East Woodruff Road Area Plan

A Plan by the Greenville County Planning Department
Development of the East Woodruff Road Area Plan was a citizen driven process that involved area residents, stakeholders, the Greenville County Planning Commission, Greenville County Council, and county staff. This plan could not have been created without their continued involvement throughout the entire planning process. A special thanks goes out to all of the following individuals who participated in guiding the development of this plan.

**East Woodruff Road Citizens Advisory Committee**
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- Bob Moran
- Don Deegan
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- Gena Allen
- Jerry Brown
- Jerry Wallen
- Kristie Tennent
- Phillip Reavis

**Greenville County Council**
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- Jim Burns, Chairman PWPD Committee, District 21

**Greenville County Planning Commission**
- Diane Eldridge, Chair, AICP
- Jim Barbare, Past Chair

**Special Thanks**
A special thanks is extended to Principal Phillip Reavis and the staff at Oakview Elementary for opening up their wonderful school and providing great place for the Citizen Advisory Committee to meet and hold community meetings.
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Chapter One- Introduction & Overview

Section 1.1 Introduction

Introduction

In March 2007 the planning staff was charged with conducting a study of the area now known as the East Woodruff Road Area. This report is a summary of that study and serves as the plan document, laying out the vision, goals, objectives and plan recommendations that were developed through extensive involvement with area residents and stakeholders.

A few short years ago, much of the area was comprised of large residential tracts and farm land. Woodruff Road was no more than a two-lane country road, connecting Spartanburg County and Woodruff to the City of Greenville. With the explosive residential growth over the last 20 years, Woodruff Road now functions as a primary thoroughfare serving thousands of residents that call this area home.

This growth does not come without a price. It brings more people, and inevitably more conflicts, conflicts between land uses, property owners, and the natural environment. The focus of this plan is to move beyond the debate over growth versus no growth, and to address the issue of how best to direct this growth in a manner that minimizes land use conflicts, preserves our natural systems and open spaces, and reduces the impact it has on area roads and other community facilities.

To this end, this plan seeks to answer several questions. The first of which is: Where are we now? Second, it seeks to answer the question of: Where do we want to go? Finally, it attempts to provide a clear answer to the question: How do we get there?

Purpose

The East Woodruff Road Area Plan will serve as a policy guide to assist in decision making, and support future actions that will promote orderly development of land in an effort to maintain and improve the quality of life for current and future residents of this community. This Area Plan is a 5 to 7 year plan that addresses the location and relationship of future land uses, transportation system improvements, and land development and design related issues. This plan articulates a vision for this community as expressed through numerous meetings with area residents, property owners, and stakeholders, and makes recommendations on how best to realize this vision.

Report Format

This report consists of 6 chapters and an appendix. Chapter 1 provides an introduction, background information, the planning process and a summary of results from the citizens survey. Chapter 2 provides a description of the study area and current conditions, including information on population characteristics, infrastructure, traffic conditions, and land use and development patterns. Chapters 3, 4, and 5 address future land use, transportation improvements, and land development and design. Chapter 6 covers the implementation strategy including potential funding sources and timeline for recommended improvements. Appendix A. is the proposed commercial design standards for the proposed Design Overlay Districts identified in this plan.
Chapter One- Introduction & Overview

Section 1.2 Background

History
In the past, Woodruff Road was a two-lane rural road that primarily served residential traffic. As a result of commercial and industrial developments in the 1960’s and 70’s, coupled with the extension of I-385 in the early 1980’s, much of Woodruff Road west of SC Highway 14 began to rapidly transform into a suburban commercial corridor.

Up until the early 1990’s much of Woodruff Road east of SC Highway 14 was still largely rural residential with a few residential subdivisions scattered throughout the study area. In the early 1990’s, what is now the thriving Five Forks commercial area was just rural cross roads. In just a short ten year period from 1990 to 2000, the Five Forks area transformed into a busy commercial center, providing goods and services to the growing residential population.

Previous Plans
The two prior plans addressing this area were the Five Forks Area Plan adopted in 1996 and the County Comprehensive Plan, Designing Our Destiny, adopted in 1999. The Five Forks Land Use Plan focused commercial land uses at the major intersections making up Five Forks in a nodal pattern and strongly discouraged strip commercial development outside of the areas identified for commercial development. This was a growth management strategy that has been somewhat successful in preventing the strip commercial pattern that defined other sections of Woodruff Road.

The East Woodruff Road study area is also contiguous to two recently completed planning efforts in this part of Greenville County, namely the Scuffletown Area Plan completed February 2007 and the Woodruff Road Corridor Study completed in July 2007. These two planning efforts focused on areas immediately to the west and south of the East Woodruff Road study area. The East Woodruff Road Area Plan seeks to pick up where these two previous planning efforts left off, and completes the latest planning efforts for Woodruff Road and the larger Enoree Area.
Kickoff Community Meeting

The East Woodruff Road area study began in March 2007 with a community meeting at Clear Springs Fire Station. This was part of an effort to determine the most important issues facing the area. At the meeting, the community was given information on issues facing the area. The participants also received an overview of the planning process and were informed on how they could be involved in that process. Surveys were given out at the meeting, to help staff prioritize citizen’s concerns. Participants were quick to name traffic, open space preservation, poor road conditions, school overcrowding, tree preservation, sprawling development patterns, flooding, and lack of sidewalks as the most pressing issues facing the area.

Stakeholder Meetings

A series of stakeholder meetings with representatives from the Greenville County School District, SCDOT, Metro Sewer, Greenville County Recreation District and Pelham Batesville Fire District took place over a three month period from July through November. At these meetings information was gathered and used to help develop final recommendations on how best to implement plan goals and objectives. One on one meetings were also held with large property owners to discuss future plans.

Citizens Advisory Committee

Following the initial kickoff community meeting, a citizens committee was formed to make recommendations and to represent the citizens interest in the planning process. The committee was made up of 10 area residents from various neighborhoods and subdivisions throughout the study area. This citizens committee met on a bi-weekly basis throughout the spring and fall of 2007. The first order of business for the committee was to establish a vision and set goals for the study area. The committee then set their focus on identifying road network improvements and preparing a future land use plan. Finally, the committee discussed strategies to promote more sustainable development patterns not only applicable to this study area but throughout Greenville County. The committee met a total of 7 times with it’s last meeting on September 11, 2007.

Final Draft Presentation

Based on the stakeholder and citizen committee meetings, the planning staff prepared a set of draft proposals and recommendations that seek to address established goals and objectives. These draft recommendations were then presented at a community meeting on October 18, 2007 at Oakview Elementary School. There, participants viewed the draft plans and provided feedback on the draft proposals. This meeting was very well received by the public and constructive, providing the planning staff the necessary feedback to fine tune and finalize the plan recommendations.
As mentioned previously in this report, every effort was made to involve the public throughout this planning process. These efforts included public meetings, citizen advisory meetings, open house meetings, and an online survey. The online survey results are summarized in this section of the report. The results of this survey were used by staff in directing the focus of the planning effort, and were invaluable as they provided the staff with a glimpse into the issues most important to the average citizen. This information allowed the planning staff to focus on these issues, and it also played an integral part in developing the plans vision.

A total of 191 responses were tallied from both the mailed in and the online surveys. The results of the survey have been summarized in this section.

**Reasons for Living in Study Area**
In Section One of the survey, residents were asked to answer each question and asked to rank the level of importance of each factor that contributed to their decision to live in the study area. In large part, the survey results reinforced the planning staff’s notion that the area’s natural setting, convenience to local shopping, quality schools, housing opportunities, and housing prices are the major reasons people decided to live in the study area.

**Desired Development Pattern for Woodruff Road**
Section Two of the survey asked questions regarding the desired land use and development pattern along Woodruff Road. Not surprisingly, a majority of people were against any more development of any kind, still, others said that we should try to consolidate commercial activity at planned commercial nodes.

**Most Important Issues**
In this section people identified traffic congestion on area roads as the number one growth related issue impacting the study area. Other issues such as clear-cutting large tracts of land for new development was also a major concern of area residents.

One point of interest is that a general consensus of people feel that quality design of future development is of the utmost importance, and even more so than strict land use controls. People sighted commercial signage clutter along Woodruff Road, unsightly parking lots, clear-cutting, and light pollution as negatively impacting the area.
Section 1.4 Summary of Survey Results

8) Housing Prices
Not Important | Slightly Important | Important | Very Important
--- | --- | --- | ---
44.4% | 16.67% | 32.78% | 6.11%

9) Shopping Opportunities
Not Important | Slightly Important | Important | Very Important
--- | --- | --- | ---
16.02% | 33.15% | 35.36% | 5.47%

10) Proximity to Schools
Not Important | Slightly Important | Important | Very Important
--- | --- | --- | ---
22.65% | 17.68% | 33.15% | 26.52%

11) Quality of Area Schools
Not Important | Slightly Important | Important | Very Important
--- | --- | --- | ---
10.55% | 6.65% | 20.99% | 61.88%

12) Proximity to Churches
Not Important | Slightly Important | Important | Very Important
--- | --- | --- | ---
28.33% | 33.89% | 30% | 17.78%

13) Family/Friends Nearby
Not Important | Slightly Important | Important | Very Important
--- | --- | --- | ---
24.86% | 31.49% | 33.15% | 10.5%

14) What should be the function of the portion of Woodruff Road East of Highway 14 to the county line?
- Serve as a primary commercial artery serving the traveling public such as Wade Hampton Boulevard (Commercial development along the front)
- Serve primarily as a residential collector street for local residents to go to work, school, shopping, etc. (Residential development along the front)

15) What should be the residential development pattern in this area?
- Large lot (3+ acres and above) single-family development
- Smaller residential lots (around 2 lots to an area) single-family development
- A combination of large and small single-family lots
- Large lot and rural development (pastureland, etc.)
- Other

16) What should be the nonresidential development pattern in this area?
- Strip commercial development along Woodruff Road
- "Neighborhood" commercial and office development at strategic intersections along Woodruff Road
- Commercial "Center" or "Hub" which would allow a combination of neighborhood commercial, office and higher density residential development at strategic locations within the study area
- Other
From the surveys and public meetings, the planning staff was able to identify key issues and determine areas of consensus. These areas of agreement are listed in this section of the report.

**Areas of Consensus**

- Something needs to be done to better manage the increasing traffic congestion on area roads.
- Residents should not bear the cost of new development. Development should pay its own way by making the necessary infrastructure improvements to roads and sidewalks as it goes.
- Infrastructure and community facilities should keep pace with development.
- There needs to be better coordination between all agencies, departments, and districts to plan for growth more effectively.
- Quality of area schools is a very important consideration in deciding to live in this area. The quality of area schools should not be compromised to accommodate more growth.
- Planning should be proactive by establishing consistent expectations on how land can be developed, and not reactive by routinely permitting rezoning of land for higher densities.
- Preservation of rural and natural land is important.
- Tree preservation is a critical component of any new development and the committee supports the proposed tree preservation ordinance.
- Open space, greenways, trails and other passive recreation opportunities are needed. There is general support for a regional recreation facility at the former Enoree Landfill and development of an area wide greenway along the Enoree River.
- Appearance of commercial development is important. Commercial design standards should promote walk-ability and foster a strong sense of place.
- Commercial development should be located in commercial activity centers or limited to small scale neighborhood centers.
- Outside of planned commercial activity centers, land uses on Woodruff Road should be primarily residential.
- A variety of housing opportunities should be provided in the form of both small and large lot single family development.

