestrian traffic and is physically separated from a highway facility usually within an independent right-of-way that will not adequately serve future pedestrian needs. Improvements may include but are not limited to, widening, paving (not re-paving or other maintenance activities), improved horizontal or vertical alignment, and meeting ADA requirements.
- **Off Road-Recommended** – A facility needed to accommodate only pedestrian traffic and is physically separated from a highway facility usually within an independent right-of-way.
- **Multi-use Path-Existing** – An existing facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that serves bicycle and pedestrian traffic. Sidewalks should not be designated as a multi-use path.
- **Multi-use Path-Needs Improvement** – An existing facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that serves bicycle and pedestrian traffic that will not adequately serve future needs. Improvements may include but are not limited to, widening, paving (not re-paving or other maintenance activities), and improved horizontal or vertical alignment. Sidewalks should not be designated as a multi-use path.
- **Multi-use Path-Recommended** – A facility physically separated from motor vehicle traffic that is either within the highway right-of-way or on an independent right-of-way that is needed to serve bicycle and pedestrian traffic. Sidewalks should not be designated as a multi-use path.
- **Existing Grade Separation** – Locations where existing “Off Road” facilities and “Multi-use Paths” are physically separated from existing highways, railroads, or other transportation facilities. These may be bridges, culverts, or other structures.
- **Proposed Grade Separation** – Locations where “Off Road” facilities and “Multi-use Paths” are recommended to be physically separated from existing or recommended highways, railroads, or other transportation facilities. These may be bridges, culverts, or other structures.

## Appendix C

# CTP Inventory and Recommendations

### Assumptions/ Notes:

- **ID:** If a TIP project number exists it is listed as the ID. Otherwise, the following system is used to create a code for each recommended improvement (this code is the same as the one used as the SPOT prioritization tool ID): the first 4 letters of the county name is combined with a 4 digit unique numerical code followed by '-H' for highway, '-T' for public transportation, '-R' for rail, '-B' for bicycle, or '-P' for pedestrian modes. If a different code is used along a route it indicates separate projects will probably be requested. Also, upper case alphabetic characters (i.e. 'A', 'B', or 'C') are included after the numeric portion of the code if it is anticipated that project segmentation or phasing will be recommended.
- **Jurisdiction:** Jurisdictions listed are based on municipal limits, county boundaries, and MPO Metropolitan Planning Area Boundaries (MAB), as applicable.
- **Cross-Section:** Listed under '(ft)' is the approximate width of the roadway from edge of pavement to edge of pavement. Listed under 'lanes' is the total number of lanes, with the letter 'D' if the facility is divided.
- **ROW:** The estimated existing right-of-way is based on information received from the Division 10 ROW Office located in Albemarle.
- **Existing and Proposed Capacity:** The estimated capacities are given in vehicles per day (vpd) based on LOS D for existing facilities and LOS C for new facilities. These capacity estimates were developed using NCLOS (North Carolina Level of Service), as documented in Chapter II. The Proposed Capacity is shown in bold if it does not meet or exceeds the 2030 AADT with CTP.
- **Existing and Proposed AADT (Annual Average Daily Traffic)** volumes, given in vehicles per day (vpd), are estimates only based on a systems-level analysis. The '2000 No Build AADT' is an estimate of the volume in 2000 with no additional facilities/ improvements assumed to be in place that were not open to traffic in the base year (2000). The '2030 AADT with CTP' is an estimate of the volume in 2030 with all proposed CTP improvements assumed to be in place. For additional information about the assumptions and techniques used to develop the AADT volume estimates, refer to Chapter II.
- **Rec. (Recommended) Cross-section:** The CTP recommended cross-sections are listed by code; for depiction of the cross-section, refer to Appendix D. An entry of 'ADQ' indicates the existing facility is adequate and there are no improvements recommended as part of the CTP.
- **CTP Classification:** The CTP classification is listed, as shown on the adopted CTP Maps (see Figure 1). Abbreviations are F= freeway, E= expressway, B= boulevard, Maj= other major thoroughfare, Min= minor thoroughfare.
- **Tier:** Tiers are defined as part of the North Carolina Multimodal Investment Network (NCMIN). Abbreviations are Sta= statewide tier, Reg= regional tier, Sub= subregional tier.
- **Other Modes:** If there is an improvement recommended for another mode of transportation that relates to the given recommendation, it is indicated by an alphabetic code (H=highway, T= public transportation, R= rail, B= bicycle, and P= pedestrian).

# CTP INVENTORY AND RECOMMENDATIONS

HIGHWAY																	
ID	Facility	Section (From - To)	Jurisdiction	Dist. (mi)	2000 Existing System					2030 Proposed System					CTP Classification	Tier	Other Modes
					Cross-Section (ft)	ROW (ft)	Speed Limit (mph)	Existing Capacity (vpd)	2000 AADT	2030 AADT with E + C	2030 AADT with CTP	Proposed Capacity (vpd)	Rec. Cross-Section	ROW (ft)			
R-2320	US 52	Porter Rd (SR 1908) - Snuggs Rd (SR 1744)	Stanny Co.	0.08	26	2	60	13,200	7,500	9,500	9,500	9,500	52,800	A	150	B	Sta
R-2320	US 52	Snuggs Rd (SR 1744) - Cottonville Rd (SR 1918)	Stanny Co.	1.09	26	2	60	13,200	7,400	9,200	9,200	9,200	52,800	A	150	B	Sta
R-2320	US 52	Cottonville Rd (SR 1918) - Bowers Rd (SR 1745)	Stanny Co.	0.71	26	2	60	13,200	7,000	8,300	8,300	8,300	52,800	A	150	B	Sta
R-2320	US 52	Bowers Rd (SR 1745) - South of Will Rd	Stanny Co.	1.7	26	2	60	13,200	7,000	11,600	11,600	11,600	52,800	A	150	B	Sta
	US 52	South of Will Rd - S. Stanny School Rd (SR 1923)	Stanny Co.	1.2	26	2	60	13,200	7,000	11,600	11,600	11,600	17,400	---	---	Maj	Sta
	US 52	S. Stanny School Rd (SR 1923) - Whitley St (SR 1933)	Stanny Co.	0.65	36	3	60	11,900	10,000	14,600	14,600	14,600	17,400	---	---	Maj	Sta
	US 52	Whitley St (SR 1933) - Pee Dee Ave (SR 1740)	Norwood	0.14	42	2	60	11,900	11,500	16,300	16,300	9,800	17,400	---	---	Maj	Sta
	US 52	Pee Dee Ave (SR 1740) - Fork Rd (SR 1766)	Norwood	0.47	42	3	60	11,900	11,000	13,700	13,700	7,200	17,400	---	---	Maj	Sta
	US 52	Fork Rd (SR 1766) - NC 731	Stanny Co.	1.26	24	2	60	13,200	3,600	5,100	5,100	17,400	---	---	Maj	Sta	
R-2320	US 52	NC 731 - Riverview Rd (SR 1934)	Stanny Co.	0.48	24	2	60	13,200	4,600	6,500	6,500	52,800	A	150	B	Sta	
R-2320	US 52	Riverview Rd (SR 1934) - Rocky River	Stanny Co.	0.08	24	2	60	13,200	4,800	6,300	6,300	52,800	A	150	B	Sta	
		US 52 North - US 52 South	Stanny Co.	3.5	---	---	---	---	---	---	---	39,200	A	180	E	Sta	
		US 52 (Main St) - Fork Rd (SR 1766)	Stanny Co.	0.8	24	2	60	13,200	1,300	1,500	1,500	ADQ	---	---	Maj	Reg	
		Fork Rd (SR 1766) - Pee Dee River	Stanny Co.	2.17	24	2	60	13,200	2,600	3,500	3,500	ADQ	---	---	Maj	Reg	
STAN0001-H		US 52 (Main St) - Indian Mound Rd (SR 1740)	Stanny Co.	2.03	18	2	60	11,700	700	1,000	1,000	13,200	K	60	Min	Sub	
STAN0002-H		Hardy Creek - South Stanny School Rd (SR 1923)	Stanny Co.	0.99	18	2	60	11,700	600	1,000	1,000	13,200	K	60	Min	Sub	
		South Stanny School Rd (SR 1923) - Matt-Neal Rd (SR 1914)	Stanny Co.	1.62	20	2	60	13,200	1,700	2,400	2,400	ADQ	---	---	Min	Sub	
		Matt-Neal Rd (SR 1914) - US 52 (Main St)	Stanny Co.	0.17	20	2	60	13,200	2,400	3,500	3,500	ADQ	---	---	Min	Sub	
STAN0003-H		US 52 (Main St) - Lisenby Rd (SR 1808)	Stanny Co.	0.5	20	2	60	12,300	6,000	8,500	8,500	13,200	K	60	Min	Sub	
STAN0003-H		Lisenby Rd (SR 1808) - NC 731	Stanny Co.	0.76	20	2	60	12,300	6,000	8,500	8,500	13,200	K	60	Min	Sub	
STAN0004-H		Hardy Creek - Mt. Zion Church Rd (SR 1934)	Stanny Co.	0.41	18	2	60	11,700	480	600	600	13,200	K	60	Min	Sub	
STAN0005-H		Randalls Church Rd (SR 1743) - Snuggs Rd (SR 1744)	Stanny Co.	0.42	20	2	60	12,500	2,300	2,800	2,800	13,200	K	60	Min	Sub	
STAN0005-H		Snuggs Rd (SR 1744) - Summit St	Stanny Co.	2.27	20	2	60	12,500	2,400	4,000	4,000	13,200	K	60	Min	Sub	
		Summit St - US 52 (Main St)	Stanny Co.	0.66	30	2	40	12,600	3,500	5,200	5,200	ADQ	---	---	Min	Sub	
		S. Stanny School Rd (SR 1923) - Lee Rd (SR 1931)	Stanny Co.	0.08	20	2	40	12,500	700	1,600	1,600	ADQ	---	---	Min	Sub	
		Lee Rd (SR 1931) - Whitley Rd (SR 1933)	Stanny Co.	0.31	24	2	40	12,600	700	1,600	1,600	ADQ	---	---	Min	Sub	
		Whitley Rd (SR 1933) - Anson Ave (SR 1932)	Stanny Co.	0.14	24	2	40	12,600	800	1,500	1,500	ADQ	---	---	Min	Sub	
		Anson Ave (SR 1932) - Jaycee Hut Rd	Stanny Co.	0.37	24	2	40	12,600	800	1,500	1,500	ADQ	---	---	Min	Sub	
R-2320		Jaycee Hut Rd - Proposed US 52 Bypass	Stanny Co.	0.56	16	2	40	12,500	800	6,500	6,500	39,200	A	180	E	Sta	
		Proposed US 52 Bypass - Riverview Rd (SR 1934)	Stanny Co.	1.55	16	2	40	12,500	800	1,500	1,500	ADQ	---	---	Min	Sub	
STAN0006-H		Swearingin Rd (SR 1913) - Cottonville Rd (SR 1918)	Stanny Co.	0.91	18	2	60	11,700	700	800	800	13,200	K	60	Min	Sub	
STAN0007-H		Hardy Rd (SR 1937) - Whitley Rd (SR 1933)	Stanny Co.	0.56	17	2	60	11,700	480	600	600	13,200	K	60	Min	Sub	
STAN0007-H		Whitley Rd (SR 1933) - Riverview Rd (SR 1927)	Stanny Co.	2.07	17	2	60	11,700	300	500	500	13,200	K	60	Min	Sub	
STAN0008-H		Riverview Rd (SR 1927) - US 52	Stanny Co.	0.48	17	2	50	11,700	300	800	800	13,200	K	60	Min	Sub	

