BROAD RIVER ROAD CORRIDOR AND COMMUNITY MASTER PLAN

Submitted to Central Midlands Council of Governments
and Richland County, South Carolina

by IBI Group
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Prepared for Central Midlands Council of Governments and Richland County, South Carolina

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Chapter 1 Introduction

BACKGROUND

Broad River Road Corridor is an important commercial spine that serves a diverse group of residents and employers living and working in proximity to the roadway historically referred to as the “St. Andrews Community”. Located at the convergence of three interstate systems; I-26, I-126, and I-20, the Broad River Road and Community Master Plan Study Area has the advantage of being strategically located providing easy access to downtown Columbia and the outlying region. While the majority of the Study Area properties are within Richland County limits, sections of the Study Area also lie within the City of Columbia. The City of Columbia serves as the state capital and is the largest city in South Carolina. It is also the primary city of the Central Midlands Council of Governments (CMCOG), which comprises of four counties within South Carolina; Richland, Lexington, Newberry and Fairfield County.

During the 1970s and 1980s, the area experienced increased development activity epitomized by the construction of the Dutch Square Mall and some of the foremost planned office park developments in the Columbia region. Today, the changing regional growth patterns, along with the loss of retail dominance, have resulted in the gradual decline of the economic fabric and the neighborhood character of the community. The existing Broad River Road Corridor and Community Study Area is representative of the first wave of suburbanization experienced by the outward growth of the City of Columbia. Typical of most aging suburban commercial corridors, the Study Area is characterized by deteriorating strip shopping mall developments designed for an automobile-oriented environment, which largely ignores the pedestrian needs and access to transit service. Broad River Road has developed like many arterial corridors throughout the United States; with multiple lanes and frequent commercial driveways, often leading to congested conditions.

The intent of this study is to identify redevelopment opportunities that enhance the safety, security, and efficiency of the transportation system and improve the overall quality of life for residents.

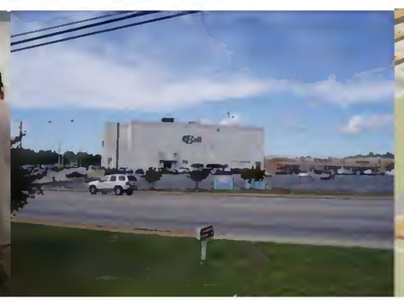
The Central Midlands Council of Governments (CMCOG) and the Richland County Neighborhood Improvement Program have collaborated together to prepare the Broad River Road Corridor and Community Master Plan. This study is one of the first comprehensive planning efforts undertaken by the CMCOG and Richland County to guide the development and redevelopment of the transportation system and surrounding communities located within the Broad River Road Corridor. Through the leadership of Richland County and Central Midlands Council of Governments (CMCOG), a new vision for the Broad River Road corridor and surrounding communities will be created through this planning effort that will ultimately result in an environment of positive change for the entire Central Midlands region.

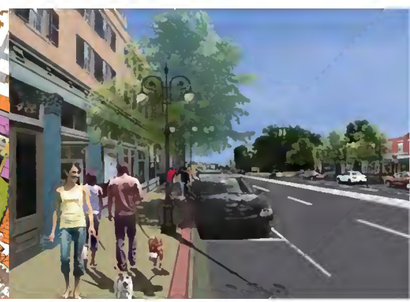
To assist with this goal, CMCOG and Richland County selected IBI Group and their team of sub-consultants with Strategic Planning Group, Hall Planning and Engineering, and McCreary/Snow Architects, to prepare a community-driven study that provides a new paradigm for growth and change in Richland County; the study uses an integrated approach to transportation planning, land use planning, and urban design aimed at promoting the social and economic transformation into so-called “Complete Communities” within the Study Area. Complete Communities are neighborhoods or districts that are self-sufficient by virtue of interconnected transit and commercial environments, and are surrounded by a diversity of housing types, services, and amenities.

Project Goals

- Develop an Integrated Land Use and Transportation System
- Introduce Improved Multimodal Networks including Public Transit Service
- Encourage Transit Oriented Mixed-Use Developments
- Enhance Connectivity to the Neighborhoods
- Provide a Framework for Economic Development
- Develop Implementation Strategies based on market realities and financing alternatives
- Incorporate an Effective Public Involvement Program







PLANNING PROCESS

The phased planning approach used to develop the Broad River Road Corridor and Community Master Plan builds upon a well orchestrated public involvement effort. This process was initiated at the onset of the planning effort and continued a public forum through the completion of the project. This Master Plan is the result of an extensive community visioning process conducted over a period of 12 months. The recommendations and projects identified in this Plan were a product of the public participation process, led by CMCOG, Richland County, and the consultant team. The purpose of this citizen-led planning effort was to initiate an open dialogue between stakeholders, staff, and the County leadership for sharing concerns and priorities related to future development along the Broad River Road Corridor and the surrounding neighborhoods it serves.

Building a consensus between the various stakeholders and residents is a crucial component in the successful implementation of the redevelopment program. From August 2009 to August 2010, the project team worked with a wide range of participants including residents, business owners, county officials, elected officials, and government representatives to create a realistic plan reflective of the community and stakeholder interests and aspirations. More than 300 residents and stakeholders came together to participate in the visioning process to explore new concepts and opportunities for the community's future growth. Additional feedback was elicited through a stakeholder survey that was handed out during the first public workshop. A copy of the survey and a summary of the answers are included in the Appendix. The project website also served as an additional method for providing public comments and review of the master planning documents.

Inventory and Analysis

The first step in preparing the plan was the development of an inventory of existing conditions in the Study Area. Based on the results of the inventory, an analysis of the area was conducted that focused on an examination of the area's capacity enhancements, intersection improvements, congestion management, and transit services. The series of focus group meetings and public workshops that followed generated discussions about the community's assets, concerns and goals. The community-driven process generated a variety of strategies and solutions that are presented in Appendix C of this document.