Once the key issues were identified, the planning staff and the citizens advisory committee worked toward developing the following vision statement and general goals for the plan. The vision statement serves to provide an answer to the question of: Where do we want to go? It establishes the foundation on which the goals and recommendations of this area plan are built.

Simply put, the vision is: To protect and maintain the residential character of the area, while accommodating sustainable development consistent with smart growth principles, with an emphasis on quality design to ensure that future development is consistent with the values and character of the community.

The following goals were established from the key issues and vision statement.

1. Focus future residential growth in areas with existing infrastructure.
2. Better connect people and the places within the community by creating walk-able neighborhoods.
3. Focus future commercial development within planned neighborhood and community centers.
4. Maintain and improve the safety and integrity of the area road network through proper land use, sustainable design, and access management strategies.
5. Minimize environmental impacts through the preservation of open spaces, trees, and other valuable natural resources.
6. Provide more active and passive recreational opportunities.
Chapter Two– Existing Conditions

Section 2.1 Description of Study Area

Introduction
To better understand the future needs of a community, it is important to know where it has been and what the current situation is. This chapter of the report discusses the current conditions and the influencing factors that play a role in shaping the area’s land use, transportation infrastructure and overall development patterns.

Study Area Boundary Defined
The East Woodruff Road Planning Area is located in eastern Greenville County and is bounded by the Enoree River and Spartanburg County line to the east, SC Highway 14 to the west, Gilder Creek to the south, and Pelham and Batesville Roads serving as the northern most boundary. The planning area is comprised of four of the six Transportation Analysis Zones (TAZ) that make up the larger Enoree Planning Area. Since the focus of the study centered around Woodruff Road, those TAZs adjacent to Woodruff Road were chosen. In all, the East Woodruff Road Planning Area comprises 10,955 acres.

Area Characteristics
This area can best be characterized as transitioning from rural agricultural and large estates to a suburban bedroom community. This transition has been taking place at a rapid pace over the past 15 years making the East Woodruff Road Area one of the fastest growing suburban areas in Greenville County. As a result of this rapid population growth, Woodruff Road, the primary east-west corridor through the study area, along with other area roads, are experiencing increased traffic congestion.

The predominant land use in the study area is a mixture of rural residential areas and newer single family residential subdivisions. Residential lot sizes of newer subdivisions range from 15,000 square feet to more than one acre estate lots. The older rural residential tracts typically range in size from 5 to 25 acre parcels. Several of these larger rural residential parcels still utilize the land for rural land uses including agriculture and pastureland, with horse farms being the most common. Rural residential lots greater than 10 acres, pastureland, and undeveloped wooded lands account for 40% of the total land area. The remaining land area is divided between residential subdivisions, retail commercial, office, churches and schools.

Woodruff Road is the major east-west arterial road in the study area and has thus been the focus of much commercial activity in recent years. The Five Forks area on Woodruff Road is the main commercial center serving the study area. Much of Woodruff Road outside of the Five Forks commercial center remains a mixture of residential or residentially compatible uses such as churches, and small professional offices.

The only other concentration of commercial uses within the study area is located at the Pelham-Batesville and SC 14 intersection. This commercial center is characterized by shops, restaurants, a gas station, banks, a new Blooms grocery store, and professional offices.
Utilizing U.S. census data and the Planning Department’s estimates, the planning area’s population, demographics, and housing figures are listed in Table 2.1 on this page. Between the years 2000 and 2007, there were 2,126 new homes built and occupied. This represents a 45 percent increase in the number of housing units in the planning area.

Over the same eight year period, the population grew from 13,401 in year 2000 to 19,152 in year 2007. This represents a 43% increase in population and an average yearly population increase of 6.1 percent. Based on subdivision activity and building permit locations the vast majority of this growth has occurred east of the Five Forks area, especially along Woodruff Road, Bennetts Bridge Road, and Anderson Ridge Road.

Another interesting fact is that the build out scenario under existing R-S zoning will permit an estimated 5,911 new homes in the study area. When multiplied by the average household density (persons/household) of 3.04, the existing R-S zoning can accommodate an additional 18,492 people.

Considering that population is only expected to increase by 5,878 people by the year 2030, the existing R-S zoning will accommodate more than three times the projected population increase over the next 23 years.

### Table 2.1 Population Trends

<table>
<thead>
<tr>
<th>Study Area</th>
<th>Greenville County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population, 2000</td>
<td>19,152</td>
</tr>
<tr>
<td>Population, Percent Change 2000-2007</td>
<td>42.9%</td>
</tr>
<tr>
<td>Population Projection for 2030</td>
<td>25,030</td>
</tr>
<tr>
<td>Population Percent Change 2007-2030</td>
<td>30.7%</td>
</tr>
<tr>
<td>Population Density (persons/acre)</td>
<td>56</td>
</tr>
</tbody>
</table>

- Male: 6,680
- Female: 6,721
- Persons under 18 years of age: 4,639
- Persons 18-64 years of age: 8,232
- Persons 65 and over: 530
- White: 12,179
- Black or African American: 631
- Hispanic or Latino: 274
- Native American: 15
- Asian: 359
- Some other race: 99

- Education:
  - Less than 9th Grade: 78
  - 9th to 12th Grade, No Diploma: 241
  - High School Graduates: 657
  - Some College, No Degree: 858
  - Associates Degree: 548
  - Bachelor’s Degree: 1,262
  - Graduate or Professional Degree: 585

- Households:
  - Total Housing Units: 6,841
  - Owner Occupied Housing Units: 5,984
  - Renter Occupied Housing Units: 548
  - Average Household Size: 3.04
  - Married Couple Families with Children: 3,531

- Transportation to Work:
  - Drive Alone: 5,705
  - Carpool: 526
  - Walk or Work from Home: 279
  - Mean Travel Time to Work (minutes): 24.2

### Area Quick Facts:
- Study Area Size: 11,470 acres
- 2007 Population: 19,152
- 2,126 new dwellings were built between 2000 and 2007.
- Average density in new subdivisions created between 2000 and 2007 is 1.9 homes per acre.
- Projected build out under existing R-S zoning (1.7 homes/acre) adds an additional 6,083 new homes.
- 40% of the study area is undeveloped or residential estates greater than 10 acres.
- From 2000-2007(current) 41 subdivisions have been approved creating 3,462 new lots.
- Projected population growth of 5,878 new people by 2030, or an additional 595 people every year.
Section 2.3 Current Land Use

The study area is approximately 10,955 acres in size and is predominantly residential, with a mixture of rural residential uses and single family subdivisions comprising 50% of the study area.

Agricultural and undeveloped open space account for approximately 40% of the total land area and are by far the second most prevalent land use. All other land uses account for only 10% of the total area.

Table 2.2 Current Land Use

<table>
<thead>
<tr>
<th>RESIDENTIAL USES</th>
<th>ACRES</th>
<th>% OF TOTAL ACRES</th>
<th>TOTAL DWELLING UNITS</th>
<th>% OF TOTAL</th>
<th>UNITS/ ACRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Detached Subtotal</td>
<td>5,373</td>
<td>49.0%</td>
<td>6,614</td>
<td>99.0%</td>
<td>1.2</td>
</tr>
<tr>
<td>Rural/Large Lot (&lt; 1 ac/du)</td>
<td>1,549</td>
<td>14.1%</td>
<td>211</td>
<td>3.1%</td>
<td>.13</td>
</tr>
<tr>
<td>Suburban (&lt; 1 ac/du)</td>
<td>1,711</td>
<td>15.6%</td>
<td>1,050</td>
<td>15.5%</td>
<td>.6</td>
</tr>
<tr>
<td>Suburban (1 and &lt; 3 ac/du)</td>
<td>2,113</td>
<td>19.2%</td>
<td>5,353</td>
<td>79.1%</td>
<td>.6</td>
</tr>
<tr>
<td>Townhomes and Multifamily</td>
<td>14.5</td>
<td>&lt; 1.0%</td>
<td>93</td>
<td>1.4%</td>
<td>6.4</td>
</tr>
<tr>
<td>Duplexes, Triplexes &amp; Zero Lot-line Units</td>
<td>5.5</td>
<td>&lt; 1.0%</td>
<td>59</td>
<td>&lt; 1%</td>
<td>10.7</td>
</tr>
<tr>
<td>Conventional 4+ Unit Structures</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Condominiums</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Residential Total</td>
<td>5,393</td>
<td>49.0%</td>
<td>6,766</td>
<td>6,766</td>
<td>1.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NONRESIDENTIAL USES</th>
<th>ACRES</th>
<th>% OF TOTAL ACRES</th>
<th>TOTAL FLOOR-SPACE (SQ FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office, Commercial &amp; Industrial Subtotal</td>
<td>242</td>
<td>2.2%</td>
<td>537,158</td>
</tr>
<tr>
<td>Office</td>
<td>42</td>
<td>&lt; 1.0%</td>
<td>186,912</td>
</tr>
<tr>
<td>Commercial: Retail</td>
<td>128</td>
<td>1.2%</td>
<td>332,104</td>
</tr>
<tr>
<td>Service/industrial</td>
<td>72</td>
<td>&lt; 1.0%</td>
<td>18,142</td>
</tr>
<tr>
<td>Public/Private Recreation</td>
<td>335</td>
<td>3.0%</td>
<td>NA</td>
</tr>
<tr>
<td>Preserved Open Space</td>
<td>234</td>
<td>2.1%</td>
<td>NA</td>
</tr>
<tr>
<td>Community facilities</td>
<td>463</td>
<td>4.2%</td>
<td>12,011</td>
</tr>
<tr>
<td>NONRESIDENTIAL USES TOTAL</td>
<td>1,040</td>
<td>9.5%</td>
<td>NA</td>
</tr>
<tr>
<td>UNDEVELOPED OPEN SPACE</td>
<td>4,317</td>
<td>39.0%</td>
<td>NA</td>
</tr>
<tr>
<td>TOTAL PARCEL ACRES</td>
<td>10,955</td>
<td>100%</td>
<td>NA</td>
</tr>
<tr>
<td>TOTAL STUDY AREA</td>
<td>10,955</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>
Section 2.4 Development Trends

Subdivision Activity
This once rural agricultural landscape is rapidly being replaced by suburban subdivisions. The conversion of former homesteads and agricultural lands into the subdivisions is happening at a very rapid rate causing a strain on community facilities, and especially area roads.

Over an eight year period from 2000 to 2007, 42 new subdivisions were approved, adding 3,304 new residential lots, covering a total of 1708 acres. Over the same eight year period, land is being converted to subdivisions at an average rate of 214 acres per year. When measured by subdivision activity and residential development, the study area is one of the fastest growing areas in Greenville County.

The following graph is color coded to identify the annual number of new lots and acres converted to single family residential development in the past eight years. As you can see from the chart the most active years were 2002 and 2004 as they ranked the highest in both lots created and amount of acres subdivided for residential purposes. 2004 was the most active year during this time frame with 1180 new residential single family lots approved, converting 477 acres in a single year. 2003 and 2007 rank as the slowest years during this time frame. In 2007 four subdivisions were approved in the study area creating 143 new lots and consuming 964 acres.

Rezoning Activity
Recent development activity can also be tracked by looking at areas that have recently been rezoned. The following map shows area rezonings over the past 7 years. Since the zoning establishes the density and intensity at which the land can be developed, a rezoning request to a higher permitted density will typically occur prior to a subdivision application.