HIGHWAY																	
ID	Facility	Section (From - To)	Jurisdiction	2000 Existing System					2030 Proposed System					CTP Classification	Tier	Other Modes	
				Dist. (mi)	Cross-Section (ft)	ROW (ft)	Speed Limit (mph)	Existing Capacity (vpd)	2000 AADT E + C	2030 AADT with CTP	Proposed Capacity (vpd)	Rec. Cross-Section	ROW (ft)				
STAN0009-H	South Stanly School Rd (SR 1923)	Hardy Creek - Cottonville Rd (SR 1918)	Stanly Co.	0.5	20	2	45	12,400	3,600	3,400	3,400	13,200	K	60	Min	Sub	
STAN0009-H	South Stanly School Rd (SR 1923)	Cottonville Rd (SR 1918) - Kendall St (SR 1927)	Stanly Co.	1.62	20	2	45	12,400	4,000	6,700	6,700	13,200	K	60	Min	Sub	
STAN0009-H	South Stanly School Rd (SR 1923)	Kendall St (SR 1927) - US 52 (Main St)	Stanly Co.	0.6	22	2	35	12,400	3,000	5,900	5,900	13,200	K	60	Min	Sub	
STAN0010-H	Snuggs Rd (SR 1744)	US 52 - Indian Mound Rd (SR 1740)	Stanly Co.	3.26	18	2	55	11,700	300	400	400	13,200	K	60	Min	Sub	
	Whitley Rd (SR 1933)	US 52 (Main St) - Kendall St (SR 1927)	Norwood	0.41	36	2	35	12,600	1,400	2,500	2,500	ADQ	---	---	Min	Sub	
	Whitley Rd (SR 1933)	Kendall St (SR 1927) - Rock Haven Dr	Norwood	0.19	36	2	35	12,600	1,000	1,700	1,700	ADQ	---	---	Min	Sub	
STAN0011-H	Whitley Rd (SR 1933)	Rock Haven Dr - Mt. Zion Church Rd (SR 1934)	Stanly Co.	2.62	17	2	55	10,800	1,000	1,700	1,700	13,200	K	60	Min	Sub	P

## **Appendix D**

### **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. These 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 CTP, adequate right-of-way should be protected or acquired for the recommended cross sections. In addition to cross section and right-of-way recommendations for improvements, Appendix C may recommend ultimate needed right-of-way for the following situations:

- roadways which may require widening after the current planning period,
- roadways which are borderline adequate and accelerated traffic growth could render them deficient, and
- roadways where an urban curb and gutter cross section may be locally desirable because of urban development or redevelopment.

### ***Typical 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 & 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 encompassing 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 roadway construction.

## **Bicycle Cross Sections**

Cross sections B-1, B-2, B-3, B-4, and B-5 are typical bicycle cross sections. Contact the NCDOT Division of Bicycle and Pedestrian Transportation for more information regarding these cross-sections.

### **B-1: Four Lanes Divided with Wide Outside Lanes**

#### **B-2: Five Lanes with Wide Outside Lanes**

A widened outside lane is an effective way to accommodate bicyclists riding in the same lane with motor vehicles. With a wide outside lane, motorists do not have to change lanes to pass a bicyclist. The additional width in the outside lane also improves sight distance and provides more room for vehicles to turn onto the roadway. Therefore, on

roadways with bicycle traffic, widening the outside lane can improve the capacity of that roadway. Also, by widening the outside lane by a few extra feet both motorists and bicyclists have more space in which to maneuver. This facility type is generally considered for use in urban, suburban, and occasionally rural conditions on roadways where there is a curb and gutter. Wide outside lanes can be applied to several different roadway cross sections.

### **B-3: Bicycle Lanes on Collector Streets**

Bicycle lanes may be considered when it is desirable to delineate road space for preferential use by cyclists. Streets striped with bicycle lanes should be part of a connected bikeway system rather than being an isolated feature. Bicycle lanes function most effectively in mid-block situations by separating bicyclists from overtaking motor vehicles. Integrating bicyclists into complicated intersection traffic patterns can sometimes be problematic. Strip development areas, or roadways with a high number of commercial driveways, tend to be less suitable for bicycle lanes due to frequent and unpredictable motorist turning movements across the path of straight-through cyclists. Striped bike lanes can be effective as a safety treatment, especially for less experienced bicyclists. Two-lane residential/collector streets with lower traffic volume, low-posted speed limit, adequate roadway width for both bike lanes and motor vehicle travel lanes, and an absence of complicated intersections. A median-divided multi-lane roadway with lower traffic volumes and a low volume of right and left turning traffic would be a more appropriate location for bicycle lanes than a high traffic volume undivided multi-lane roadway with a continuous center turn lane. Most bicyclists will choose a route that combines direct access with lower traffic volumes. An origin and destination of less than 4 miles is desirable to generate usage on a facility.