Economic Positioning Strategy

A real estate market study and demographic analysis was then conducted to direct the planning recommendations and objectives. Development capacity and market potential were also assessed and were integrated into a comprehensive Economic Positioning Strategy for the Study Area.

Community Charrette and Conceptual Plan Development

The second set of workshops for the study was organized as a three-day "charrette". The "charrette process" is a highly interactive process that allows the workshop facilitators to engage the audience in meaningful participation. At the end of the charrette, the consultant team received valuable insight form the participants on where to focus attention and what types of improvements they felt would most greatly improve economic development and aesthetic quality along the Broad River Road corridor and the community as a whole. Information and ideas gathered during this phase was then used to prepare the draft Conceptual Plan.

The ideas gathered during the conceptual plan phase were further developed into recommendations and action strategies presented as the Master Plan (Part II) in this document. The Master Plan establishes a framework for the community's future growth, and identifies strategies that will provide guidance for successful implementation of the overall project theme to encourage the realization of more complete neighborhoods. The framework developed herein serves as a guideline for promoting sound development and redevelopment of properties in the Study Area. Opportunities for public improvements, redevelopment activities and proposed future land use composition are identified and graphically represented on the Concept Plan illustration. The Master Plan contains descriptions of several types of projects and programs, including capital projects, public/private projects, and government programs.

Implementation Program and Phasing Plan

Based on the projects and recommendations identified in the Concept Plan phase, the implementation program outlines the anticipated roles and responsibilities of various stakeholders involved with the successful realization of the catalyst projects and policy recommendations presented in this study.

STUDY AREA BOUNDARIES

The Study Area for this master planning effort is situated between the Broad and Saluda Rivers and extends along Broad River Road from the Broad River Bridge to Harbison State Forest.

Geographically, the Study Area is generally defined by the Broad River to the North and East, the Saluda River to the Southeast, I-26/I-126 to the Southwest and Piney Grove Rd/Harbison State Forest to the Northwest. The boundaries of the Broad River Road Corridor Study Area are located within the area referred by the United States Department of Commerce as the St. Andrews Designated Census Area.

The Study Area encompasses nearly 7,000 acres and is home to more than 25,000 residents, numerous businesses and several employment centers. A significant portion of the 7,000 acres includes rights-of-way and water bodies.

Major roadways connecting to Broad River Road within the Study Area are (from south to north): Greystone Boulevard, Bush River Road, St. Andrews Road, and Piney Grove Road.

Greystone, less than a mile long, serves several viable employment centers located adjacent to the corridor. It is lined with commercial office buildings; including a Wachovia back-office complex and several auto dealerships, although a few of the dealerships appear to be relocating. Greystone links Broad River Road to the I-126 expressway spur into downtown. It also passes beneath the interstate providing access to the Riverbanks Zoological Park and several light industrial parcels.

Bush River Road and St. Andrews Road proceed south from intersections with Broad River Road, intertwine, and then separate again proceeding west-northwest to Irmo and Lake Murray as they parallel the Saluda River. Marking the intersection of Bush River Road and Broad River Road is the Dutch Square Mall which, in conjunction with adjacent shopping centers, formed the largest retail nucleus in the Carolinas for a brief period in the '70s and early '80s. The completion of the Columbiana Mall at Harbison Boulevard in the 1990s resulted in further decline of the Dutch Square Mall's dominance in the region.

Piney Grove Road intersects with Broad River Road near the northern boundary of the Study Area. It winds through residential neighborhoods until it reaches the I-26 interchange and continues south to St. Andrews Road.