By looking at the map below, you can see that the majority of rezoning cases approved in this area are from the existing R-S, Residential Suburban district to the R-15, Residential (shown in yellow). By achieving a zoning change from R-S (1.7 dwelling per acre) to R-15 (2.9 dwellings per acre) the permitted residential density is nearly doubled.

Rezoning 2000-2006

Figure 2.2 Subdivision Activity Per Year 2000 - 2007
Map 2.4 Subdivision Activity since 2000
Map 2.5 Rezoning Activity since 2000
Section 2.5 Area Development Patterns

Introduction
This section reviews existing development patterns in the East Woodruff Road study area to provide the necessary context for discussing many of the design principles called for in this plan.

The development pattern throughout the study area can be most easily characterized as typical suburban sprawl, with low population densities, isolated single use residential areas, and poor or non-existent road connectivity between residential subdivisions and other compatible land uses. Most notably are excessive commercial signage, multiple commercial drive-ways, large parking lots, and a lack of sidewalks.

Separated Land Uses
One prominent aspect of this suburban development pattern, is the separation of individual land uses. Many subdivisions are lacking necessary interconnected street systems, and barriers prevent cross access between adjacent businesses.

Figure 2.3 on this page shows two very different development patterns. The left side typifies much of Woodruff Road with schools, residential subdivisions, office parks, and commercial areas separated and disconnected with access only provided from the arterial road (e.g. Woodruff Road).

The right side of the same image (Fig. 2.3) shows a well-connected road network with a defined hierarchy of streets, each designed to serve it’s intended purpose. In this development pattern, less reliance is placed on the arterial road by providing more alternative routes for the traveling public, thus reducing traffic demand on these roads. This is not a new idea, but rather an old traditional street pattern, reinvented to fit into the suburban environment.

How Did We Get Here?
This sprawling development pattern is a result of dated conventional zoning and land development codes, a system in which land uses are segregated by type into many exclusive districts or zones. This type of zoning encourages the separation of otherwise compatible land uses and thus places more distance and barriers between where we live, work, shop, and go to school.

Affect on Traffic
The lack of street connectivity between subdivisions and complimentary land uses places an extreme burden on the area’s arterial and major collector roads. Woodruff Road is not intended to nor capable of handling the amount of traffic caused by this fragmented and disconnected development pattern.

As this pattern repeats itself, area roads become more congested. This is especially obvious on Woodruff Road, Roper Mountain Road, Batesville Road, and a number of other area roads. The development pattern accounts for traffic congestion being ranked as the number one concern of area residents. As the traffic congestion worsens, the quality of life declines, and people spend more time and money behind the wheel.

Local Examples
Most commercial uses within the study area are located along Woodruff Road near the Five Forks area. The aerial photograph of Woodruff Road shown on this page effectively illustrates the disconnected street network and separated land uses that define much of the study area.

The first example, center bottom of page, is in the Five Forks area, and shows three adjacent subdivisions accessible only from Woodruff Road, forcing nearby residents to drive on Woodruff Road.

This uncoordinated piecemeal approach to development is also illustrated in the aerial photograph directly below. In this example there are three adjacent subdivisions accessible only from Woodruff Road. No streets or pedestrian way connect them. For people in these subdivisions and many like them every trip involves traveling along Woodruff Road.
Section 2.6 Area Infrastructure

Transportation Infrastructure
Traffic congestion and the need for road improvements was a key issue as traffic is always a concern raised for every development project proposed within the study area.

Woodruff Road, recently widened to 5 lanes for much of its length, serves as the major east-west arterial through the study area, providing the primary route to access major shopping and employment areas, I-385, and the City of Greenville. There are also several other major transportation routes within the study area that are important to regional connectivity. These include SC 14, Batesville Road, Roper Mountain Road, and Bennetts Bridge Road, all providing access to both Interstates 85 and 385 to the north and west of the study area.

One of the main transportation challenges facing the study area is the lack of an alternative route to Woodruff Road. Roper Mountain Road provides a reasonable alternative to Woodruff Road for many area residents, however, it is facing capacity issues as a two lane collector which is already experiencing heavy traffic volumes during peak commuting times. The solution to this problem will take both careful land use decisions and creative engineering, including better access management strategies.

Functional Classification
A healthy transportation system consists of an interconnected network of different sizes and types of roads. These different roads are categorized by their intended function with specific design requirements for each category. Map 2.6 found on this page highlights the major road network serving the area. The existing street network in the East Woodruff Road area includes several functional classifications, including:

- **Minor arterials** primarily serve a mobility function but often have more closely spaced intersections, some individual site driveways, and generally lower design and posted speeds compared to other major arterials. Woodruff Road and SC Highway 14 are the two arterials serving the study area.
- **Collectors** are a key element of an effective street network. Collectors support the arterial system by serving short-distance traffic, and providing the connectivity that allows neighborhood trips to avoid using – and congesting – arterials. Subdivisions and community facilities are then accessed primarily from these collector roads rather than from arterials.
- **Local streets** are intended to serve localized areas or neighborhoods, including local commercial and mixed-use land uses. Local streets are not intended for use by through traffic. These facilities typically connect to one another or to collector streets and provide a high level of access to adjacent land uses/development (i.e., frequent driveways).
Transportation Network Deficiencies

Throughout the 1990’s much of the study area underwent a transformation from low density residential rural land uses to suburban residential land uses at much higher densities. During this transformation the existing collector road network, adequate for handling levels of traffic generated by the once rural low population densities, did not keep pace. Many of the subdivisions built during this time were accessed directly from arterial roads and did not incorporate collector streets into their designs. As a result much of the study area now lacks a functional network of collector streets.

The absence of residential collector streets built into new subdivisions is one of main reasons the existing transportation network lacks alternatives to Woodruff Road. This lack of adequately spaced collector roads has a significant impact on the overall network, creating too much reliance on area arterials. As large areas developed without interconnections “Superblocks” were created, and eventually several square miles were developed with no internal street connections. As a result, what would normally be short trips turn into three or four mile drives, and the intersections at the corners of the superblock become congested because all local trips are forced through these few intersections.

The number and spacing of collector roads should change as areas develop, and as a general rule the higher the residential densities the closer the spacing. Spacing standards for collector roads are based on residential densities are shown in Table 2.5 found on this page. As the remaining rural areas continue this transformation, it is vital to plan for and to develop an adequate network of collector roads to function in this new suburban environment.

The areas considered deficient in collector road spacing are highlighted on Map 2.5 included on this page. It shows that most of the study area is deficient in collector road spacing.

Table 2.5. Recommended Collector Road Spacing

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Intensity</th>
<th>Access Function</th>
<th>Appropriate Road Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Density Residential</td>
<td>Less than 2 dwelling units/acre</td>
<td>High</td>
<td>3,000 to 6,000 ft apart</td>
</tr>
<tr>
<td>Medium Density Residential</td>
<td>2 to 4 dwelling units/acre</td>
<td>High</td>
<td>1,500 to 3,000 ft apart</td>
</tr>
<tr>
<td>High Density Residential</td>
<td>More than 4 dwelling units/acre</td>
<td>High</td>
<td>750 to 1,500 ft apart</td>
</tr>
<tr>
<td>Activity Center</td>
<td>Mixed-use commercial/residential 6 units/acre</td>
<td>Medium</td>
<td>750 to 1,500 ft apart</td>
</tr>
</tbody>
</table>
Traffic Congestion

Traffic Volumes on Woodruff Road Traffic volumes and existing congestion were analyzed as part of the GPTS Long Range Transportation Plan update. Traffic volumes represent the number of vehicles that travel a given segment on an average day. In 2004, daily traffic volumes on Woodruff Road between Five Forks and Ben-netts Bridge Road were 14,400 and approaching capacity.

Level Of Service (LOS)

Level of Service or LOS is one way to measure the effectiveness of a particular roadway relative to its functional classification, and usually gives the best picture of how well a road is functioning.

The road is assigned a grade ranging from A to F with A being the best (free flowing conditions at the posted speed limit) and F being the worst, meaning frequent stops and delays (essentially gridlock). Descriptions of the six LOS grades are summarized in Table 2.1

Map 2.6 included on this page shows the 2005 LOS for the areas major roads. At that time, many of the areas collector roads were operating under their designed capacity, with reasonably unimpeded flow. However, area arterials were already experiencing congestion, and providing only fair to poor levels of service, with some sections around major intersections experiencing major congestion with a failing level of service.

As expected, the most congestion is occurring along sections of Woodruff Road and SC Highway 14, as well as Scuffletown Road near its intersection with Woodruff Road.

Transportation models show that the LOS of area roads will worsen considerably as the population increases in the area over the next 24 years. This is based on 2030 population projections and the assumption that current development patterns repeat themselves.

Table 2.1 Level of Service Definitions

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Volume/Capacity Ratio</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.0-0.6</td>
<td>Excellent: Completely free flow conditions. Vehicle operation is virtually unaffected by presence of other vehicles. Minor disruptions do not cause significant delays.</td>
</tr>
<tr>
<td>B</td>
<td>0.61-0.70</td>
<td>Very Good: Reasonably unimpeded flow. The presence of other vehicles begins to be noticeable, however disruptions are easily absorbed.</td>
</tr>
<tr>
<td>C</td>
<td>0.71-0.80</td>
<td>Good: The ability to maneuver and select on operating speed is clearly affected by the presence of other vehicles. Minor disruptions may be expected to cause serious deterioration in service and queues may form behind significant traffic disruption.</td>
</tr>
<tr>
<td>D</td>
<td>0.81-0.90</td>
<td>Fair: Conditions border on unstable flow. Speed and ability to maneuver are severely restricted due to traffic congestion. Only the most minor disruptions can be absorbed without the formation of extensive queues.</td>
</tr>
<tr>
<td>E</td>
<td>0.91-1.00</td>
<td>Poor: Conditions become unstable. Represents operation at or near capacity. Any disruption, no matter how minor, will cause queues to form and service to deteriorate.</td>
</tr>
<tr>
<td>F</td>
<td>&gt; 1.00</td>
<td>Failure: Represents forced or breakdown flow. Operation within queues is unstable and characterized by short spurts of movement followed by stoppages.</td>
</tr>
</tbody>
</table>

Legend

2005 Level of Service

A  B  C  D  E  F

Public Sewer
Currently, a large part of the study area is served by public sewer, with the exception of areas east of Anderson Ridge Road. As a result, areas east of Anderson Ridge Road are more rural with large lot residential land uses.

Western Carolina Regional Sewer Authority is responsible for the collection and treatment of wastewater within the study area. As shown in Map 2, sewer trunk lines are located along Gilder Creek and Peters Creek as they serve to collect and move wastewater to the Gilder Creek Treatment Plant.

In anticipation of future growth in the Gilder Creek drainage basin, Western Carolina Regional Sewer Authority recently completed Phase II of a capital improvements project that upgraded treatment capacities at the Gilder Creek Wastewater Treatment Plant to 8 million gallons per day. Future plans for this facility are to increase the treatment capacity to 12 million gallons per day by 2020.

In recent years private funds have been used to expand the Peters Creek trunk line. This expansion has added about 2,500 linear feet of trunk line to the system.