### **B-4: Wide Paved Shoulders**

On urban streets with curb and gutter, wide outside lanes and bicycle lanes are usually the preferred facilities. Shoulders for bicycle use are not typically provided on roadways with curb and gutter. On rural roadways where bicycle travel is common, such as roads in coastal resort areas, wide paved shoulders are highly desirable. On secondary roadways without curb and gutter where there are few commercial driveways and intersections with other roadways, many bicyclists prefer riding on wide, smoothly paved shoulders.

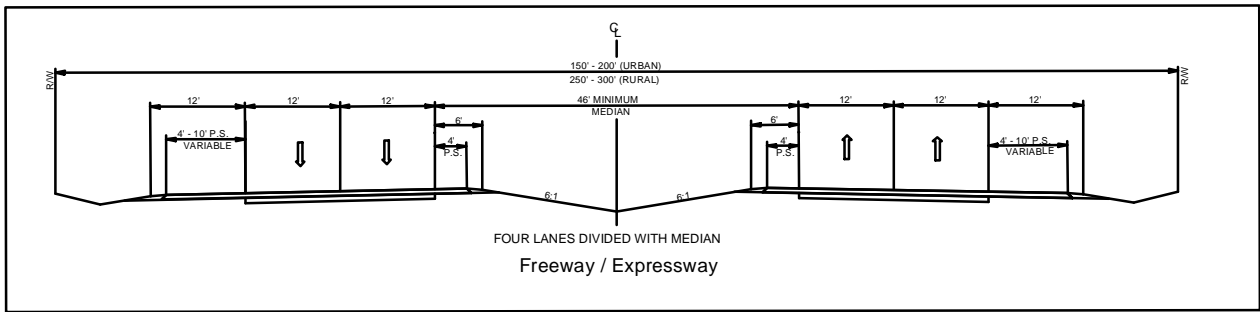
### **B-5: Multi-use Pathway**

When properly located, multi-use pathway can be a safer type of facility for novice and child bicyclists because they do not have to share the path with motor vehicles. The design standards used for this cross section provides adequate width for two-directional use by both cyclists and pedestrians, provisions of good sight distance, avoidance of steep grades and tight curves, and minimal cross-flow by motor vehicles. A multi-use pathway can serve a variety of purposes, including recreation and transportation. This pathway should not be located immediately adjacent to a roadway because of safety considerations at intersections with driveways and roads. Sidewalks should never be used as a multi-use pathway.