STUDY AREA BASE MAP

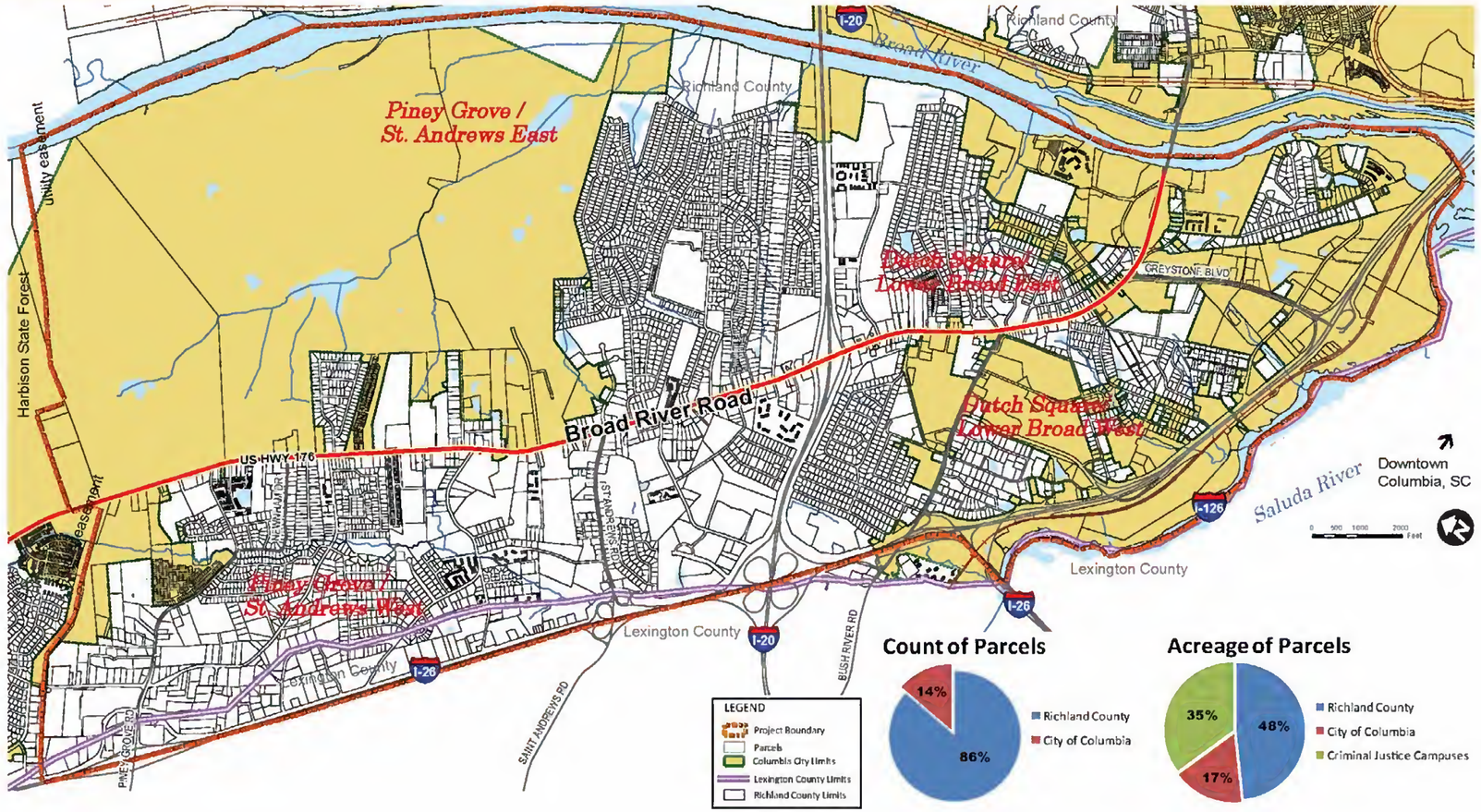


Figure 1.1 Study Area Map

PLAN ORGANIZATION

The Broad River Road Corridor and Community Master Plan intends to serve as a comprehensive resource for community leaders and stakeholders that are engaged in shaping the social, economic, and physical form of the area. Future actions targeted in this area are anticipated to follow the recommendations of this Master Plan through continued discussions with residents, community stakeholders, and governmental agencies. Chapters in the documents are structured to help the reader understand the overall vision of the larger area and the interwoven relationships between the various components of community building; land use, transportation, urban design, public facilities and amenities, and economic development.

Throughout the document, the terms “the Study”, “Master Plan”, and “the Plan” are used interchangeably and refer to this Broad River Road Corridor and Community Master Plan. The Plan is organized into four parts and ten chapters, as described in the following paragraphs.

Part I: Overview

Chapter 1: Introduction
- Project Background and Planning Process
- Study Area Boundaries

Chapter 2: Context
Chapter 2 presents a contextual relationship of the Study and its position from a regional, economic, demographic, geo-political, historic and planning perspective. The Master Plan recommendations have been developed in consideration of these larger trends, and include the following sections:
- Regional Context
- Geographic Context
- Economic Context
- Historic Context
- Planning Context

Chapter 3: Community Involvement
This chapter provides a summary of the community feedback received during the series of workshops conducted by the consultant team under the leadership of Richland County and the Central Midlands Council of Governments. Starting with the stakeholder focus group meetings initiated at the beginning of the process, the community participation in this project was a great success and was attended by over 300 participants through the life of the project.

Part II: Redevelopment Master Plan

Chapter 4: Land Use and Development Characteristics
This chapter addresses the key attributes of the Study Area’s physical character including; future land use districts, proposed redevelopment projects, development intensities and densities, civic facilities and neighborhood planning areas.

Chapter 5: Circulation and Connectivity
This chapter includes proposed improvements to the roadway network, traffic volumes and pedestrian connectivity including trail network; transit service; and parking management.

Chapter 6: Urban Design
The primary issues addressed in this chapter relate to the public and private realm design guidelines including; streetscape design, gateways, open space design, transit oriented development principles, pedestrian connectivity, signage, site planning and built form.

Chapter 7: Public Facilities and Amenities
This chapter addresses issues impacting the provision of the primary civic realm infrastructure including utility network and stormwater systems, community facilities related to educational and cultural resources including community center, library, schools, public safety, parks, arts and culture and other civic amenities.

Chapter 8: Economic Development
The primary focus of this chapter is related to the Study Area’s economic positioning strategy. The chapter addresses essential economic development components such as employment base, development potential, marketing and promotion, strategies related to retaining and attracting employment, stabilizing the area’s residential base, and potential impacts of improved transit service.

Part III: Implementation

Chapter 9: Program Administration and Financing
This chapter presents the organizational framework and financial strategies that will be required for successful implementation of the Broad River Road Corridor and Community Master Plan. It defines the roles and responsibilities that should be undertaken by the various agencies and stakeholders that are involved in shaping the future development of the Study Area.

Chapter 10: Implementation Plan
This chapter builds on projects outlined in the Master Plan to present a phasing strategy for the various capital projects and future studies that will be pursued in the near-term (5 years) and long-term (6+ years) to ensure successful implementation of the proposed redevelopment program. In addition, a 5-year preliminary budget for the proposed improvements is presented, and identifies funding sources to assist the County with budgeting and financial planning.

Part IV: Appendices

Appendix A includes the Existing Conditions and Inventory Analysis data; Appendix B includes the Transportation and Circulation data and analysis prepared by Hall Planning and Engineering (HPE) including the results of the Walkability Index study; Economic and Demographic data used in the preparation of the Economic Positioning Strategy prepared by Strategic Planning Group is presented in Appendix C. These appendices served as the foundation for the recommendations contained in the Master Plan. Appendix D lists the funding sources referenced in the document.

Chapter 2 Context

REGIONAL CONTEXT

Over 85 percent of the properties in the Study Area are in unincorporated Richland County. The County covers 484,186 acres of land or 771.74 square miles: 756.54 square miles of land and 15.21 square miles of water. One-third is located in the Piedmont Plateau, and the other two-thirds are located in the Atlantic Coastal Plain. The County is bordered by the Wateree River to the East and the Congaree and Saluda Rivers to the West. Broad River splits the County between the North West and North Central planning areas. Figure 2.1 illustrates the regional context.