Metro Sewer is the agency responsible for approving and maintaining new residential service lines that collect wastewater and move it to the trunk lines. Certain subdivisions in the area have successfully utilized pump stations to move water to an adjacent drainage basin where they connect to one of Western Carolina’s trunk lines. However, Metro and Western Carolina Regional Sewer Authority are no longer permitting the utilization of pump stations in this area.

Public Water
Unlike public sewer, public water service is readily available to most of the study area. The Greenville Water System currently provides water service to most of the study area.
Section 2.7 Public Facilities

Schools
Oakview Elementary is an award winning elementary school that has been operating at or above capacity since opening in 1995. The Greenville County School District has indicated that there are no new schools currently planned within the study area. However, Bell’s Crossing Elementary, located just to the south of the study area serves some area residents.

Two future schools, Rudolph Gordon Elementary and a middle school, to be located south of the study area on Scuffletown Road, are currently being planned and constructed. Attendance zones for these new schools have yet to be determined.

Solid Waste/Recycling Convenience Center
Greenville County Division of Solid Waste maintains and operates a solid waste and recycling convenience center at the former Enoree Land Fill site on Anderson Ridge Road.

Fire and Rescue
Fire and rescue services are provided for in the study area by the Clear Springs Fire District and the Pelham/Batesville Fire District.

Clear Springs Fire and Rescue is located on Woodruff Road and covers the southern and eastern portions of the study area.

Pelham Batesville Fire District provides service to northern portions of the study area and is in the process of relocating their station from the Five Forks area to a more centralized location at the intersection of Batesville and Godfrey Road.

Recreation
Currently there is a lack of public recreation opportunities within the study area. Existing recreation opportunities within and near the study area include the Mesa Soccer Complex on Anderson Ridge Road and the YMCA located just south of the study area on SC Highway 14.

The Greenville County Recreation District is currently in the planning stage for a future regional recreation facility at the site of the former Enoree Land Fill.
Section 2.8 Conclusions

Infrastructure
Currently, the only constraining factor to unimpeded development of the planning area is the lack of public sewer in some locations. This is especially true in areas east of Anderson Ridge Road. Currently there are no plans to expand sewer in to this drainage basin, thus development in this area is limited to relatively lower residential densities.

Public Facilities
One of the main reasons people identified to move to this area was the high quality of public schools in the area. As a result this is one of the factors driving growth in the area. Although two new schools: an elementary and middle school, are planned outside of the study area, there are no plans for any new schools in the study area at this time.

Transportation
Several road widening projects have been identified within the study area. This includes widening sections of Batesville Road, Woodruff Road, and Roper Mountain Road. The reality is that even after these improvements occur, there will not be an appreciable improvement in traffic conditions. More people moving to the area will congest these roads as fast as they are widened. A good example of this are the sections of Woodruff Road that were recently widened.

Traffic Congestion
One of the main transportation challenges that will become more of an issue as this area grows is the lack of convenient access to the major employment areas along the I-385 and I-85 corridors. Woodruff Road is not only used for most of the commuting trips, but daily errands as well. As a result, this arterial is becoming more congested as the area population grows. This increasing congestion is beginning to have an affect on some of the other local roads in the planning area as people seek ways to avoid the Woodruff Road congestion with Roper Mountain Road being a prime example.

Localized traffic has also become an issue. Most of the traffic congestion occurring within the planning area is centered around a few high volume intersections at peak travel times. The Batesville Road and Roper Mountain Road intersection near Oakview Elementary School experiences congestion in the morning and afternoon. This is directly related to the fact many nearby students do not have a safe route to walk or bike to school and are dependent on auto transportation.

Another intersection experiencing congestion is Lee Vaughn Road and Woodruff Road. This intersection currently experiences heavy congestion at peak times in correlation with the morning and afternoon commute. Volumes at this intersection are particularly heavy in the morning hours as it is a commuting route for those people working in Spartanburg and points east of the study area.

Road Safety
Safety of some area roads is an issue. Input from citizens and accident reports identified the following roads as unsafe.

- Lee Vaughn Road – dangerous curve and a narrow bridge.
- Woodruff Road at Bennets Bridge Road – This is a very dangerous intersection caused by poor site distance and high travel speeds on this section of Woodruff Road. A recent collision at this intersection resulted in a fatality.
- Batesville Road and Godfrey Road – This is a dangerous intersection for those people entering Batesville Road from Godfrey Road caused by poor site distance and high travel speeds on Batesville Road.

Road Connectivity
The lack of a connected system of local roads, specifically those roads in new subdivisions, is placing an undue burden on the areas arterial and collector roads. If this disconnected development pattern continues, we can expect heavier than normal traffic volumes on area arterials and collectors.

Sidewalks
Sidewalks are mostly non-existent in the planning area with the exception being on Woodruff Road up to the Five Forks area and the intersection of Batesville and SC Highway 14. This infrastructure is vital to relieve some of the demand on the local roads by providing a viable alternative to traveling by auto. As a result, it is virtually impossible for many residents to walk safely to local schools, and commercial destinations. As residential subdivisions are built, it is vital to provide adequate public infrastructure to support a complete transportation system.

Access Management
Access management strategies are needed for certain areas along Woodruff Road, especially in the Five Forks commercial area and the planned commercial area at Woodruff Road and Lee Vaughn Road. These strategies include driveway consolidation, retrofitting cross access drives between uses, medians, and turn lanes that keep traffic moving.

Collector Road Planning
New collector roads have not been built as part of new subdivisions. As a result, spacing is inadequate throughout much of the study area. Planning for and requiring new collector roads to be built as part of new development is necessary to achieve a healthy road network.

Where Do We Go From Here?
Today, planners recognize that this sprawling development pattern exhibited by much of the study area and typical of many of today’s suburbs is an unsustainable way to grow. Many communities are taking steps to change the sprawling suburban development patterns in the hopes that they can begin to turn the tide. They are scraping the more conventional rigid zoning codes that dictate what uses go where in favor of more flexible codes that focus on urban form and the physical relationship between uses. This type of zoning is being called “form-based” code and offers a more flexible approach to zoning. The desired result is neighborhood and communities where people have options of housing types, and convenient access to shopping and dining opportunities, by foot or motor vehicle.

Obviously, we did not create this development pattern overnight, and we will not be able to change it in a short period of time, but a serious look at overhauling our outdated zoning codes is a great place to start.
East Woodruff Road Area Plan

Introduction
This section of the plan focuses on land use. Land use is an important part of the overall vision and goals of this plan. The future land use plan seeks to minimize land use conflicts and set reasonable expectations for residents and property owners.

The proposed future land use plan seeks to accommodate anticipated growth without degrading the current quality of life enjoyed by area residents. The desired outcome advocated by this plan is to ensure that future growth will be sustainable and be of a quality that complements existing development, minimizes impacts on community facilities, and adds value to the surrounding community.

Key Objectives
1. Focus suburban residential development with densities of 2-4 units per acre in areas that are served by existing sewer and other critical infrastructure.
2. Allow for residentially compatible transitional land uses such as professional offices and attached single family.
3. Provide better access, circulation, and connectivity between compatible land uses.
4. Encourage mixed-use; commercial, office, residential, master planned developments within and around the planned commercial centers.
5. Concentrate commercial development in planned commercial activity centers.
6. Encourage a mixture of single family housing types including attached townhouses, patio homes and conventional detached housing.

Residential Land Uses
Single-family residential development is by far the most prominent land use in this Future Land Use Plan and takes up a majority of the study area. Generally the suburban residential with densities from 2 to 4 units per acre are identified for areas south and west of Anderson Ridge Road and along Woodruff Road. Lower residential densities of 0—1.7 units per acre are called for areas east of Anderson Ridge Road.

Traditional Neighborhood Development
A goal of this plan is to better connect people to the places within the community by creating more walkable neighborhoods. To meet this goal, this plan encourages larger planned developments that include a mix of office, retail, and residential uses. In some cases residential densities in mixed use developments may approach 6 units per acre.

Although traditional neighborhood development and mixed-use projects are encouraged as part of this Future Land Use Plan, it is unlikely that trying to require mixed-use development through the Future Land Use Map would provide the desired results. Therefore, instead of attempting to require mixed-use projects on specific parcels, the planning staff recommends that a greater focus be placed on encouraging a more coordinated and integrated residential and commercial development, especially in and around the planned commercial centers. Strip commercial centers and big box retail, physically separated from surrounding development are not desired.

Commercial Activity Centers
The plan identifies two existing and one planned future commercial nodes or Community Activity Centers shown on Map 3.9 at the end of this chapter. These areas are intended to accommodate community and neighborhood commercial uses and provide the necessary goods and services to the growing population and create more convenient opportunities for area residents.

Two different types of Commercial Activity Centers have been defined in this Future Land Use Plan; the Neighborhood Commercial Center at the intersection of Woodruff and Lee Vaughn Road and the existing Community Commercial Centers at Five Forks and Pelham and Batesville Road. The committee has endorsed these three commercial centers and feel that they will provide sufficient commercial opportunities for area residents over the next 5 to 7 years.
Section 3.2 Future Land Use Categories

Rural Residential (< 1 units/acre)
The intent of this classification is to provide for low-density, (large lot) single-family residential as well as typical rural land uses including agricultural and livestock uses. Although existing zoning in this area permits 25,000 square foot lots, the lack of public sewer necessitates larger lot sizes. Typical lot size in this land use category is 3 to 5 acres.

Residential Low Density (1-2 units/acre)
This land use allows for low-density, (large lot) single-family residential development typically found in the rural/suburban fringe areas that are transitioning from rural land uses to single family residential subdivisions. Recommended zoning: R-5

Suburban Residential (2-4 units/acre)
This land use allows for single family detached units and represents the typical suburban housing, allowing for a maximum density of 4 dwelling units per acre consistent with the R-15 and R-12 zoning districts.

Residential Medium Density (4-6 units/acre)
This land use allows for a medium residential density that includes both detached and attached single family residential development with a maximum density of 6 units per acre. This land use is typical of traditional neighborhoods as it provides support residential areas in close proximity to commercial centers and schools. Recommended zoning: PD

Public & Semi-Public
The land use allows for prominent facilities that benefit the public such as fire stations, parks and recreation, and schools. These facilities contribute to the general welfare of the community.

Office
This land use allows for professional office uses. This land use is appropriate for arterial roads and major thoroughfares and typically serves as a transitional use between residential areas and high intensity commercial areas. Recommended zoning: POD, OD

Residential/Office Transitional
The intent of this category is to allow for a mixture of transitional residential uses such as attached single family townhouses and/or small scale professional office uses. This use is appropriate for transitional areas located between higher intensity commercial centers and lower density single-family residential areas. Residential densities of 4-6 units per acre are typical while offices should not exceed 5,000 sq. ft. in size. Recommended zoning: POD, OD, and PD.