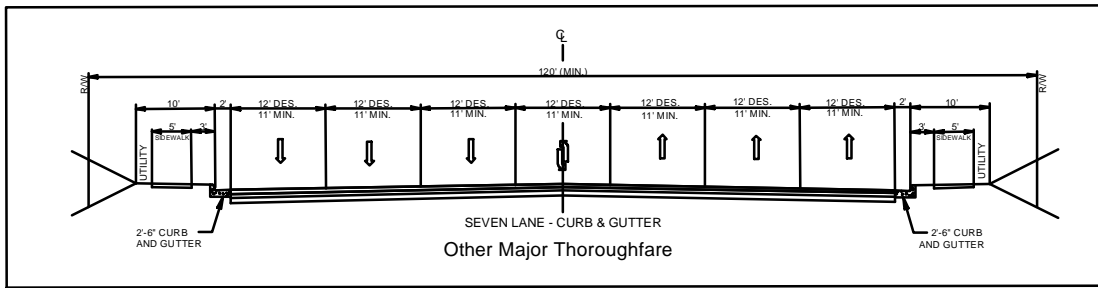


# TYPICAL HIGHWAY CROSS SECTIONS

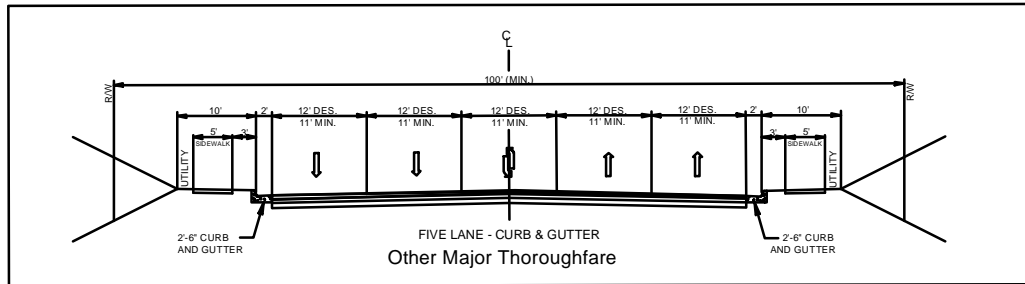
A



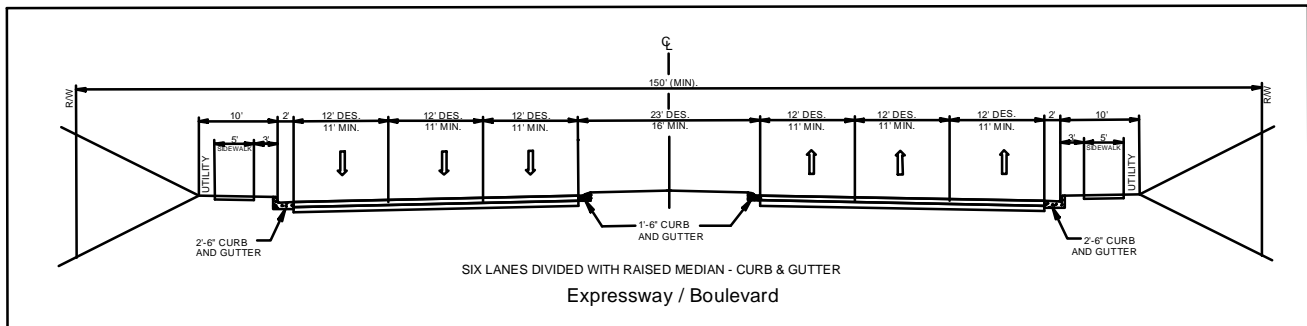
B



C



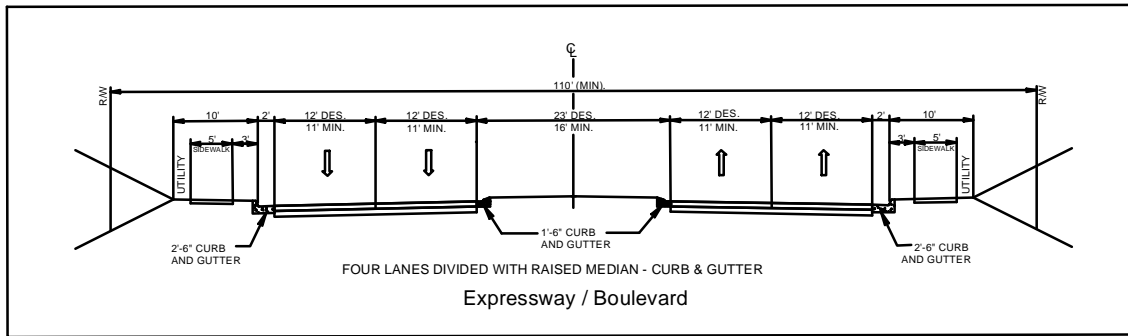
D



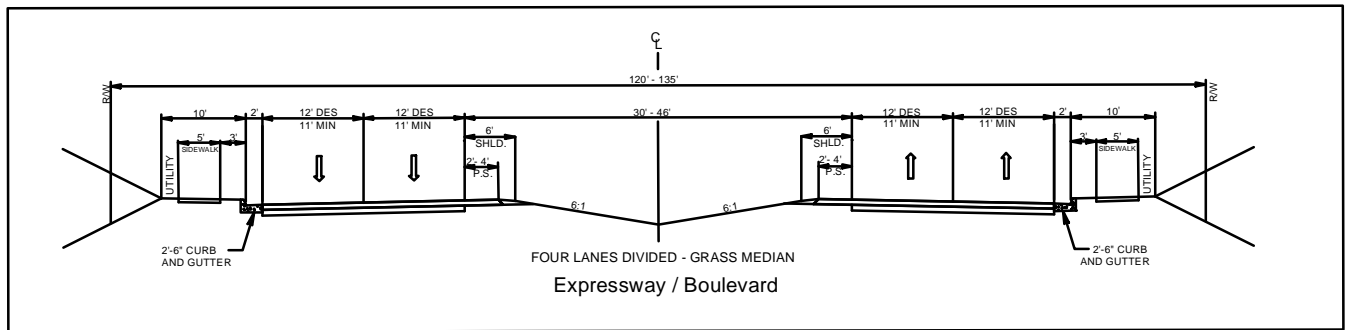
revised 04-01-05

# TYPICAL HIGHWAY CROSS SECTIONS

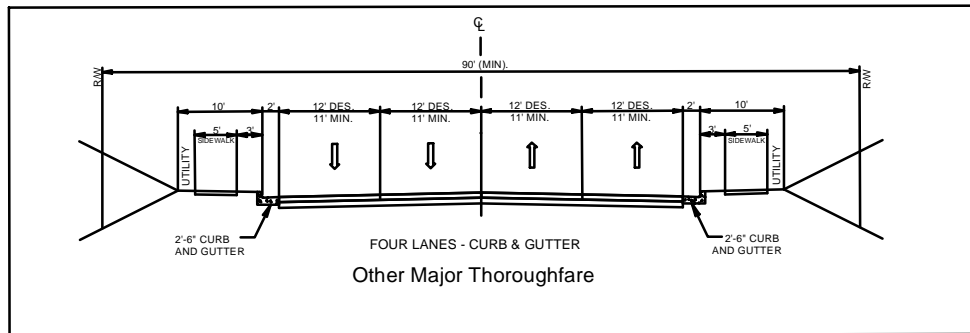
E



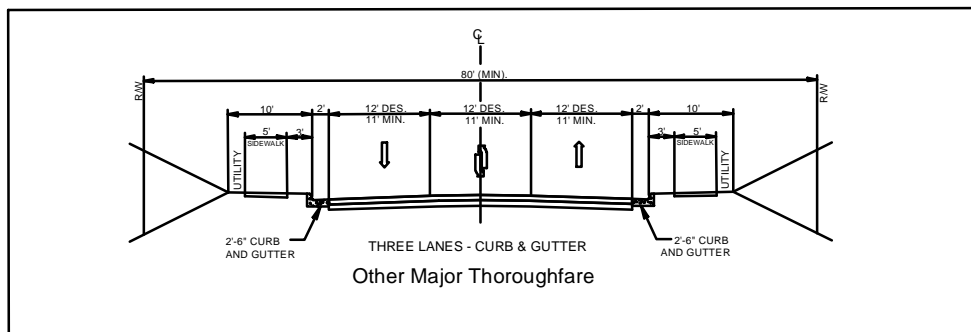
F



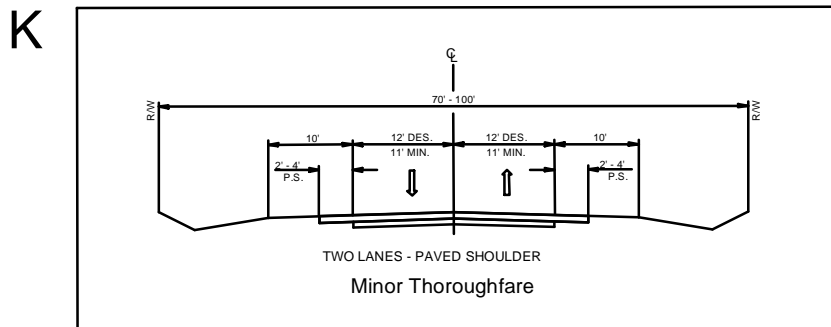
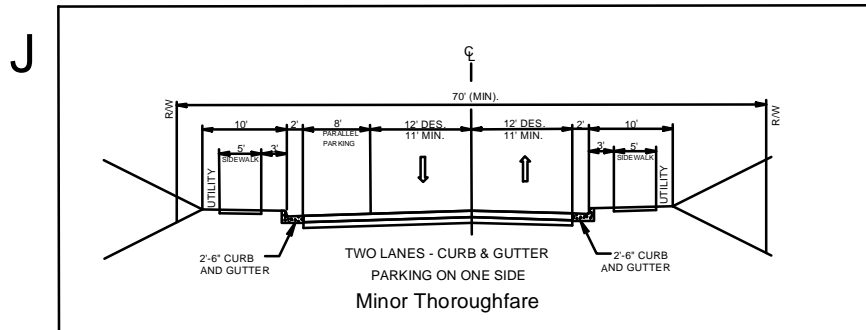
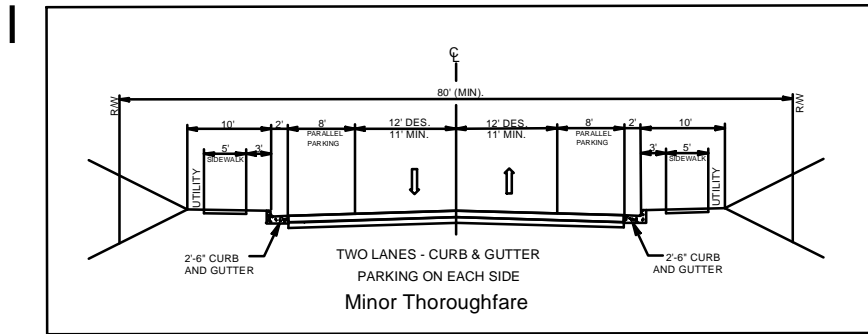
G



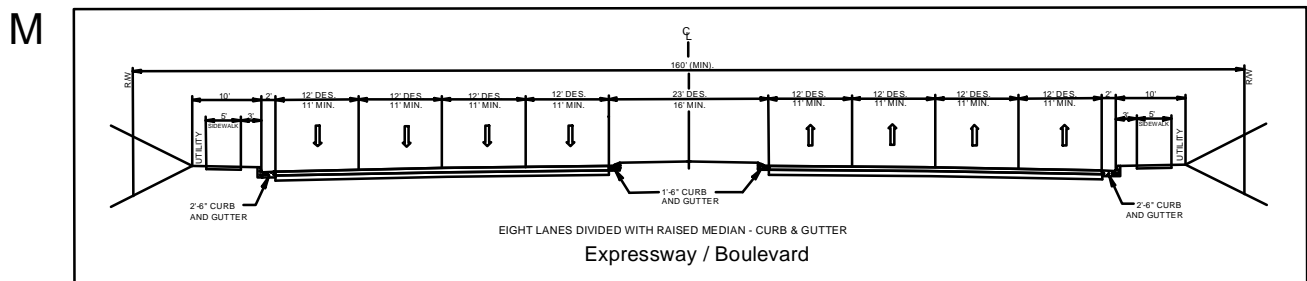
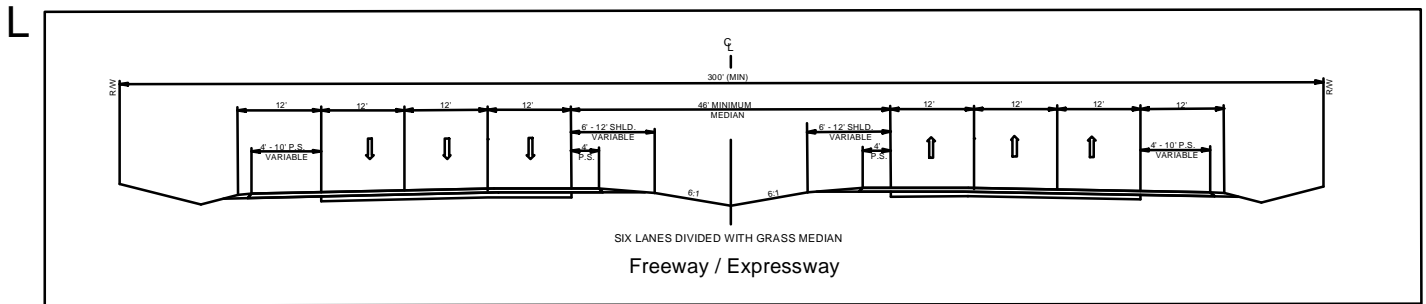
H