While the count of Study Area parcels within unincorporated County boundaries is higher, over 50 percent of the total parcel acreage is within the City of Columbia. This is primarily because the City limits include the 3.7 square mile Criminal Justice Campus. In addition, the Dutch Square Mall and scattered car dealerships along Greystone Boulevard are also within the City limits.

Columbia, the state capital of South Carolina, is the largest city in the state having a population in excess of 125,000. Positioned in the geographic center of the state, Columbia is located in the Midlands region and is a part of Richland County. The City of Columbia was founded as the state capital due to its central location and grew to prosperity with the cotton, textile, and steel industries as numerous mills were constructed along the rivers which powered the machinery. Columbia is home to the University of South Carolina, Benedict College, and several health care related corporations including Blue Cross Blue Shield of SC, Palmetto GBA, and Humana/TriCare.

The Broad River Road Corridor and Community Study Area, is at the juncture of interstate highways 20 and 26, providing linkages to Charleston, Augusta, Greenville-Spartanburg, and Florence. I-77 links Columbia to Charlotte. Fort Jackson is northeast of downtown and is the U.S. Army's second largest training post. Lake Murray – a reservoir created by the impoundment of the Saluda River – is west of downtown and is surrounded by bedroom communities. The Study Area, given its location and access is well-positioned to serve as a major employment center for the greater region. It has several office parks and employment hubs, some with expansion capabilities.

At the regional level, the Central Midlands region is well positioned for future growth. As the seat of State Government with a growing military and federal government presence, numerous university/colleges (and associated research), the region has the ability to compete at a national and global level assuming that the State of South Carolina remains competitive and that its labor force increases its overall educational attainment and training.

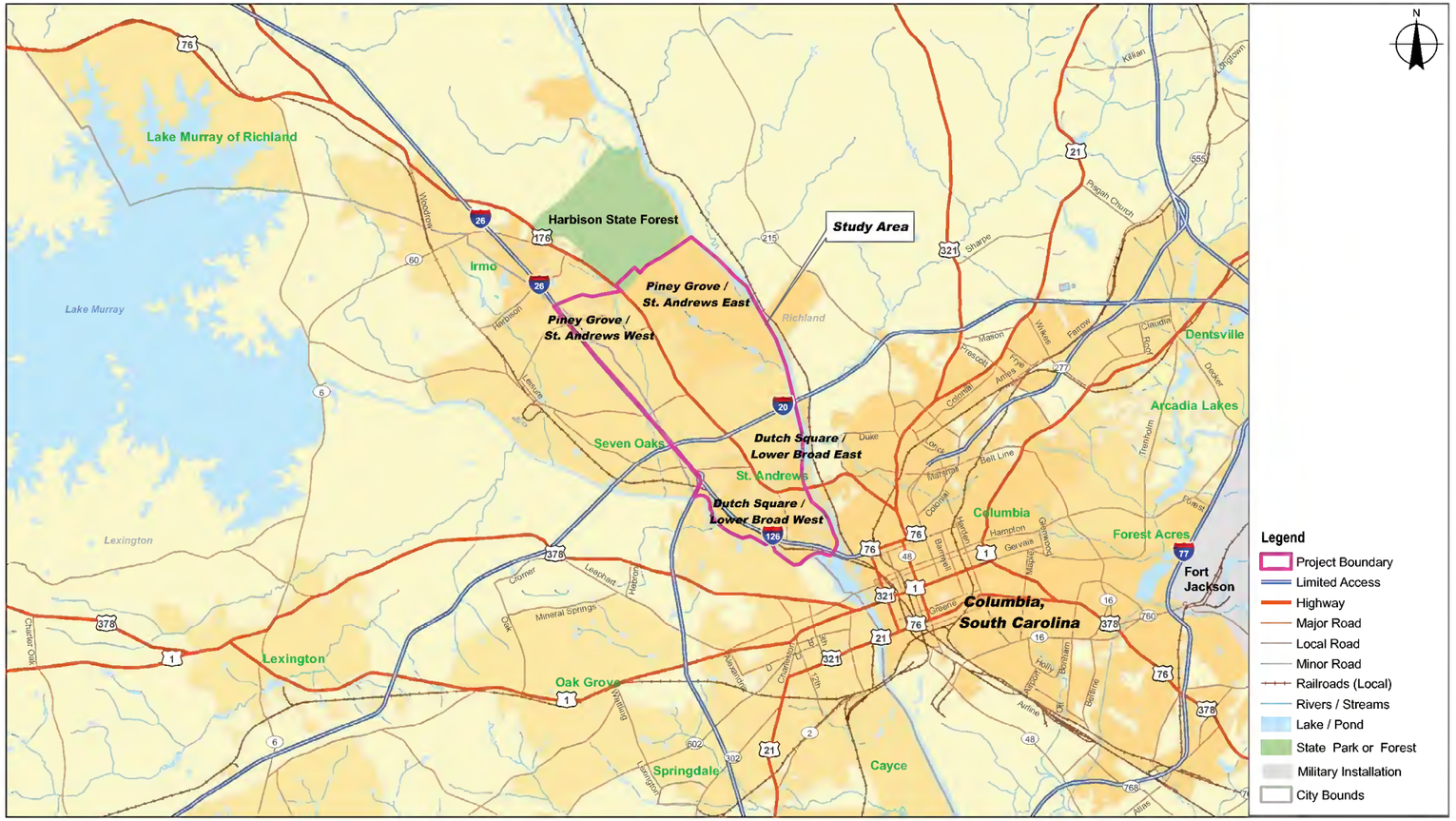


Figure 2.1 Regional Map

It is interesting to note, that the region is not currently defined as part of the emerging Char-Lanta "mega region". This new mega region includes Atlanta to the South and Charlotte to the north. As a mega region, it is the 3rd largest region in the United States and 8th largest in the world. The Central Midlands Council of Governments (COG) includes four Counties within South Carolina (Fairfield, Lexington, Newberry, and Richland). Richland County is home to the State Capitol, which is the City of Columbia.