Residential Office Reuse
This land use classification is applied to existing residential dwellings in areas that may be appropriate for adaptive reuse as professional office space. If it is determined that the existing dwelling is not appropriate for reuse, and the existing structure is modified, and or a new office building is constructed, the new or modified structure should not exceed 3,500 square feet in size, have residential architectural features, and be subject to the proposed design standards. Commercial/retail businesses are not permitted as acceptable reuse alternatives. Recommended zoning: POD

Neighborhood Commercial
This land use allows for limited retail, personal service, and professional offices scaled to meet the needs of the immediate neighborhood. Maximum square footage of retail uses should not exceed 15,000 sq. ft. Recommended zoning: NC and PD

Commercial Retail
Community commercial design within the planned commercial centers will be subject to specific design standards applied through the use of overlay districts. Recommended zoning: NC, C-1, C-3

Natural Preservation
This land use allows for the preservation of significant natural resources, specifically areas of steeply sloping terrain, unstable soils, floodplains, wetlands, or other environmental features.
Section 3.3 Commercial Activity Centers

Five Forks Commercial Activity Center
The Five Forks commercial area serves as the primary commercial center serving the East Woodruff Road Area and is viewed by many residents as the center of the community. Land uses in this center include a variety of commercial establishments; retail, grocery stores, pharmacies, restaurants, professional offices, churches and residential dwellings.

Map 3.1 on this page details the recommended future land uses in Five Forks area. This plan seeks to reinforce some of the existing land uses and redefine some others to encourage a mixture of retail, office and residential uses within the Five Forks Commercial Activity Center.
Section 3.3 Commercial Activity Centers

Five Forks Core Commercial Area
There is already a well established core commercial node in the Five Forks area. These core commercial uses include two major grocery stores anchoring two shopping centers with smaller shops, restaurants, fast food, and movie rentals. Other stand alone uses include gas stations and drug stores; Rite Aid, Walgreens, and CVS are all located here.

The commercial core at Five Forks is focused around the three main intersections in the area. This concentration of commercial uses at these intersections is a result of the Five Forks Area Plan adopted in 1999. This plan has been successful at limiting expansion and linear strip commercialization that defines much of Woodruff Road limiting commercial to an intersection oriented nodal pattern.

However, the Five Forks Plan was limited in the sense that it did not address the land development and design. As a result, Five Forks is not a very inviting or neighborhood friendly commercial center, exhibiting many of the same characteristics as other parts of Woodruff Road.

The uses in the Five Forks area are separated and buffered from each other, and lack an interconnected system of drives and streets. As a result, the area has very poor pedestrian access with few sidewalks connecting to the surrounding residential areas. Building placement is situated at the back of sites with large parking lots and few trees. Excessive signage also creates a cluttered look to the area with the sheer size of many signs out of context with the area more suited for the side of the interstate.

Since the land use and zoning is set for this area, this plan turns its attention to addressing land development and design related issues that were not addressed in the previous plan for this area.

This can not be done through the land use map, but only through the application of context sensitive development and design standards. This approach is discussed in more detail in Chapter 5. Land Development & Design.
Section 3.3 Commercial Activity Centers

Five Forks Transitional Areas
Existing and future planned transitional areas are shown on the map below. The land use category identified for these areas are Residential/Office Transitional, Office, and Public/Semi-public uses such as churches. These areas have been identified as appropriate for a mix of office, and residential uses at a density up to 4 dwelling units per acre.

This area provides for a compatible transition from the higher intensity core commercial areas to the surrounding single family areas. Churches are also shown in this area as they are an excellent transitional use, serving as boundaries to commercial uses.

The residential support areas shown on the map below include the highest density housing within the Five Forks area, and are encouraged in areas identified on the Future Land Use Map as Residential Medium Density and Residential/Office Transition.

Like transitional office uses, residential support areas serve as a transition from the community center to the surrounding lower density neighborhoods. Residential support areas are an integral part of building a true walkable community center.

Existing and planned projects in the area provide a solid foundation of residential support areas near the Five Forks commercial center. One such project is Phase II of Highgrove Planned Development. Highgrove lies just to the north of the Five Forks commercial core and includes a mixture of housing types including single family attached units at a density of 6 units per acre.
Chapter Three– Future Land Use

Section 3.4 Office Transitional & Adaptive Reuse

Residential/Office Transitional
It is the intent of this plan to preserve the residential character and minimize traffic impacts on this section of Woodruff Road. The Future Land Use Map to the right shows individual parcels appropriate for limited professional office uses, and have been given a future land use designation of Residential/Office Transitional and or Residential Office Reuse.

For the purposes of this plan, “limited professional offices” are offices including: accounting; auditing and bookkeeping services; advertising agencies; architectural, engineering and planning services; attorneys; counseling services; data processing and computer services; secretarial and word processing services; public relations and consulting services; and medical offices. Office uses that require the use of drive-thru windows are not an appropriate use for this future land use category. Office buildings in this future land use category should be limited to a maximum of 5,000 square feet and should be designed to be residential in character using residential design features such as pitched shingled roofs, first story roof lines, minimal signage, low level lighting.

A total of nine residentially zoned parcels on this section of Woodruff Road between SC Highway 14 and Five Forks were identified as appropriate for limited professional office uses during the land use study.

During the development of the Future Land Use Map much time was spent discussing what the most appropriate and realistic future land use should be for these parcels. Due to orientation and proximity to Woodruff Road, the general consensus among the committee was that these parcels were not viable for continued residential use and felt that some limited professional offices uses would be appropriate as long as the residential character of this section of Woodruff Road was maintained.

Due to the small size of these parcels and the low traffic generation rates of many small professional offices, the planning staff is of the opinion the impact of professional offices in this area will have a negligible impact on traffic congestion.

Through the use of design standards, planning staff can accommodate more flexibility in the future land use of these parcels, while ensuring that the residential character and integrity of this section of Woodruff Road is not compromised. Design standards should address access, building and parking orientation, building architecture, landscaping, lighting and signage of any future non residential uses.

Adaptive Residential Reuse
Several single family dwellings, due to their location and orientation on Woodruff Road were identified as appropriate for potential adaptive reuse as professional offices. This is an effort to provide some flexibility in the future land use while taking precautions to preserve the residential character of this section of Woodruff Road by utilizing the existing residential structures. These properties are identified on Map 3.5.

Example #1. Single family home fronting on Woodruff

Example #2. Single family home on Woodruff Road

Example #3. Single family home on Woodruff Road
Section 3.5 Neighborhood Commercial Centers

Woodruff & Lee Vaughn Rd. Neighborhood Commercial Center
A Neighborhood Commercial Center has been identified at the intersection of Woodruff and Lee Vaughn Roads as shown in Map 3.6 and 3.7 on this page. This intersection was originally identified as a future commercial node in the Scuffletown Area Plan adopted in February 2007. Since this intersection is included in the East Woodruff Road Area, it was revisited during the planning process.

The citizens committee felt that the amount of commercial use planned for this intersection was excessive and recommended that it be limited to a smaller neighborhood commercial center.

To address this concern, this intersection was identified as a smaller Neighborhood Commercial Center. This Neighborhood Center is proposed a total of 75,000 to 100,000 square feet of commercial space. In an effort to concentrate commercial uses in close proximity to the intersection and prevent future commercial expansion, commercial land uses are limited to those areas within 600 linear feet of the intersection.

Currently, one corner of this intersection has been approved for a commercial Planned Development, including a grocery store, ice cream shop, dance studio and pharmacy totaling approximately 58,000 of commercial square feet. Assuming a total build out of 100,000 square feet of commercial space, this commercial center can accommodate an additional 42,000 square feet of future commercial space on the remaining three corners.

Design
Neighborhood friendly design is a key component of this proposed Neighborhood Commercial Center as future commercial and office uses should be designed to fit in with the character of the surrounding area and be integrated with the surrounding neighborhoods to ensure easy pedestrian, bicycle, and automobile access. To encourage pedestrian access, emphasis will be given to appropriate scale and placement of buildings, as well as internal and external street and sidewalk connections. The following describes the size, scale, and recommended uses for this proposed Neighborhood Commercial Center. More information on commercial design can be found in Chapter 5, Land Development and Design.

Residential/Office Transitional
Residential/Office Transitional land uses are identified as part of this land use plan and are shown in Map 3.7. These areas have been identified as appropriate for a mix of office, and residential uses at a density of 4-6 dwelling units per acre. These areas provide the necessary transition from the commercial core to the surrounding residential subdivisions.
Section 3.6 Recommendations

- Amend the County’s Comprehensive Plan Future Land Use Map to be consistent with the East Woodruff Road Area Future Land Use Map.
- Support rezoning requests that are consistent with the proposed Future Land Use Map.
- Preserve the residential character of Woodruff Road between SC 14 and Five Forks.
- Preserve the rural residential character in those areas lacking public sewer. Requests for residential density increases should not be approved in those areas identified on the Future Land Use Map as Rural Residential and Residential Low Density as these areas are planned for (0-1.7 units per acre). This includes development requests seeking to utilize pump stations to pump effluent to the adjacent serviced drainage basin.
- Allow for the adaptive reuse of residential dwellings as professional offices in those areas identified on the proposed Future Land Use Map.
- Develop incentives in an effort to preserve more substantial and meaningful amounts of open space.
- Support master planned mixed-use development proposals in and around commercial activity centers.
- Amend the County zoning ordinance to allow for more flexibility in an effort to promote a mixture of housing types including both single-family attached and detached homes.
- Encourage and facilitate the dedication of open spaces within open space subdivisions, so that it may be used to create the necessary linkages to form a future greenway and interconnected trail system.
Section 4.1 Transportation Improvements

Introduction
This section of the plan lays out the recommended transportation improvements for the study area and is organized into three major topics affecting the transportation system: Access Management, Road and Intersection Improvements, and Pedestrian and Bike Improvements.

The citizens advisory committee emphasized that transportation and especially congestion management must be addressed in this plan. Community input in this process was critical as it helped staff better understand the daily travel patterns, and identify specific areas in need of improvement.

The long-term vision of the Woodruff Road corridor includes an interconnected network of complete streets that provides for the safe, effective, and efficient movement of all modes of travel including walking, cycling, and driving.

This plan seeks to improve upon the existing transportation system not only through the recommended infrastructure improvements, but also stresses careful land use decisions and design of future development. Together these three approaches will improve existing facilities and minimize impacts on these facilities as this area continues to develop over the next 5 to 7 years and beyond.

Other Plans
The GPATS Long Range Transportation Plan addressed many of the larger road improvement projects in this area. It was developed over a 2 year period involving public workshops, local staff, stakeholder meetings, and the SCDOT. The plan was recently adopted by the GPATS Policy Committee in November 2007.

Recent Road Improvements
In response to the rapid residential growth in the study area throughout the 1990’s it became necessary to expand the capacity of both Woodruff Road and SC Highway 14.

In 2000 the section of Woodruff Road between SC 14 and Five Forks was still a rural two-lane road and approaching the limits of it’s design capacity. In 2002 it was widened to a five-lane suburban thoroughfare. Shortly following the completion of Woodruff Road, SC Highway 14 was widened to five lanes for much of it’s length.

Both of these road widening projects had an immediate positive affect on traffic congestion. Unfortunately the desired results have been short lived. Despite these recent infrastructure improvements, both Woodruff Road and Highway 14 are continuing to experience worsening traffic congestion. According to the Congestion Management Program update, completed as part of the GPATS Long Range Transportation Plan, both SC Highway 14 and Woodruff Road rank in the top 20 congested roads in the Congestion Management Network.