# TYPICAL HIGHWAY CROSS SECTIONS



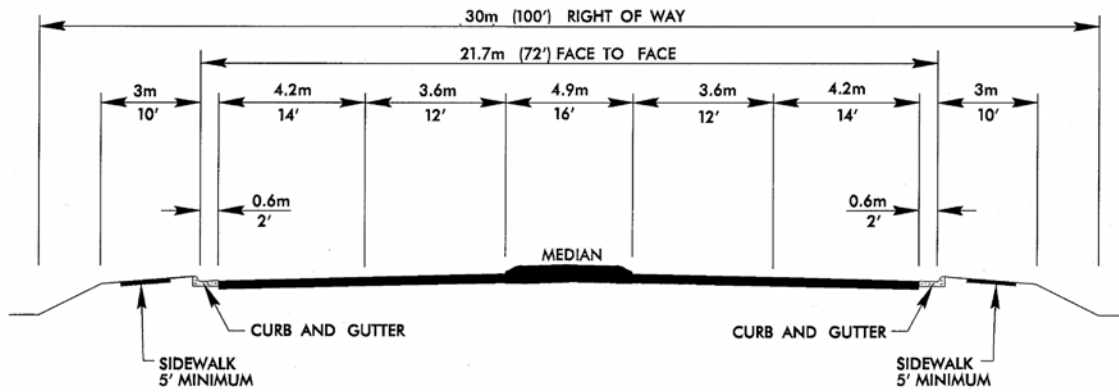
# TYPICAL HIGHWAY CROSS SECTIONS



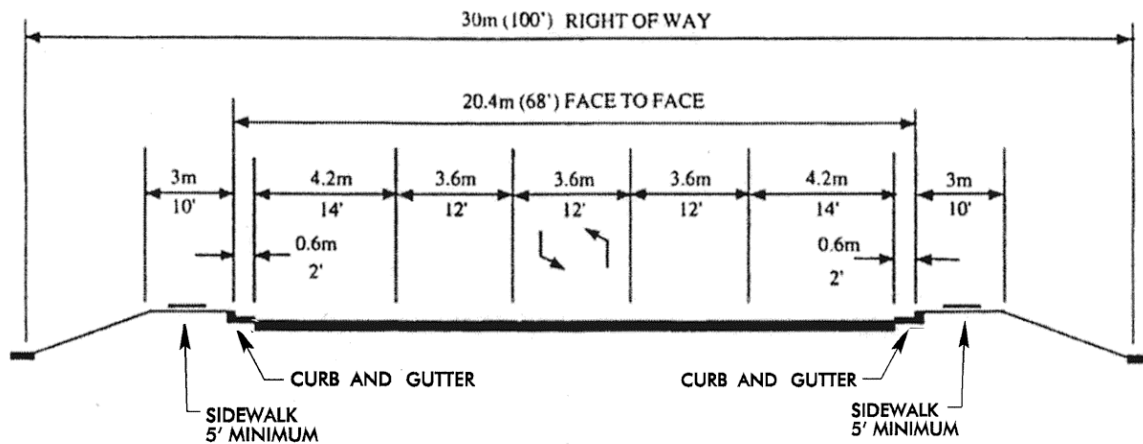
# Typical Bicycle Cross Sections

## WIDE CURB LANES

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



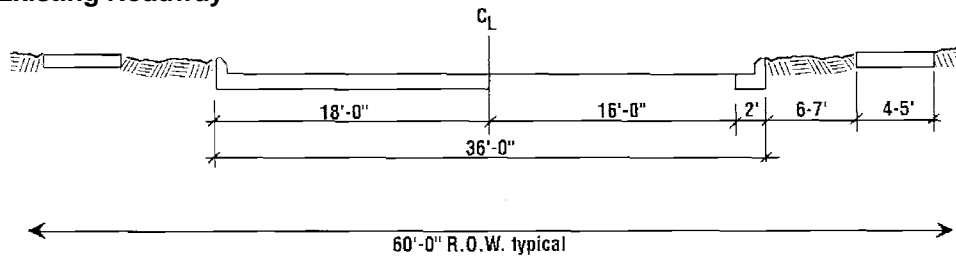
### B-2 5-LANE TYPICAL SECTION With Wide Outside Lanes



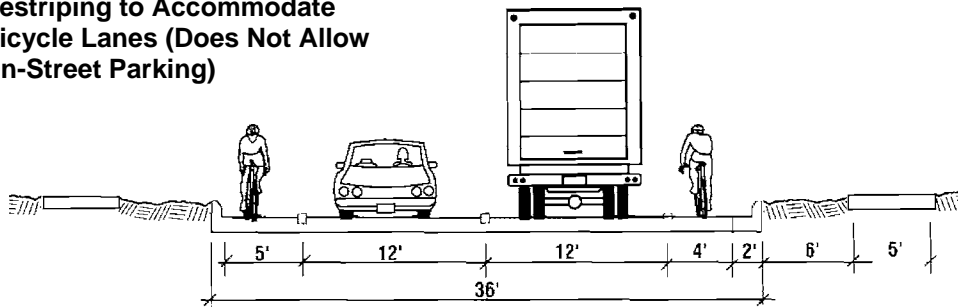
# Typical Bicycle Cross Sections

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

**Existing Roadway**



**Restriping to Accommodate  
Bicycle Lanes (Does Not Allow  
On-Street Parking)**

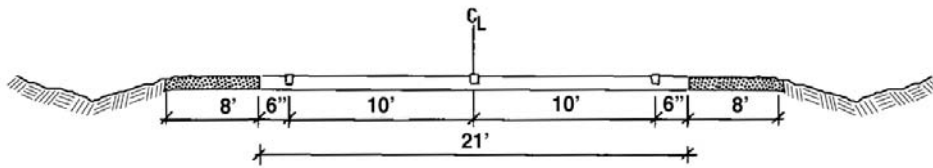


# Typical Bicycle Cross Sections

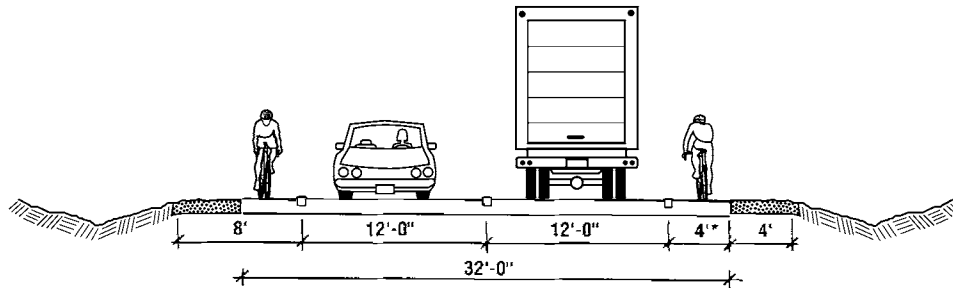
**B-4**

## **WIDE PAVED SHOULDERS**

**Existing Roadway**



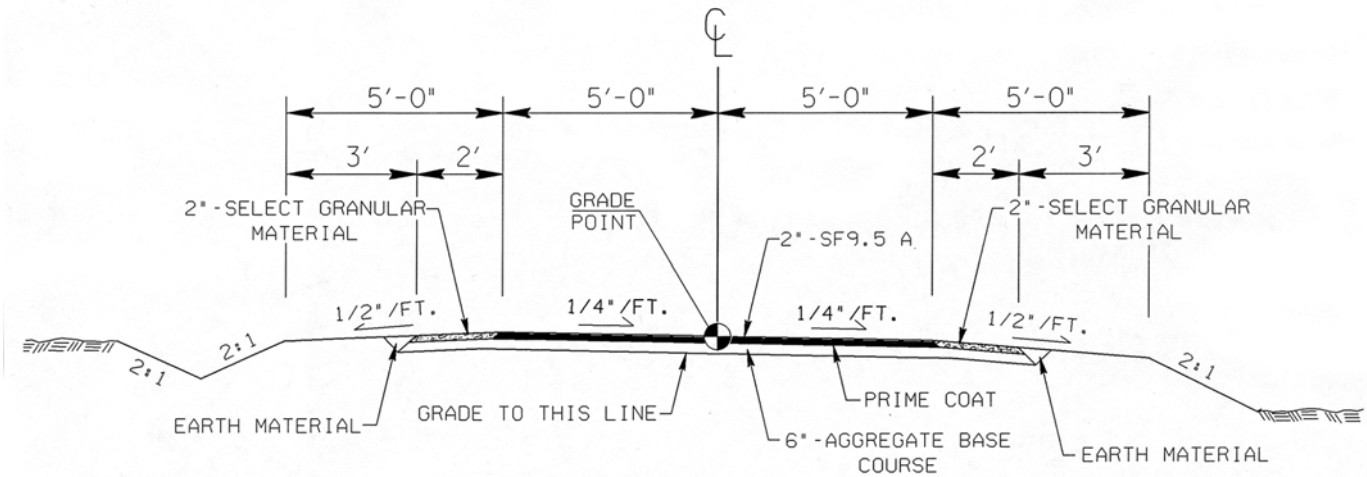
**Roadway Retrofitted with  
4-Ft Paved Shoulders**



\* 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**





## Appendix E

### Level of Service Definitions

The relationship of travel demand compared to the roadway capacity determines the level of service (LOS) of a roadway. Six levels of service identify the range of possible conditions. Designations range from LOS A, which represents the best operating conditions, to LOS F, which represents the worst operating conditions.