The Broad River Road community occurs to either side of I-20, between I-26/I-126 and the Broad River. Portions are within Columbia city limits, most of the rest within Richland County, and a sliver of commercial/office/lodging along I-26 is located in Lexington County. To the northwest is Irmo and other residential communities around the lake. West Columbia, Cayce, and the Columbia Metro Airport are situated to the north of the Study Area.

ECONOMIC CONTEXT

One of the most important tasks of any redevelopment effort is to determine a realistic assessment of where a redevelopment area fits in relation to the overall market and how it will change. The role of surrounding communities in terms of population, income, growth and levels of access is as critical as the regional through-traffic movement. Not only does one want to measure the existing trade area but most importantly, any overlaps that exist with other retail or office markets and how those other trade areas impact the growth or redevelopment of this area.

Table 2.1 Demographic Characteristics

Description	Study Area
Population	
2000 Census	24,657
1990 Census	23,936
Growth 1990-2000	3.01%
Households	
2000 Census	12,251
1990 Census	10,537
Growth 1990-2000	16.27%

TAZ 2005	Total Employment
Dutch Square- Lower Broad East	1,039
Piney Grove- St. Andrews East	5,607
Piney Grove- St. Andrews West	5,351
Dutch Square- Lower Broad West	10,076
Grand Total	22,073

TAZ 2005	Population In Households	Households	Population in Group Quarters
Dutch Square- Lower Broad East	5,018	3,085	0
Piney Grove- St. Andrews East	6,223	2,385	4,983
Piney Grove- St. Andrews West	10,337	5,270	50
Dutch Square- Lower Broad West	3,474	1,879	35
Grand Total	25,052	12,619	5,068

Population and Household Characteristics: The Study Area had an estimated population of 24,657 according to 2000 Census estimates provided by Claritas, Inc. This represented an increase of only 721 new residents over the ten (10) year, 1990-2000, period. Likewise, the Study Area contained 10,537 occupied dwelling units (households) as of year 2000, an increase of 1,714 households. The difference between the increase in population and housing is largely due to smaller household populations. In 2005, the COG prepared a detail transportation study of the area which included detailed demographic and economic surveys. This baseline data is considered reliable and describes demographic and economic changes in the area between 2000 and 2005. The 2005 Transportation study divided the area into four (4) zones. According to the study, the Study Area contained 25,052 residents and 12,619 households. The Study Area also contains major corrections institutions which had an estimated population of approximately 5,000 inmates. This represents a population increase of only 395 new residents over the five year (2000-2005) time-period. Analysis of the demographic and housing trend report provided by Claritas, Inc. shows the overall socio- economic trends of the Study Area between 2000, 2009 and projected 2014 estimates. Claritas estimated a slight population decrease between 2000 and 2009; but a small increase in population by 2014. In 2000, the Study Area had an estimated 1,158 housing units vacant (8.6%).

Key socio-economic characteristics for the Study Area include:

- *The Study Area has a diverse ethnicity with African Americans representing 51% of its population, Caucasians 44% and 5% others. According to the 2000 Census, the area had only 469 Hispanic residents which represents only 2% of the overall residents.*
- *The area households are primarily rentals. As of the 2000 Census the Study Area's households were 30% owner occupied and 70% rentals. Figure 2.2a illustrates the comparison between owner-occupied and renter-occupied units.*
- *The overall median and average age of area residents continues to grow older as shown below. Fig. 2.2b (following page) shows the relative demographic changes by age for the 2000-2014 time period. The peak 18-34 age cohorts represent the greatest declines during the time period. In 2000, approximately 50% of the households were headed by persons within the under 25-34 age cohort. Claritas has projected a significant decline in the under 25 age cohort by 2014; which represents the college age residents living within the Study Area.*
- *According to 2000 Census estimates, the average household income for the Study Area was approximately $38,900 and an average household income of slightly over $32,900. The per capita income was estimated at $19,601. Household income was significantly lower in the Study Area than for the region or Richland County.*

Employment Trends: The best current measure of employment within the Study Area is data from the 2005 Transportation Study. That study shows that the area had 22,073 employees in 2005. According to estimates provided by Claritas, Inc., the Study Area contains 28,268 employees as of 2009, representing an increase of 6,195 jobs since 2005. It is important to note that the majority of employment within St. Andrews is traditional white-collar management-oriented jobs and not service or retail employment.

Building Permit Activity: The Broad River Road Corridor and Community Study Area was largely built-out by the late 1970s, so building permit activity has been relatively light when compared to the COG region. The Study Area averages around 1% of the region's building permit activity. During the period from 2000 through 2008, the Study Area issued permits for approximately $90 million dollars of construction of which approximately 40% were residential permits.

Market Demand Analysis

The overall market demand analysis focuses on four major sectors: office, retail, automotive, and housing. Because retail uses usually follow roof tops (residential units) and office space while not dependent on residential, likes to locate where access to workforce is excellent, this study first analyzes the housing sector within the Study Area.

Housing: "St. Andrews" grew rapidly from 1970 to 1990 (80% of the housing was built between 1960 and 1989). The median year built of owner occupied homes in 2000 was 1973; while the median age for rental housing was 1982, indicating an aging housing stock.

The Study Area contains approximately 13,400 housing units of which 8,713 or 65 percent are multi-family units (condominium, town homes and apartments). The area has the largest concentration of apartments (7,600+) in the Columbia region. Rental units comprise almost 60% of all housing.