Key Objectives
1. Improve traffic congestion through land use control, and better access management.
2. Identify and fix unsafe road conditions.
3. Provide better street connectivity between compatible land uses by incorporating local collector roads and access drives to be built as part of future development.
4. Build complete streets that include the necessary infrastructure to support and facilitate all modes of travel, including sidewalks and bike lanes.
5. Utilize context sensitive design strategies to better calm, manage, and move traffic through the study.
Chapter Four – Transportation

Table 4.1 Recommended Road Improvement Projects

<table>
<thead>
<tr>
<th>Priority</th>
<th>Project Name</th>
<th>Termini</th>
<th>Project Scope</th>
<th>Bicycle lane</th>
<th>Sidewalks</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Woodruff Rd</td>
<td>Scuffletown to Bennetts Bridge</td>
<td>5 lane</td>
<td>Yes</td>
<td>Both sides</td>
</tr>
<tr>
<td>Medium</td>
<td>Batesville Rd</td>
<td>SC 14 to Anderson Ridge Rd.</td>
<td>4 lane with median</td>
<td>Yes</td>
<td>Both sides</td>
</tr>
<tr>
<td>Medium</td>
<td>Woodruff Rd.</td>
<td>Bennetts Bridge to Lee Vaughn</td>
<td>Improved 2 lane</td>
<td>Yes</td>
<td>Both sides</td>
</tr>
<tr>
<td>Medium</td>
<td>Bennetts Bridge Rd.</td>
<td>SC 146 to Brockman McClimon</td>
<td>4 lane with median</td>
<td>Yes</td>
<td>Both sides</td>
</tr>
<tr>
<td>Low</td>
<td>Batesville Rd.</td>
<td>Anderson Ridge Rd. to SC 146</td>
<td>3 lane</td>
<td>Yes</td>
<td>Both sides</td>
</tr>
<tr>
<td>Low</td>
<td>Roper Mtn. Rd.</td>
<td>Feaster Rd. to SC 14</td>
<td>Improved 2 lane</td>
<td>Yes</td>
<td>Both sides</td>
</tr>
<tr>
<td>Vision</td>
<td>Scuffletown Rd.</td>
<td>SC 146 to Jonesville Rd.</td>
<td>Improved 2 lane</td>
<td>Yes</td>
<td>Both sides</td>
</tr>
<tr>
<td>Vision</td>
<td>Anderson Ridge Rd.</td>
<td>Batesville Rd. to SC 146</td>
<td>3-5 lanes</td>
<td>Yes</td>
<td>Both sides</td>
</tr>
<tr>
<td>Vision</td>
<td>Five Forks Collector Rd.</td>
<td>Five Forks Rd. to Five Forks Plaza</td>
<td>New 2 lane collector</td>
<td>No</td>
<td>Both sides</td>
</tr>
<tr>
<td>Vision</td>
<td>Godfrey Rd.</td>
<td>SC 146 to Anderson Ridge Rd.</td>
<td>Improved 2 lane</td>
<td>Yes</td>
<td>Both sides</td>
</tr>
<tr>
<td>Vision</td>
<td>Moore Rd.</td>
<td>SC 14 to Roper Mountain Rd.</td>
<td>Improved 2 lane</td>
<td>Yes</td>
<td>Both sides</td>
</tr>
<tr>
<td>Vision</td>
<td>Roper Mtn. Rd.</td>
<td>SC 14 to Anderson Ridge Rd.</td>
<td>Improved 2 lane</td>
<td>Yes</td>
<td>Both sides</td>
</tr>
<tr>
<td>Vision</td>
<td>Lee Vaughn Rd.</td>
<td>SC 146 to Anderson Ridge Rd.</td>
<td>3 lane, new bridge</td>
<td>Yes</td>
<td>Both sides</td>
</tr>
<tr>
<td>Vision</td>
<td>Ebenezer Rd.</td>
<td>SC 14 to Batesville Rd.</td>
<td>Improved 2 lane, realignment</td>
<td>2 ft. shoulder</td>
<td>Both sides</td>
</tr>
</tbody>
</table>

Proposed Road Improvements

- **New Bridge**
- **New Collector Road**
- **Vision Projects**

Table 4.2 Intersection Projects

<table>
<thead>
<tr>
<th>Rank</th>
<th>Location</th>
<th>Project Scope</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SC 146 &amp; Bennetts Bridge Rd.</td>
<td>Realignment, left turn lanes, signal</td>
<td>TIP</td>
</tr>
<tr>
<td>2</td>
<td>SC 146 &amp; Lee Vaughn Rd.</td>
<td>Realignment, left turn lanes, signal</td>
<td>LRTP</td>
</tr>
<tr>
<td>3</td>
<td>Batesville Rd &amp; Roper Mtn. Rd.</td>
<td>Left turn lanes, traffic signal</td>
<td>LRTP</td>
</tr>
</tbody>
</table>

Map 4.2 Long Range Transportation Plan
Section 4.2 Access Management Strategies

This section discusses access management strategies to improve traffic flow in and around existing and planned commercial activity centers.

An important part of the vision for this area is to improve and create commercial activity centers that are more pedestrian accessible and have a strong sense of place. To realize this vision it is important to utilize access management strategies in coordination with the built environment. Many of the recommended strategies put forth in this plan seek to begin this transformation from an exclusively auto oriented commercial area to a more vibrant community friendly center.

Maps 4.3 and 4.4 found in this chapter, lay out a future access management plan for the Five Forks area and the future Neighborhood Commercial Center at Woodruff and Lee Vaughn Road. Many of these areas have yet to be developed, affording the unique opportunity to implement these recommended improvements as part of future development proposals.

Table 4.3 Access Management Benefits

<table>
<thead>
<tr>
<th>User</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorist</td>
<td>• Fewer delays and reduced travel times</td>
</tr>
<tr>
<td></td>
<td>• Safer traveling conditions</td>
</tr>
<tr>
<td>Bicyclists</td>
<td>• Safer traveling conditions</td>
</tr>
<tr>
<td></td>
<td>• More predictable motorist movements</td>
</tr>
<tr>
<td></td>
<td>• More options in a connected street network</td>
</tr>
<tr>
<td>Pedestrians</td>
<td>• Fewer access points and median refuges increases safety</td>
</tr>
<tr>
<td></td>
<td>• More pleasant walking environment</td>
</tr>
<tr>
<td>Freight</td>
<td>• Fewer delays and reduced travel times lower cost of delivering goods</td>
</tr>
<tr>
<td></td>
<td>and services</td>
</tr>
<tr>
<td>Business Owners</td>
<td>• More efficient roadway system serves local and regional customers</td>
</tr>
<tr>
<td></td>
<td>• More pleasant roadway corridor attracts customers</td>
</tr>
<tr>
<td></td>
<td>• Improved corridor aesthetics</td>
</tr>
<tr>
<td></td>
<td>• Stable property values</td>
</tr>
<tr>
<td>Government Agencies</td>
<td>• Lower cost to achieve transportation goals and objectives</td>
</tr>
<tr>
<td></td>
<td>• Protection of long-term investment in transportation infrastructure</td>
</tr>
<tr>
<td>Communities</td>
<td>• More attractive, efficient roadways without the need for constant</td>
</tr>
<tr>
<td></td>
<td>road widening</td>
</tr>
</tbody>
</table>

Source: GPATS Long Range Transportation Plan - 2007

Driveways and Curb Cuts

Access to businesses in the Five Forks area is provided by numerous curb-cuts along Woodruff Road. These conditions have contributed to the congestion in the Five Forks area.

Too many access drives on Woodruff Road and not enough internal cross-access drives between businesses disrupts traffic flow and limits pedestrian accessibility. As future commercial areas develop, shared external driveways should be encouraged with cross access drives providing internal circulation between adjacent businesses.

Planted Medians

Another effective way to improve traffic flow and improve pedestrian accessibility is to install planted medians. Medians prevent left hand turns and minimize stoppages. Most importantly they serve to slow traffic, improve the appearance, and allow easier road crossing opportunities for pedestrians.

Excessive number and close placement of commercial access drives is a primary cause of traffic flow disruption.
Section 4.3 Five Forks Access Management Plan

This map shows a variety of access management strategies that will help improve and maintain existing levels of mobility along this section of Woodruff Road. These strategies will also minimize potential areas of conflict between cars and people. The access management plan provides guidance for placement and number of future access points and shows opportunities where collector roads could be built to improve the overall access and traffic flow of the entire commercial center. Proposed design of future collector roads are also shown in the illustrations below.

Conceptual design for future Commercial Collectors at Five Forks

Map 4.3 Five Forks Access Management Strategies
Section 4.4 Woodruff & Lee Vaughn Road Access Management Plan

The vision for this future Neighborhood Center is to be a vibrant neighborhood friendly commercial area. For the purposes of this plan, neighborhood friendly means that commercial development should be designed in a manner that is in keeping with the areas residential character, and be readily accessible by both auto and pedestrian traffic. To realize this vision it is important to carefully consider appropriate access so that it is not developed in a piecemeal fashion.

Map 4.4 includes access management strategies that will ensure future commercial development occurs in a more coordinated fashion and that there is consideration given to surrounding undeveloped areas.

These strategies seek to avoid potential traffic congestion and auto pedestrian conflicts by locating access points a safe distance away from the intersection. This will provide opportunities for safe pedestrian crossing and improved accessibility.

It is recommended that the planned collector roads and access drives shown in this plan be built as part of any future development project. This will ensure that this neighborhood commercial center will not only be readily accessible from the surrounding neighborhood, but also minimize potential traffic congestion in this area.

North of Woodruff Road, Lee Vaughn Road is identified to be widened, including bridge replacement at Peters Creek. This project is included in the county’s current road improvement program, Prescription For Progress.
Section 4.5 Complete Streets Design

This map shows the section of Woodruff Road identified to be widened to five lanes as part of the GPATS Long Range Transportation Plan. The images included on this page illustrate the recommended Complete Streets Suburban Thoroughfare road design. This design is a pedestrian friendly design, including sidewalks, street trees, a planted median, and decorative street lamps. These features will provide a distinct appearance, serving to establish a sense of place by providing a gateway effect into the Five Forks commercial center.
Section 4.6 Sidewalks, Trails, and Bikeways

All new roads within the study area should be designed to accommodate not only vehicular, but also pedestrian and bicycle traffic. To accomplish this goal, sidewalks and either bike lanes should be built on all new streets as well as major road improvement projects. This will ensure that non-vehicular alternatives are available for short trips to commercial activity centers, schools and parks.

An important component of connectivity are the corridors that accommodate non-motorized transportation. These corridors provide some combination of greenways (multiuse paths), bikeways, and sidewalks in order to connect with commercial activity centers, schools, parks and other area destinations.

Sidewalks

Currently, there is a lack of pedestrian accessibility to schools and commercial centers in the study area. Sidewalks are needed throughout the study area to complete the transportation system. They improve safety, mobility, and accessibility for area residents and promote a healthy active community as well as effectively reduce demand on area roads.

Map 4.7 (immediate right) shows the entire study area with area schools and commercial activity centers. These areas were determined to have the most need for sidewalk infrastructure by the citizens advisory committee. Detailed maps for each of the three commercial activity centers can be found at far right.