Design requirements for roadways vary according to the desired capacity and level of service. LOS D indicates “practical capacity” of a roadway, or the capacity at which the public begins to express dissatisfaction. 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. The six levels of service are described below and illustrated in Figure 8.

- **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.

Figure 8 - Level Of Service Illustrations

**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

## **Appendix F**

### **Bridge Deficiency Assessment**

The Transportation Improvement Program (TIP) development process for bridge projects involves consideration of several evaluation methods in order to prioritize needed improvements. A sufficiency index is used to determine whether a bridge is sufficient to remain in service, or to what extent it is deficient. The index is a percentage in which 100 percent represents an entirely sufficient bridge and zero represents an entirely insufficient or deficient bridge. Factors evaluated in calculating the index are listed below.

- structural adequacy and safety
- serviceability and functional obsolescence
- essentiality for public use
- type of structure
- traffic safety features

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 replacement. Bridges having 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. Structurally deficient means there are elements of the bridge that need to be monitored and/or repaired. The fact that a bridge is "structurally deficient" does not imply that it is likely to collapse or that it is unsafe. It means the bridge must be monitored, inspected and repaired/replaced at an appropriate time to maintain its structural integrity. A functionally obsolete bridge is one that was built to standards that are not used today. These bridges are not automatically rated as structurally deficient, nor are they inherently unsafe. Functionally obsolete bridges are those that do not have adequate lane widths, shoulder widths, or vertical clearances to serve current traffic demand or to meet the current geometric standards, or those that may be occasionally flooded.

A bridge must be classified as deficient in order to qualify for Federal replacement funds. Additionally, the sufficiency rating must be less than 50% to qualify for replacement or less than 80% to qualify for rehabilitation under federal funding. Deficient bridges within the planning area are listed in Table 4.

---

**Table 4 - Deficient Bridges**

---

Bridge Number	Facility	Feature	Condition	CTP Project
25	SR 1740	Lake Tillery	Functionally Obsolete	STAN0005-H
57	SR 1934	Hardy Creek	Structurally Deficient & Functionally Obsolete	STAN0007-H
65	SR 1918	Hardy Creek	Functionally Obsolete	STAN0002-H
162	SR 1923	Hardy Creek	Functionally Obsolete	STAN0009-H

## Appendix G Public Involvement

### **Norwood CTP Task Force Members:**

- Blair Israel, Centralina Council of Government (COG)
- Marshall Riggins, Town of Norwood Seniors
- Virgil Hankins, Town of Norwood Planning Board
- Alphonso Rush, Town of Norwood
- Rev. Daniel Flynn, Town of Norwood Pastor
- Polly Lespinasse, North Carolina Department of Environment and Natural Resources - Division of Water Quality (NCDENR DWQ)
- John Hanes, North Carolina Department of Commerce - Division of Community Assistance (NCDOC DCA)
- David Fencl, North Carolina Department of Commerce - Division of Community Assistance (NCDOC DCA)
- Dana Stoogenke, Rocky River Rural Planning Organization (RRRPO)
- Jonathan Parker, North Carolina Department of Transportation – Transportation Planning Branch (NCDOT – TPB)
- Dwight Smith, Norwood Town Manager

## Vision Statement

**GOAL:** Ensure a safe and convenient transportation system exists that maximizes the ability of existing roadways to serve the needs of vehicular traffic as well as the needs of alternative modes of travel such as bicycle and pedestrian oriented travel.

**Objective 3.1** – Maintain a safe and efficient transportation system that promotes economic development and livability.

**Objective 3.2** – Increase safety and reduce traffic congestion in and out of commercial areas.

**Objective 3.3** – Thoroughfares are maintained to present an attractive appearance while improving safety and functionality.

**Objective 3.4** – Bikeways, sidewalks, and pedestrian ways provide additional recreational opportunities and transportation alternatives.

**Objective 3.5** – Support policies set forth in the *Norwood Pedestrian Plan*.

---

### Strategies –

- Prioritize local and regional transportation improvements with NCDOT and Rocky River Rural Planning Organization.
- Develop and implement access management ordinance that would require limiting curb cuts, requiring common access points and/or requiring shared driveways.
- Explore amending development ordinances to require landscape buffer strips to improve appearance of major town thoroughfares.
- Form a Pedestrian Needs Committee to implement recommendations in the Norwood Pedestrian Plan.
- Update *Land Use Plan* and development ordinances as routes for Highway 52 bypass are determined.

## Norwood Transportation Survey

The Transportation Planning Branch of the North Carolina Department of Transportation, in cooperation with the Town of Norwood and the Rocky River Rural Planning Organization, is developing a transportation plan for Norwood. The transportation plan is a long-range plan that identifies major transportation improvements that will be needed over the next 25 years. This survey is a means of identifying transportation issues that are important to the citizens, officials, and businesses of Norwood.

1. How important are the following goals?

(Please **check** the box that describes the importance of the following goals.)

GOAL	Very Important	Somewhat Important	Not Important
<b>Increased Transportation Choices</b> <i>More opportunities to walk and bike to destinations</i>			
<b>Increased Public Transportation Options</b> <i>Bus or rail service to destinations; Park-and-ride lots to facilitate carpooling, vanpooling, and transit service</i>			
<b>Faster Automobile Travel Times</b> <i>Higher-speed roads with more lanes and fewer intersections; more connector roads; less congestion</i>			
<b>Community and Rural Culture Preservation</b> <i>Keeping businesses in downtown areas; preservation of existing building, neighborhoods, and open space; maintaining the rural culture and landscape</i>			
<b>Environmental Protection</b> <i>Minimizing the impact on wetlands, streams, and wildlife areas; reducing air pollution</i>			
<b>Economic Growth</b> <i>Building or improving roads and railways to attract new businesses and to allow existing businesses to expand</i>			
<b>Service of Special Needs</b> <i>Better transportation services for poor, elderly, and disabled residents</i>			

2. A road's ability to carry traffic should be increased by:

(Please **check** the box that describes the importance of the following strategies.)

STRATEGY	Very Important	Somewhat Important	Not Important
<b>Building additional travel lanes</b>			
<b>Controlling the frequency and location of driveways and crossroad access points</b>			
<b>Implementing intersection improvements such as better signal timing, and signal coordination</b>			

3. Are you concerned with safety or crash problems at any specific locations?

Yes       No

If yes, please give a detailed description of the location including the road name or intersection.

4. When traveling in your area, do you find that you often have to go out of your way to get to your destination because the most direct route is too congested?

Yes       No

If yes, please give examples.

5. Is truck traffic a problem in the area?

Yes       No

If yes, please give examples.