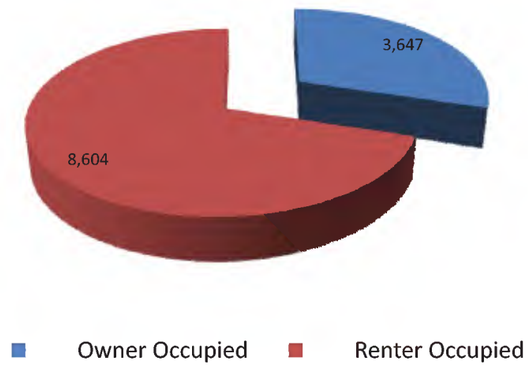


Figure 2.2a *Distribution of home ownership*

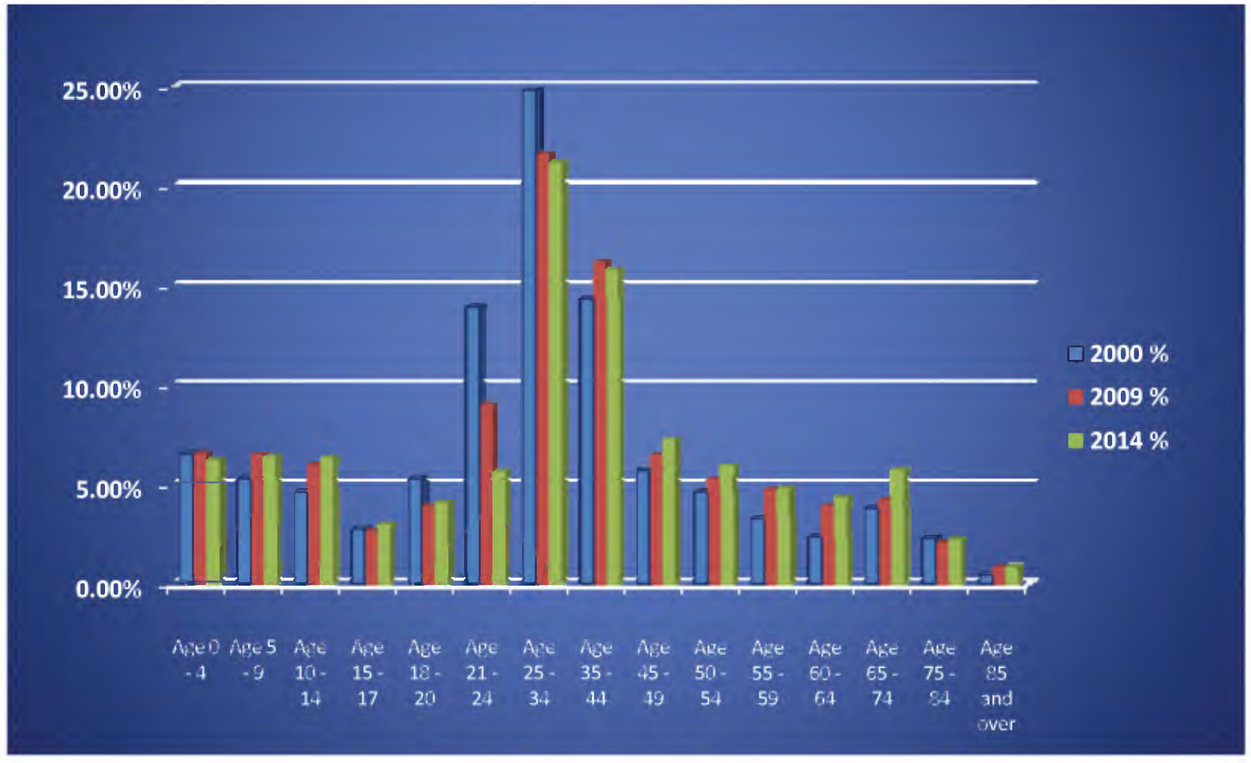


Figure 2.2b *Age Distribution, 2000-2014*

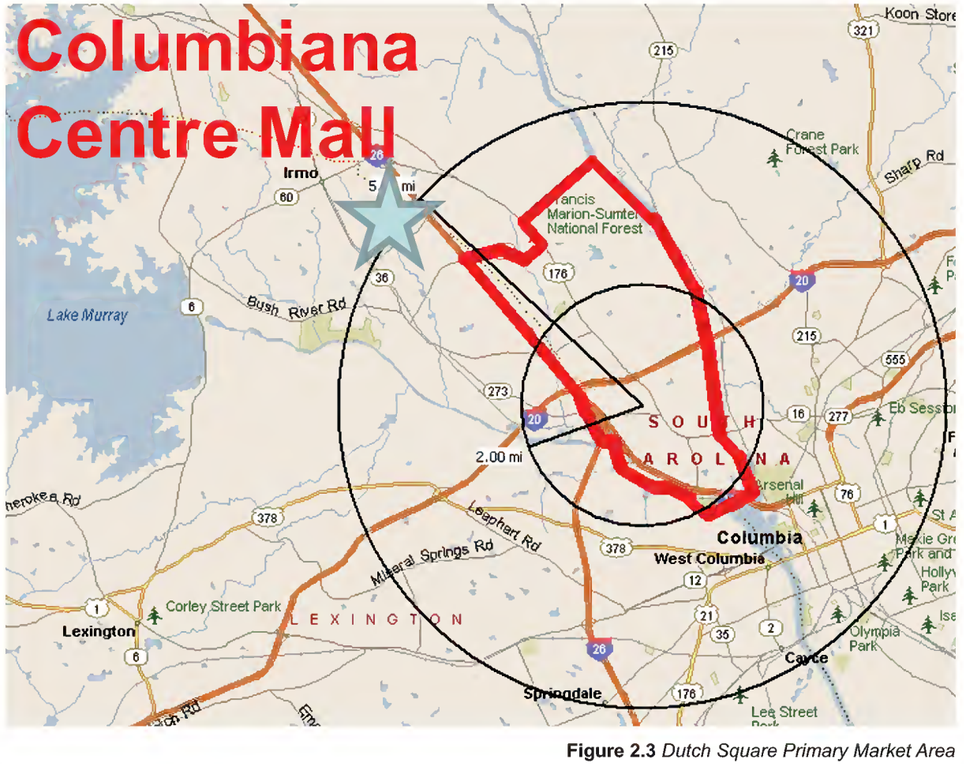


Figure 2.3 *Dutch Square Primary Market Area*

Based on the 2000 Census and stakeholder interviews, the local apartment market has a high percentage of students residing in St. Andrews. The majority of apartments are now 20+ years old. Some new condominium construction as well as conversions occurred during the housing bubble but, on large most of the multifamily housing is approaching their life cycle end. The aging housing stock helps explain the lower lease rates which in turn explains that large number of college/university residents.