Gaps in the sidewalk network at Five Forks

Map 4.7 Sidewalk, Trails, and Bikeways Needs

Map 4.8 Pelham-Batesville sidewalk needs

Map 4.9 Five Forks sidewalk needs

Map 4.10 Woodruff Road & Lee Vaughn Road sidewalk

Legend

Existing Sidewalk
Sidewalk Needs
Commercial / Industrial
Residential (multi-unit)
Residential
Accessory Structure
Section 4.7 Sidewalks, Trails, and Bikeways

Safe Routes to School

Oakview Elementary is a good example of a neighborhood school that is cut off from much of the surrounding neighborhoods. Approximately 300 students live within 1/2 mile from the school with a majority of these students living in the Orchard Farms subdivision. A pedestrian access plan was developed for Oakview Elementary School as many area residents complained about safety, lack of sidewalks, and traffic congestion around the school. This plan was done in coordination with the Principal of Oakview, the Oakview Student Improvement Council, Greenville County School District, SCDOT, and area parents. This plan is an integral part of securing a Safe Routes to School grant from the SCDOT for the recommended improvements.
Greenways & Trails

The Enoree River corridor provides a unique opportunity for a greenway with trails connecting local area destinations. The proposed greenway will provide much needed passive recreation opportunities including miles of trails and multi-use paths for biking.

Map 4.13 shows the proposed area wide greenway system and identifies the likely destinations to be connected with a trail and multi-use path system.

Commercial activity centers are identified with dashed circles indicating logical destination points.

The greenway is divided into 3 main sections along the Enoree River. Five spur trails each along a tributary of the Enoree River are also identified.

A feasibility study to determine the best location of the greenway and trails will be conducted as part of the Greenville County Master Greenway Plan.

Table 4.4  Enoree River Greenway Plan

<table>
<thead>
<tr>
<th>SECTION IDENTIFICATION NUMBER ON MAP</th>
<th>SECTION DISTANCE IN MILES</th>
<th>TRAIL SECTIONS FROM UPSTREAM TO DOWNSTREAM</th>
<th>NOTES ABOUT THIS SECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>STATE HIGHWAY 14 BRIDGE</td>
<td>Unimproved public road right-of-way access at bridge</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>JOHNS BENNETS BRIDGE ROAD BRIDGE</td>
<td>Unimproved public road right-of-way access at bridge</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>HUDSON COUNTY LINE</td>
<td>Unimproved public road right-of-way access at Regional Park</td>
</tr>
<tr>
<td>SPUR TRAIL 1</td>
<td>1</td>
<td>ROCKY CREEK</td>
<td>Historic mill site, nice rocky shoals, Unimproved access at Hwy 14 bridge</td>
</tr>
<tr>
<td>SPUR TRAIL 2</td>
<td>2</td>
<td>WATER CREEK</td>
<td>Access at Lavish Road Commercial Center</td>
</tr>
<tr>
<td>SPUR TRAIL 3</td>
<td>2.5</td>
<td>ELLERS CREEK</td>
<td>Connection to neighborhoods, Bells Crossing Elem</td>
</tr>
<tr>
<td>SPUR TRAIL 4</td>
<td>1.5</td>
<td>HORSE POIN CREEK</td>
<td>Connection to Future TND and Future Park</td>
</tr>
<tr>
<td>SPUR TRAIL 5</td>
<td>2.7</td>
<td>LONG BRANCH CREEK</td>
<td>Connection to Future TND and Future Middle School</td>
</tr>
</tbody>
</table>

NOTES ABOUT THIS SECTION

1. Unimproved public road right-of-way access at bridge.
2. Historic mill site, nice rocky shoals, Unimproved access at Hwy 14 bridge.
3. Connection to neighborhoods, Bells Crossing Elem.

Example of greenway and paved trail

Greenway in Hendersonville, NC
Section 4.7 Conclusions & Recommendations

Conclusions
This plan identifies both short term and long term area transportation needs. It incorporates both those needs that were identified through citizen input and those needs that were identified and included in the GPATS Long Range Transportation Plan.

With the limited amount of state, local and federal funds dedicated for road projects, it is highly unlikely that all of the needed road improvement throughout this area and the county can be addressed in a timely fashion. Therefore, it is important to maximize the functionality of the existing roadway network by emphasizing sustainable design of new development to minimize impacts.

The recommendations of this plan are an attempt to look beyond road widening projects and get ahead of the curve when it comes to planning a more efficient transportation system. Road widening alone is not a sustainable approach to alleviating traffic, as a newly widened road inevitably brings more traffic.

To be successful at alleviating existing and preventing additional traffic congestion on area roads, a more comprehensive approach that addresses the root causes is needed. This type of an approach takes into considerations all aspects of a healthy transportation system and requires consideration and understanding of the relationship between land use, land development and design, and the transportation system.

Other aspects of the transportation system, especially sidewalks and trails were emphasized by citizens throughout the planning process. Residents expressed support for improvements to the pedestrian and bicycle network throughout the study area. They voiced displeasure of not having the choice to safely walk to school and commercial destinations close to home.

Recommendations
Many of these recommendations are consistent recommendations of the recently completed Scuffletown Area Plan and Woodruff Road Corridor Study.

- Amend the County Land Development Regulations to achieve better interconnected local road network between subdivisions by establishing a measurable road connectivity standard for all new residential development.
- Require new commercial development to be designed in a way that facilitates internal and external pedestrian access. New development should feature a network of interconnected streets and drives.
- Create better street, sidewalk, and trail connectivity by requiring new development within one mile of schools and commercial centers to install sidewalks along existing public road frontage.
- Apply a commercial overlay district to identified special policy areas to better manage access and mobility in these areas.
- Apply the Complete Streets Suburban Thoroughfare design to the planned Woodruff Road widening project from Five Forks to Bennetts Bridge Road.
- Incorporate the proposed Enoree Greenway system into the Greenville County Master Greenway Plan being prepared by the Greenville County Recreation District.
- Support and assist Oakview Elementary in its efforts to secure grant funding for pedestrian infrastructure.
- Carefully assess impacts of future development proposals on existing and planned infrastructure.
Section 5.1 Commercial Design

Introduction
Where previous planning efforts have stopped short, this plan lays out a vision of the built environment, a vision of sustainable development with an emphasis on quality commercial design.

Based on surveys and comments from residents, it was evident that people were unhappy with the functional design characteristics of commercial development in the Five Forks area. Many residents mentioned that even though they lived within walking distance to shops and restaurants, they were not accessible by foot due to barriers, safety issues, and a lack of sidewalks and crosswalks. Residents also voiced a general displeasure in the overall appearance of commercial development in the Five Forks area, specifically mentioning signage clutter, and large treeless parking lots.

Throughout the planning process, it was obvious to most that participating that the current standards of development applied throughout the county were not producing a desirable built environment, and in some cases were having a negative impact on the overall quality of life. Residents want to raise the bar for development standards in their community as they desire a community that was not anywhere USA, but a unique community with a distinct sense of place.

One committee member is quoted as saying, “Five Forks should have a different look and feel than other parts of Woodruff Road, but it is just more of the same.” It is this feeling of sameness, the lack of distinctive character that is missing in the Five Forks area. The goals of this plan seek to create a stronger sense of place in the community, and specifically in the Five Forks area and the other planned commercial activity centers. This can only be accomplished through the application of more neighborhood friendly design principles.

Key Objectives

- Improve the overall pedestrian accessibility at Five Forks and Pelham Batesville Commercial Activity Centers.
- Incorporate neighborhood friendly design principles into future commercial development
- Establish design standards that would preclude large scale “big box” development from locating in the Five Forks area.
- Better control excessive commercial signage.
- Create a distinctive, small scale, neighborhood-friendly, commercial center at the Woodruff and Lee Vaughn Road intersection.
- Improve access, circulation, and connectivity between compatible land uses.

Design Principles
This section discusses the guiding principles of neighborhood friendly design, as these principles serve as the foundation for the recommended commercial design standards. The following design principles are intended to serve as a guide when designing or evaluating development proposals in any of the commercial activity centers within the study area.

- Scale, placement, and orientation of buildings should encourage and facilitate pedestrian accessibility.
- Utilize human scale design elements.
- Create interconnectivity between compatible land uses.
- Reduce impervious surfaces and minimize visual impact of parking lots.

Example of pedestrian friendly commercial design at Marketplace in Huntersville, NC
Section 5.1 Commercial Design

This section discusses specific design elements as they relate to the established design principles and seek to address three main areas of concern: accessibility, building scale and placement, signage, and landscaping.

Excessive Signage
Based on discussions with area residents and visual surveys of the area, commercial signage clutter was viewed as detracting from the community character. Numerous examples of excessive commercial signage were found in the Five Forks area. This raised an important question: Should commercial signage in a neighborhood setting have the same minimum standards as a commercial sign located along an interstate or freeway? Logically, the answer is no. However, current commercial signage standards in the county are not context sensitive, and apply universally. As a result, we have commercial signs within the Five Forks area that are over 30 feet tall. This is clearly out of context with its surroundings, being that this area is largely residential and there is not a highway within 5 miles. This is just one example, but it illustrates the need to have context sensitive design standards.

To reduce visual impact of signage clutter along the roadway, this plan recommends signage standards more in keeping with a neighborhood environment.

Building Scale and Placement
An important consideration of neighborhood friendly design is the scale, placement, and orientation of commercial buildings. These three aspects of commercial design work together to encourage pedestrian access, minimize visual impacts on the roadway, and reduce potential conflicts with surrounding residential properties. In a neighborhood setting, buildings and individual design elements should be smaller in scale and size (foot print). Building placement should be such as to conceal parking lots and frame the public street by bringing buildings closer to the road and locating parking behind or to the side of buildings. Of all the design principles, these two have the greatest impact.

As mentioned in chapters two and four of this report, accessibility, and specifically pedestrian accessibility to commercial areas is limited at best. One of the main reasons is the lack of pedestrian infrastructure in the area. Sidewalks are limited in the Five Forks area, and non-existent in all but a portion of Woodruff Road. To improve pedestrian safety and accessibility this plan recommends that sidewalks be built as part of all new commercial development.

Placement of sidewalks is critical, as sidewalks located directly adjacent to busy roadways are perceived as dangerous, and as a result are not very inviting to pedestrians. This plan recommends that sidewalks built as part of future commercial development be set back from the road with a buffer strip between the road and sidewalk.

Landscaping
Along with the placement of buildings and parking, landscaping of parking lots and road frontages serves to soften the appearance of commercial development, and creates a more natural environment. Landscaped areas, especially trees provide real environmental benefits such as, reducing impervious surfaces, slowing down stormwater run-off, and minimizing the heat island effect. Further, street trees provide a pleasing environment for pedestrians and motorist alike and help to create a strong sense of place.
Section 5.2 Commercial Design Overlay Districts

Commercial Design Overlay Districts
The overlay district is a zoning technique that has been used in Greenville County and the City of Greenville for many years. It is most commonly used to control design features or preserve historic buildings. A local example in Greenville County is the Airport Environments Overlay District. This overlay district is used to add additional development provisions to areas around the airport.

Overlay zoning is an effective zoning tool that allows context sensitive design standards to be prescribed to specific areas of the county. It creates a special zoning district that is placed over the base zoning and identifies special provisions in addition to those in the underlying base zone.

In an effort to ensure that the planned Commercial Activity Centers adhere to the recommended design standards found in Appendix A., this plan recommends the adoption of three commercial design overlay districts.

These three commercial design overlay districts are shown in Map 5.1 to the right. The purpose of these recommended overlay districts is to apply the recommended commercial design standards to the prescribed commercial areas.

Currently, the only zoning tool available to implement design related recommendations is the PD zoning district. The recommended overlay district approach has many advantages over this current method of implementation. It provides necessary guidance to developers and gives area residents assurances that development will be built to the adopted zoning standards.

More information about each of these recommended overlay districts can be found on the following pages.