6. What areas or roads would you like to have improved access to?  
(Please **check** all that apply).

LOCATION		LOCATION	
Albemarle		South Carolina	
Charlotte		I-73/74	
Greensboro		I-85	
Locust/Stamfield		US 52	
Monroe		Other (please list)	

7. What are the key transportation issues in your area?



8. The new transportation plan will include recommendations for bicycle and mass transit facilities (the plan will ultimately include pedestrian recommendations in the future). Would you use the following transportation facilities if they were built or provided?  
 (Please **check** the appropriate box and write in the locations)

<b>TRANSPORTATION FACILITIES</b>	<b>Yes</b>	<b>No</b>
<b>Sidewalks</b> <i>If yes, where?</i>		
<b>Off-road trails or greenways for walking and biking</b> <i>If yes, where?</i>		
<b>On-road bicycle facilities such as bike lanes and wide shoulders</b> <i>If yes, where?</i>		
<b>Bus service within Stanly County</b>		
<b>Bus service to Charlotte</b>		
<b>Bus service to Greensboro</b>		
<b>Commuter rail to Charlotte</b>		
<b>Park-and-ride lots (parking areas at transit stations or bus stops to facilitate the use of public transportation and carpooling)</b> <i>If yes, where?</i>		

We would like to know a little about you so that we can create a group profile. **Your answers are and will be kept strictly confidential.** Please answer the following questions:

9. What is your age?

<b>AGE</b>		<b>AGE</b>	
17 and under		35 - 44	
18 - 24		45 - 64	
25 - 34		65 and over	

10. How would you classify your race?

<b>RACE</b>		<b>RACE</b>	
African American		Latino	
Asian		Native American	
Caucasian (white)		Other	

11. How many people live in your household including yourself?

# RESIDENTS		# RESIDENTS	
1		5	
2		6	
3		7	
4		8+	

12. What was your approximate annual household income last year?

HOUSEHOLD INCOME		HOUSEHOLD INCOME	
Below \$25,000		\$50,000 - 64,999	
\$25,000 - 34,999		\$65,000 - 80,000	
\$35,000 - 49,999		Above \$80,000	

13. In what community do you live?

(Please **check** only **one** box. Please check the location that's nearest to where you live.)

YOUR COMMUNITY		YOUR COMMUNITY	
Norwood		Locust/Stamfield	
Albemarle		Anson County	
New London		Montgomery County	
Oakboro		Other (please list)	

Thank you for completing this survey. Your input is vital in developing a plan that meets the needs of the citizens of Norwood and southeastern Stanly County. Please return this survey to the address below by April 30, 2006.

Dwight Smith  
 Norwood Town Manager  
 PO Box 697  
 Norwood, NC 28128

## Norwood Transportation Survey Results

**1. How important are the following goals? (Please check the box that describes the importance of the each goal)**

	Very Important	Somewhat Important	Not Important	Response Total	% Very Imprpt	% Some Imprpt	% Not Imprpt
Increased Transportation Choices	11	15	2	28	39%	54%	7%
Increased Public Transportation Options	8	10	10	28	29%	36%	36%
Faster Automobile Travel Times	12	9	7	28	43%	32%	25%
Community and Rural Culture Preservation	20	9	1	30	67%	30%	3%
Environmental Protection	18	8	2	28	64%	29%	7%
Economic Growth	25	4	1	30	83%	13%	3%
Service of Special Needs	23	6	1	30	77%	20%	3%

Total Respondents	30
(skipped this question)	0

**2. A road's ability to carry traffic should be increased by: (Please check the box that describes the importance of the following strategies.)**

	Very Important	Somewhat Important	Not Important	Response Total	% Very Imprpt	% Some Imprpt	% Not Imprpt
Building additional travel lanes	16	11	2	29	55%	38%	7%
Controlling the frequency and location of driveways and crossroad access points	5	18	4	27	19%	67%	15%
Implementing intersection improvements such as better signal timing and signal coordination	18	12	0	30	60%	40%	0%

Total Respondents	30
(skipped this question)	0

**3. Are you concerned with safety or crash problems at any specific locations?**

	Resp. Total	Percent
Yes	12	44%
No	15	56%

Total Respondents	27
(skipped this question)	3

If yes please give a detailed description of the location including the road name or intersection.

Total Respondents	12
(skipped this question)	18

**4. When traveling in your area do you find that you often have to go out of your way to get to your destination because the most direct route is too congested?**

	Resp. Total	Percent
Yes	6	23%
No	20	77%

Total Respondents	26
(skipped this question)	4

If yes please give examples.

Total Respondents	7
(skipped this question)	23

**5. Is truck traffic a problem in the area?**

	Resp. Total	Percent
Yes	14	54%

No	12	46%
----	----	-----

Total Respondents	26
(skipped this question)	4

If yes please give examples.

Total Respondents	14
(skipped this question)	16

**6. What areas or roads would you like to have improved access to? (Please check all that apply).**

	Resp. Total	Percent
Albemarle	16	62%
Charlotte	12	46%
Greensboro	5	19%
Locust/Stanfield	9	35%
Monroe	4	15%
South Carolina	4	15%
I-73/74	9	35%
I-85	10	38%
US 52	12	46%
Other (please specify)	2	8%

Total Respondents	26
(skipped this question)	4

**7. What are the key transportation issues in your area?**

Total Respondents	17
(skipped this question)	13

**8. The new transportation plan will include recommendations for bicycle and mass transit facilities. Would you use the following transportation facilities if they were built or provided?**

	Yes	No	Resp. Total	% Yes	% No
Sidewalks? If yes where?	21	8	29	72%	28%
Off-road trails or greenways for walking and biking? If yes where?	17	11	28	61%	39%
On-road bicycle facilities such as bike lanes and wide shoulders? If yes where?	8	18	26	31%	69%
Bus service within Stanly County?	11	17	28	39%	61%
Bus service to Charlotte?	11	15	26	42%	58%
Bus service to Greensboro?	5	19	24	21%	79%
Commuter rail to Charlotte?	12	14	26	46%	54%
Park-and-ride lots (parking areas at transit stations or bus stops to facilitate the use of public transportation and carpooling)? If yes where?	7	18	25	28%	72%

Total Respondents	30
(skipped this question)	0

Please add your comments about these transportation facilities here:

Total Respondents	21
(skipped this question)	9

**9. What is your age?**

	Resp. Total	Percent
17 and under	0	0.0%
18 - 24	0	0.0%
25 - 34	1	3.3%
35 - 44	4	13.3%

45 - 64	9	30.0%
65 and over	16	53.3%

Total Respondents	30
(skipped this question)	0

**10. How would you classify your race?**

	Resp. Total	Percent
African American (black)	0	0%
Asian	0	0%
Caucasian (white)	27	90%
Latino	0	0%
Native American	3	10%
Other	0	0%

Total Respondents	30
(skipped this question)	0

**11. How many people live in your household including yourself?**

	Resp. Total	Percent
1	9	31%
2	14	48%
3	3	10%
4	2	7%
5	1	3%
6	0	0%
7	0	0%
8+	0	0%

Total Respondents	29
(skipped this question)	1

**12. What was your approximate annual household income last year?**

	Resp. Total	Percent
Below \$25k	2	9%
\$25-34.999k	6	26%
\$35-49.999k	4	17%
\$50-64.999k	3	13%
\$65-79.999k	5	22%
Above \$80k	3	13%

Total Respondents	23
(skipped this question)	7

**13. In what community do you live?  
(Please select the location that's nearest to where you live.)**

	Resp. Total	Percent
Norwood	29	100%
Albemarle	0	0%
New London	0	0%
Oakboro	0	0%
Locust/Stanfield	0	0%
Anson County	0	0%
Montgomery County	0	0%
Other (please list)	0	0%

Total Respondents	29
(skipped this question)	1



Norwood Comprehensive Transportation Plan (CTP) Task Force Meeting  
9/17/2007, 10am  
Darrell Almond Park, Norwood

1. Introductions
2. Briefly review 8/2/07 meeting minutes
3. Review new data & receive input
  - Updated maps
  - Evaluation matrix
  - Costs (incl. other roadway, bike & 2-lane bypass option)
4. Discuss potential impacts and “fatal-flaw” issues:
  - Downtown historic (NRHP/4f resource?) properties
  - EJ issues (Kendall St minority community)
  - Norwood Cemetery
  - Watershed issues
  - Rocky River crossing
  - Impacts to residents & businesses
  - Others?
5. Workshop Prep
  - Finalize alternatives to carry forward to public workshop
  - Public involvement for CTP Alternatives Workshop (Date? advertising/promotion? coordinate with Land Use Process?)
6. Next Steps
  - LU Plan Charette (should occur prior to Draft)
  - Final Task Force Meeting; recommend Draft CTP
  - NCDOT TPB reviews Draft CTP
  - Public Hearing Draft CTP
  - Norwood Town Board adopts LU Plan (**must** occur prior to CTP adoption)
  - Norwood Town Board adopts Recommended CTP
  - Rocky River RPO endorses CTP
  - NC BOT adopts Final CTP
7. Adjourn

Norwood Comprehensive Transportation Plan (CTP) Workshop  
“Picnic in the Park”  
October 21, 2007

*Your comments are important to us! Please review what has been presented here, and take a moment to answer a few questions below. Please submit your comments by November 5, 2007.*

1. Do you support building a US 52 Bypass of Norwood? (Please circle your choice)

**Yes**

**No**

2. Of the five bypass alternatives shown on the maps presented, please circle the US 52 Bypass alternatives you find to be **least desirable**. (You may choose **more than one**)

*1*

*2A*

*2B*

*3*

*4*

3. Please check the box indicating which type of transportation project do you feel should be the **highest priority** for the Town of Norwood. (Please check only **two boxes**)

**Building bicycle and pedestrian facilities (trails, sidewalks, crosswalks, etc)**

**Improving existing intersections (signals, turn lanes, etc)**

**Building a new highway bypass of Norwood**

**Building wider travel lanes and shoulders on existing roads**

4. Based on the information in the slideshow, please check the box indicating which type of bicycle facility do you **most prefer**. (Check only **one box**)

**Wide Paved Shoulders**

**Wide Outside Lanes**

**Striped Bike Lanes**

**Multi-use Pathways**

5. Please leave any additional comments you would like to make on the Norwood CTP:

Your name (optional): \_\_\_\_\_

**Norwood CTP Workshop Comment Results 10-27-07**

- 1 Do you support building a US 52 Bypass of Norwood?
 