According to Realtytrac.com; the median home value within Columbia region was $126,548 as of October 2009 and the average home value within the Study Area was $105,343. Zillow.com reported that the housing prices (all types) averaged $126,100 compared to $96,600 within St. Andrews. Using Zillow's home value index, value change in the Study Area over the July 2009 to January 2010 period was analyzed. Values have increased significantly during this period, especially for housing units with 4 or more bedrooms. Units with 4 or more bedrooms are assumed to be single family as few if any multi-family units have more than 3-bedrooms. It is important to note the impact that foreclosure and short sells have on average housing sale prices. As shown in the figure below, Realtytrac.com has tracked the sales price of housing within the Study Area (zip code 29210) which shows the large divergence between normal sale prices and foreclosures.

Housing Demand: As discussed previously, the Study Area contains a large employment base but a large percentage of that employment base does not live in the area. According to the 2000 Census, only 30% of the workforce appears to live in the area. It should be noted that in 2000, almost 30% of local residents worked outside of Richland County. Furthermore, 25% of those aged 16+ were not in the workforce. Given the excellent access and job opportunities within the Study Area, there is an untapped demand for diverse housing products in the area. However, the aging housing stock and limited new construction has impacted the investment image of the area.

Retail: Dutch Square Mall was opened as "the largest mall in the Carolinas" and was considered as "the retail hub" of the region during the 1970-80s. The earlier successes mirror the ability of the Broad River Road and Bush River Road corridors to capture the growing suburban expansion of Columbia. However, with the opening of the Columbiana Mall in 1990, its ability to attract other retailers and power centers effectively diminished the Study Area's market share.

Retail Demand: Retail demand for space within the Columbia region has been hard hit during the current recession with a host of major retailers leaving the market (Goody's, Ashley Furniture, Linens 'N Things, Dillards, Circuit City, Steve and Berry's, etc.). As shown in Fig. 2.3, the new Columbiana retail hub is located within six miles of Dutch Square Center and its market shed dominates the St. Andrews community.

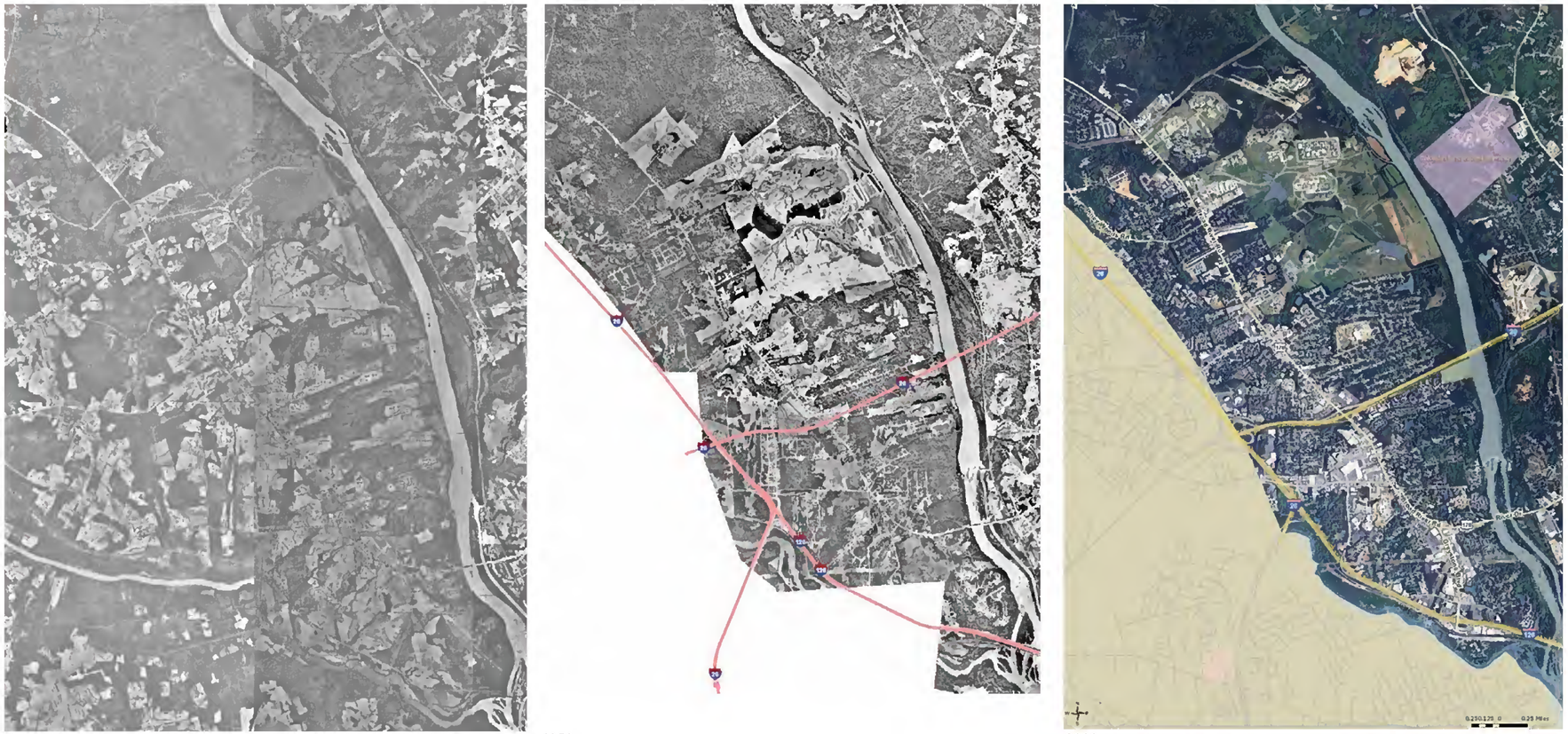
According to the latest COG report, retail space is spread fairly evenly round the region, which is not unusable given that retail follows or its dependent on residential developments (rooftops). St. Andrews contains 2.2 million square feet of retail space or slightly over 100 square feet per resident compared to a regional average of 34 square feet of retail per capita. The COG reports a 13.2% vacancy rate even given the area's low lease rates. The lease rates are competitive however, the structures for the most part are old and the surround ambiance declining.