Recommendations
This plan recommends the use of overlay zoning to implement the recommended commercial design standards. In this plan the application of overlay districts is needed to apply addition provisions to the aforementioned prescribed areas. These provisions are intended to better regulate function and appearance within the prescribed areas to ensure that future development in these areas is consistent with the vision and goals of this plan.

- Adopt recommended commercial design standards to apply within the prescribed overlay districts. These standards have been developed to better address access management, street connectivity, sidewalks, tree preservation, landscaping and signage in existing and planned commercial activity centers.

- Minimize impacts on area roads by making necessary improvements as development occurs.
Section 5.3 Five Forks Design Overlay District

Map 5.2 to the right, defines the proposed Five Forks Overlay District. This overlay district covers a significant portion of Woodruff Road and includes the commercial core at Five Forks and surrounding transitional areas. The intent of this overlay district is to apply the proposed commercial design standards within the area prescribed in Map 5.2 on this page.

The proposed design standards are found in Appendix A. at the end of this report.
Section 5.4 Woodruff Road & Lee Vaughn Road Overlay District

This proposed Design Overlay District includes the areas surrounding the intersection of Woodruff Road and Lee Vaughn Road as shown in Map 5.4 and is described as follows. The proposed overlay district extends north of the intersection 1,500 linear feet along Lee Vaughn Road to Peter’s Creek. It extends west of the intersection approximately 1,650 linear feet on the northern side of Woodruff Road and 975 linear feet on the southern side of Woodruff Road. It includes areas east of the intersection extending 1,250 linear feet on the northern side of Woodruff Road and 275 linear feet to the Whitehall Plantation on the south side of Woodruff Road.
Section 5.5 Pelham & Batesville Design Overlay District

This proposed design overlay district includes all four corners of the Pelham Road, Batesville Road, and SC Hwy 14 as shown in Map 5.6 to the right.
Section 6.1 Implementation & Funding

**Introduction**
This section covers implementation strategies and available and potential funding sources for those recommendations found in this plan. Implementation strategies are divided into 3 Categories; Future Land Use, Transportation Improvements, and Land Development and Design.

**Future Land Use**
Many of the recommendations in this section can be implemented through County Council action as they consider rezoning requests in the area. Others will require changes to existing land development and zoning regulations.

**Land Development & Design**
As with Future Land Use recommendations, many of the recommendations in this section can be implemented through changes to existing land development and zoning codes. Overlay districts can establish context sensitive development and design regulations to specific defined areas without wholesale changes that would apply county wide. This approach gives much needed flexibility in regulation as the one size fits all approach is rigid and in many cases does not produce the desired results.

A good example of this context sensitive approach is the mountainous road standards, currently found in the Land Development Regulations. These standards were developed to apply in the mountainous areas of the county, as the general standards were not adequate for steep terrain.

Zoning tools such as design overlay districts provide for the application of development standards to prescribed geographical areas. It is this tool that has the most application in implementing the recommended commercial design standards.

**Transportation Improvements**
Recommendations for area transportation improvements are detailed in Tables 4.1 and 4.2 and represent both the funded projects and unfunded vision projects.

**Funded Projects**
The recommended road and intersection projects. These projects were identified in the GPATS Long Range Transportation Plan and through the area planning process. Currently, the GPATS Long Range Transportation Plan calls for approximately $150 million to be invested in road widening and intersection improvements within the study area over the next 24 years.

GPATS Long Range Transportation Projects are funded through three main sources: SCDOT Guideshare funds, Transportation Enhancement funds, and FTA Section 5307 funds.

**Vision Projects**
The vision plan projects are additional projects that were identified by stakeholders, local officials, and the general public as worthy for future funding consideration. They include projects identified in the GPATS Long Range Transportation Plan and those identified through the area planning process.

These vision projects are further divided into two groups; County Vision Projects and GPATS Vision Projects. GPATS Vision Projects are not targeted for funding in the 2030 plan.

**County Vision Projects**
County vision projects are those county projects identified through the area planning process that are not eligible for GPATS funding. There are currently two County Vision Projects that are included in the county’s road improvement program; Prescription for Progress. These projects include:

- Jonesville Road—Improved two lane road and bridge replacement.
- Lee Vaughn Road—Improved two lane road and bridge replacement.

**Funding Sources**

**Prescription for Progress**
Since May 20, 1997, when County Council adopted its “Prescription for Progress, Paving County Roads” policy to improve County roads by the year 2010, the County has improved over 1160 roads and paved over 377 miles of road. The Prescription for Progress Road Improvement Program has also afforded the County the opportunity to expand services to include traffic calming, improved storm drainage and intersections, pedestrian safety with sidewalk installations and rehabilitation. Currently the County is in its ninth year of the Prescription for Progress Road Improvement Program. In each of these years, the County has used the Construction Management Services, Design-Build Services or Turnkey Management Services method, procured through the Sealed Proposal method of procurement (also referred to in this memorandum as the “Sealed Proposal/Turnkey Method”), to implement this program.

**Other Potential Funding Sources**
Other potential funding sources for identified County Vision Projects, sidewalks, and trail development include: Transportation Committee (CTC) funds, Transportation Enhancement Funds, Safe Routes to School Grant from SCDOT, trail grants, and local hospitality tax funds.
## Section 6.2 Recommended Actions

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Action</th>
<th>Responsible Agency</th>
<th>Start Time</th>
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<th>0-1 yrs</th>
<th>1-3 yrs</th>
<th>Funding Sources</th>
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<tbody>
<tr>
<td>1</td>
<td>Amend County Land Use Map to be consistent with land uses shown in the E. Woodruff Road Area Future Land Use Map.</td>
<td>Planning Department &amp; County Council adoption</td>
<td></td>
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<tr>
<td>2</td>
<td>Adopt a formal connectivity ordinance. The ordinance should establish measurable standards for street connectivity for all new development. This ordinance will seek to increase the connections between existing developments and new developments and redevelopments by requiring coordination between the vehicular and pedestrian circulation systems.</td>
<td>Planning Department, Land Development Division of Public Works &amp; County Council adoption</td>
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<td>3</td>
<td>Revise the land development regulation Article 8.1-B-9, governing cul-de-sacs. A major barrier to connectivity is the presence of cul-de-sacs. The current ordinance permits cul-de-sacs streets to be up to or in some case in excess of 1,200 feet in length. Revise cul-de-sac design and location standards as permitted in the land development regulations to result in fewer and shorter cul-de-sacs.</td>
<td>Planning Department, Land Development Division of Public Works &amp; County Council Adoption</td>
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<td>NA</td>
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<tr>
<td>4</td>
<td>Adopt the proposed Five Forks Area Design Overlay District, Pelham Batesville Design Overlay District and the Woodruff &amp; Lee Vaughn Crossing Overlay District to implement the recommended commercial design standards in these prescribed areas.</td>
<td>Planning Department &amp; County Council Adoption</td>
<td></td>
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<td>NA</td>
</tr>
<tr>
<td>5</td>
<td>Solicit SCDOT District Office “Spot Safety” improvement monies to implement safety improvements at key intersections along Woodruff Road and Batesville Road.</td>
<td>Planning Department and Public Works</td>
<td></td>
<td></td>
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<td>NA</td>
</tr>
<tr>
<td>6</td>
<td>Revise land development regulation Article 9.4 governing sidewalks. This section of the LDR should be amended to adopt formal sidewalk ordinance that requires sidewalks within and along all exterior roads that provide access to the subdivision. This requirement should be for all new subdivisions built within 1.5 miles of a school and 1.5 miles of a Planned Design Area.</td>
<td>Planning Department, Land Development Division of Public Works &amp; County Council Adoption</td>
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<td>7</td>
<td>Solicit CTC funds for recommended sidewalk improvements on county roads.</td>
<td>Planning Department and Engineering and Public Works</td>
<td>On-going</td>
<td>CTC</td>
</tr>
<tr>
<td>8</td>
<td>Adopt a Complete Streets Policy for all future county and GPATS funded road projects.</td>
<td>Planning Department, Public Works &amp; GPAT Policy Committee</td>
<td>0-1 yrs</td>
<td>N/A</td>
</tr>
<tr>
<td>9</td>
<td>Work with Greenville County Recreation to complete Master Greenway Plan.</td>
<td>Planning Department and Greenville County Recreation District</td>
<td>1-3 yrs</td>
<td>Hospitality Tax</td>
</tr>
<tr>
<td>10</td>
<td>Install phase one planned sidewalk improvements at Oakview Elementary School. Assist and coordinate with Oakview Elementary and the School District to secure 200k SCDOT Safe Routes to School Grant for recommended infrastructure and pedestrian safety improvements</td>
<td>Oakview Elementary, School District, and Planning Department</td>
<td>1-3 yrs</td>
<td>SCDOT Safe Routes to School Grant</td>
</tr>
<tr>
<td>11</td>
<td>Make recommended improvements to Lee Vaughn Road, north of Woodruff Road.</td>
<td>Public Works and Engineering</td>
<td>On-going</td>
<td>Prescription for Progress</td>
</tr>
</tbody>
</table>
Commercial Design Standards

Building Scale and Placement
- Front: Minimum 25' (Corner Lots: Min. 15')
- Side: Minimum 5'
- Rear: Minimum 12'
- Lot Width: minimum of 60'
- Max square footage: 35,000
- Lot Coverage: 70%

Sidewalks
- Required 5' wide sidewalk along road frontage (outside SCDOT ROW)
- Interior of site connect road to building frontage

Parking
- Parking is to be located in side or in the rear of buildings or the interior of a shopping center.
- No parking to be located between the building and road or adjacent to the public road frontage.
- 2 Bike spaces per 20 auto spaces

Street Trees
- 1 tree per 30' of linear road frontage
- Located within 20' of ROW, but outside the road ROW

Landscaping
- Similar to existing Parking Lot Landscaping Ordinance
- Requires trees at a higher rate of 1 per 10 spaces

Architecture
- Front of building must face public road
- Front retail building: min. 50% transparent materials.
- No street-level wall shall be blank; walls facing public streets shall include 50% embellishment of interest-creating features, such as doors, display windows, transparent materials, murals, etc.
- Building materials: Brick, Wood, Fiber-cement/Stucco
- New structures on opposite sides of the same street should have same for height and scale
- Entrances facing public road shall be recessed with awnings & or canopy

This example illustrates the recommended building scale, placement, architectural features, street trees, sidewalks, and crosswalks. Parking is located out of view on the interior of the development.
Commercial Design Standards

Lighting
- Full cut-off fixtures
- Max height for parking areas is 22’
- Maximum height for pedestrian walks is 12’
- “Wall packs” flood lights, neon lighting are prohibited

Signage
- 1 projecting sign or wall sign per business
- Projecting signs max. size: 6 sq. ft.
- Wall signs: Max of 10% of wall area
- 1 monument sign per business (max 8’ tall and 40 sq. ft.)
- Electronic reader boards prohibited

Open Space
- 25% of development site should be dedicated as undeveloped open space.

Access Standards
  Thoroughfares (Woodruff Rd. and SC 14)
  - Minimum separation between driveways: 400ft.
  - Minimum separation between intersecting public road and driveways: 250ft.
  - Maximum of two access points allowed

  Collector Roads
  - Minimum separation between driveways: 350ft.
  - Minimum separation between intersecting public road and driveways: 200ft.
  - Maximum of two access points allowed

Connectivity Standards
- Provide cross access between all contiguous parcels planned for non-residential use.