YES	8
NO	0
  
- 2 Of the five bypass alternatives shown on the maps presented, please circle the US 52 Bypass alternatives you find to be **least** desirable
 

1	2
2A	2
2B	4
3	2
4	3
  
- 3 Please check the box indicating which type of transportation project do you feel should be the highest priority for the Town of Norwood.
 

Building bicycle and pedestrian facilities (trails, sidewalks, crosswalks, etc)	2
Improving existing intersections (signals, turn lanes, etc)	
Building a new highway bypass of Norwood	9
Building wider travel lanes and shoulders on existing roads	2
  
- 4 Based on the information in the slideshow, please check the box indicating which type of bicycle facility do you most prefer
 

Wide Paved Shoulders	5
Wide Outside Lanes	
Striped Bike Lanes	
Multi-use Pathways	4
  
- 5 Please leave any additional comments you would like to make on the Norwood CTP

# **INVITATION**

*February 17, 2006*

## **PEDESTRIAN PLAN PUBLIC MEETING**

**MARCH 14<sup>TH</sup>**

A Pedestrian Plan Public Meeting is set for Tuesday, March 14th, from 7:00 pm to 9:00 pm, at the Norwood Community Center, 247 West Turner Street.

The Town of Norwood is exploring ways to improve walking conditions for pedestrians, throughout the community, and invites all citizens and residents to attend this event. Come contribute your thoughts and ideas in a highly interactive work session and learn more about the issues involved in planning for pedestrian needs. Your input will go far in determining priority building projects in months and years ahead.

The meeting will be facilitated by Centralina Council of Governments, a regional planning organization committed to vital, prosperous and sustainable environment. Centralina is working with Town staff and a steering committee made up of a variety of Norwood community members.

Centralina invites you to visit their SEQL website, at [SEQL.org](http://SEQL.org), to learn more pedestrian-friendly streets and trails.

For more information please contact Blair Israel, Centralina Council of Governments at 704-372-2416 or e-mail at [bisrael@centralina.org](mailto:bisrael@centralina.org)

## **PUBLIC MEETING**

**Tuesday, November 28<sup>th</sup> 2006, 7:00 pm to 8:30 pm**  
**Norwood Community Center,**  
**247 West Turner Street**

The Town of Norwood is now in its final stages in developing a Master Plan for sidewalks, trails and other pedestrian facilities throughout the community. A previous workshop was held to gather public opinion on improvements to help make Norwood more walkable. Come see the results and give us your feedback. Your input will go far in determining priority building projects in months and years ahead.

The meeting will be facilitated by Centralina Council of Governments, a regional planning organization committed to vital, prosperous and sustainable environment. Centralina is working with Town staff and a steering committee made up of a variety of Norwood community members.

For more information please contact Blair Israel, Centralina Council of Governments at 704-372-2416, or e-mail at [bisrael@centralina.org](mailto:bisrael@centralina.org)

Excerpt:



## Biking, walking issues reviewed

By Sarah Jane Rosser, Staff Writer

Thursday, April 10, 2008— An update on the comprehensive transportation plan was discussed by Jonathan Parker of North Carolina Department of Transportation (NCDOT) Monday evening at the Norwood Town Council meeting.

With the bike plan and a pedestrian plan saying the same from future meetings, those who attended the meeting as well as members of the council saw firsthand how the plan would benefit those who took advantage of it.

Since gas prices continue to rise, bikers and walkers can take advantage of the opportunity to get where they need to go on foot.

In addition, it gives a choice for types of safe transportation throughout the town and some say it will improve public health.

The idea of a bypass came to pass, which is something that continues to be in the works after a workshop Oct. 21 in conjunction with Picnic in the Park. Parker said 18 people attended the workshop which was good for a long range plan.

“There was some support in the community for biking and walking and a good response for a U.S. 52 Bypass,” Parker said.

“However, there was no clear public consensus for the bypass route.”

Local, Regional Planning Organization (RPO) and DOT staff reduced bypass alternatives for consideration to alternate 2A and 2B. Alternate 2A has been recommended to the town board, which will branch off U.S 52 and follow the Norfolk-Southern Railway and intersect at the existing U.S 52 and NC 731. However, council members preferred Alternate 2B for its location toward the downtown area. Alternate 2B displays the bypass following Kendall Street with easy access to the downtown business district. It too will intersect with U.S. 52 and N.C. 731.

Included in the presentation Parker made, pros and cons were given for both alternate routes.

With Alternate 2B already developed with residential and business, it has at least two times the estimated human impacts of 2A. It also could have major environmental justice issues, officials say.

On the pro side, which particularly interests council members, 2B is within walking distance from the Central Business District (CBD) at just a half a mile away.

Alternate 2A preserves the town land use control, is likely to lower the cost of potential right of ways and add flexible design, officials say.

“DOT cannot recommend 2B in the long range after comprehensive study,” Parker said.

“We hope this process will evaluate what the town wants.”

Town council members will continue to discuss plans for the bypass and communicate their concerns to Parker.

## Appendix H

### Additional Transportation Alternatives & Scenarios Studied

This appendix includes documentation for alternatives and scenarios that were studied but not included in the CTP. Figure 9 depicts alternatives studied for the proposed US 52 Bypass.

#### Alternatives Scenarios for US 52

- **Alternative 2B**
  - It is the closest alternative to the Central Business District (CBD)
  - It will help keep downtown alive
  - The Town wants to have control over bypass development
  - Historically, Stanly County will not grant increased ETJ
  - The Town very strongly endorses Alternative 2B
  - Town feels that a powerplant can be built
  - The Town does not appear to want to adopt any other alternative
  - Stanly County (historically) has not preserved or protected the corridors in their jurisdiction
  
- **Alternative 2A**
  - Concerned that it is outside of the Town's ETJ
  - Preserves the Town's land use control (ETJ)
  - Is most likely, lower in cost (right-of-way) and is a flexible design
  - It meets the Strategic Highway Corridor (SHC) vision: access and land use;
  - Selected as best Alternative
  
- **Alternative 3**
  - Norwood is the oldest town in Stanly Co. From a historic preservation perspective, Project Engineer was not in favor of Alternative 3 through downtown, which may impact several old historic farm houses that would change the landscape west of town.
  - Eliminated because of cost, length, and it's impact to the human and natural environment to the (CBD)
  
- **Alternative 1**
  - Norwood is the oldest town in Stanly Co. From a historic preservation perspective, Project Engineer was not in favor of Alternative 0 through downtown, which would have a major impact on several old historic farm houses and natural environmental resources that would change the landscape west of town.
  - The most costly option
  - Very lengthy

- The only Alternative that would require a new Rocky River Crossing
  - Would provide a lesser benefit to the town, and offers no benefit over the other choices.
  - The intent is to simplify choices for the public, while still documenting the decisions and the reasons behind it in the CTP report.
  - Project Engineer suggested to the group that we eliminate Alt. 1 from further consideration. The group agreed to eliminate Alt. 1 from further consideration.
- **Alternative 4**
    - High cost
    - Very lengthy
    - Would have a major impact on the human and natural environment (CBD)

Alternatives 1, 3, and 4 were eliminated, leaving Alternatives 2A and 2B as the final options.

# Norwood

## Comprehensive Transportation Plan

### Highway Alternatives