Grubb & Ellis which maintain a separate retail inventory, shows a 10% vacancy rate in the Study Area. Given the competitive market shed of Columbiana and the aging retail inventory within St. Andrews, at 100 square feet per capita, even give its excellent access, the retail market is over retailed.

HISTORIC CONTEXT

Columbia was incorporated as a city in 1854, but was selected as site of the state capital sixty-eight years earlier in 1786 with the legislature first convening in 1790. The settlement grew up across the river from a frontier fort located in the vicinity of present-day Cayce. The historic downtown (two miles square) was laid out into lots and blocks and advertised for sale to speculators – making it one of the first planned cities in the United States. The area, being the head of navigation of the Santee River system, was of considerable strategic importance in early American history. For fifty years beginning in 1800 Columbia was linked to Charleston by water via the Santee Canal . River transport was largely eclipsed by the faster and more reliable railroads which reached the city in 1840 and made the canal obsolete within ten years. Columbia was settled along the fall line of the Appalachian Piedmont and hydropower was harnessed to turn the machinery of the textile mills that were built here. Cotton was transported via rail to other markets.

Much of Columbia was destroyed by fire in 1865, when Civil War General William T. Sherman blazed his path to the sea. Some suggest the destruction was especially vengeful because of the key role Columbia had played in leading other southern states to secede from the Union. The City emerged from Reconstruction fairly strongly, and by the early 1900s had six textile mills in operation. Much of the settlement of the communities across the river from Columbia; Cayce, West Columbia, St. Andrews, etc. began as workforce housing for the mills.
1917 saw the installation of Camp Jackson, which grew to become permanent Fort Jackson in 1940.
It was annexed into the city limits in 1968.



1939 *1959* *2009*

Figure 2.4 Historical Development Patterns

Development

The Lake Murray dam was completed in 1930, creating a reservoir with 500 miles of shoreline and hydroelectric power for much of central South Carolina. Its construction required the relocation of 5,000 homes and acquisition of approximately 1,000 tracks of land. The communities of Lexington, Irmo, and White Rock grew up around its shores. St. Andrews and the Broad River Road corridor community are midway between Irmo and downtown Columbia. The construction of the interstate highway system in the 1960s transformed the Study Area into a moderately dense suburban community, and a major office and retail employment hub for the region. The Study Area represents first wave of suburbanization of the City of Columbia. The Piney Grove neighborhood is considered as home to one of the first African-American communities in the Columbia region. Today, much of the regional growth is still moving to the west but most recently into Lexington County , there is increased demand into northeast Richland County. Fig. 2.4 illustrates the development patterns from 1939 thru 2009.

Malls

The grand opening of "the largest mall in the Carolinas" – Dutch Square Mall – was celebrated in 1970. Soon, a retail hub grew up around it to include Kmart, Boozer Shopping Center, Service Merchandise, and Circuit City. This lasted for twenty years, until the Columbiana Mall opened five miles to the north at Harbison Boulevard. The freshness of Columbiana caused the demise of Dutch Square mall which eventually went through bankruptcy. Also during the 1970s and 80s numerous corporate office parks were constructed in the corridor Study Area with a large concentration of them south of I-20 and particularly, along Greystone Boulevard and Colonial Life Boulevard. These provide a strong employment base of comparably high paying jobs.

Circulation

The Santee River system was a determining factor in the establishment of the frontier fort and settlement which became Columbia. The confluence of the Broad and Saluda rivers occurs at the Piedmont fall line. This marks the furthest location downstream where water power can effectively turn a mill. It also typically marks the end of navigation for boats and barges headed upstream. As such, Columbia established itself as a textile, and later, steel mill town and also as a trans-shipment point for agricultural products including raw cotton, finished yarns and fabrics produced by the mills. This water route functioned for almost fifty years between 1800 and 1850 with the Santee canal providing the vital link to Charleston.

The Cherokee Path traversed the state from Charleston to the piedmont following the Cooper, Santee, and Congaree Rivers to a point south of present day Columbia and proceeding overland to Ninety Six and then on to Keowee in the foothills. As European colonists (and their horses) arrived, trails were expanded into dirt paths and then into roads widen enough to accommodate wagons and buggies.

By the 1840s the railroad lines reached Columbia. Their speed and relative dependability made both river and equestrian travel obsolete. At first, most rail traffic was freight with infrequent passenger service. The rivers remained an important source of hydropower to operate the mills which drove the local economy.

Soon highways were constructed where the horse trails and wagon roads once ran, making transportation accessible as personal automobiles became commonplace. Bridges across the rivers were constructed where it was most efficient; at the narrowest points. In this way, bridges were built(from south to north) at Blossom Street, Hampton Street, Elmwood Street (now I-126, west to the rail line), and finally at River Drive which upon crossing, became Broad River Road. North of the Broad River Road Bridge is the dam and lock system that maintained a flow of water into the Columbia Canal excavated along the river's eastern bank.

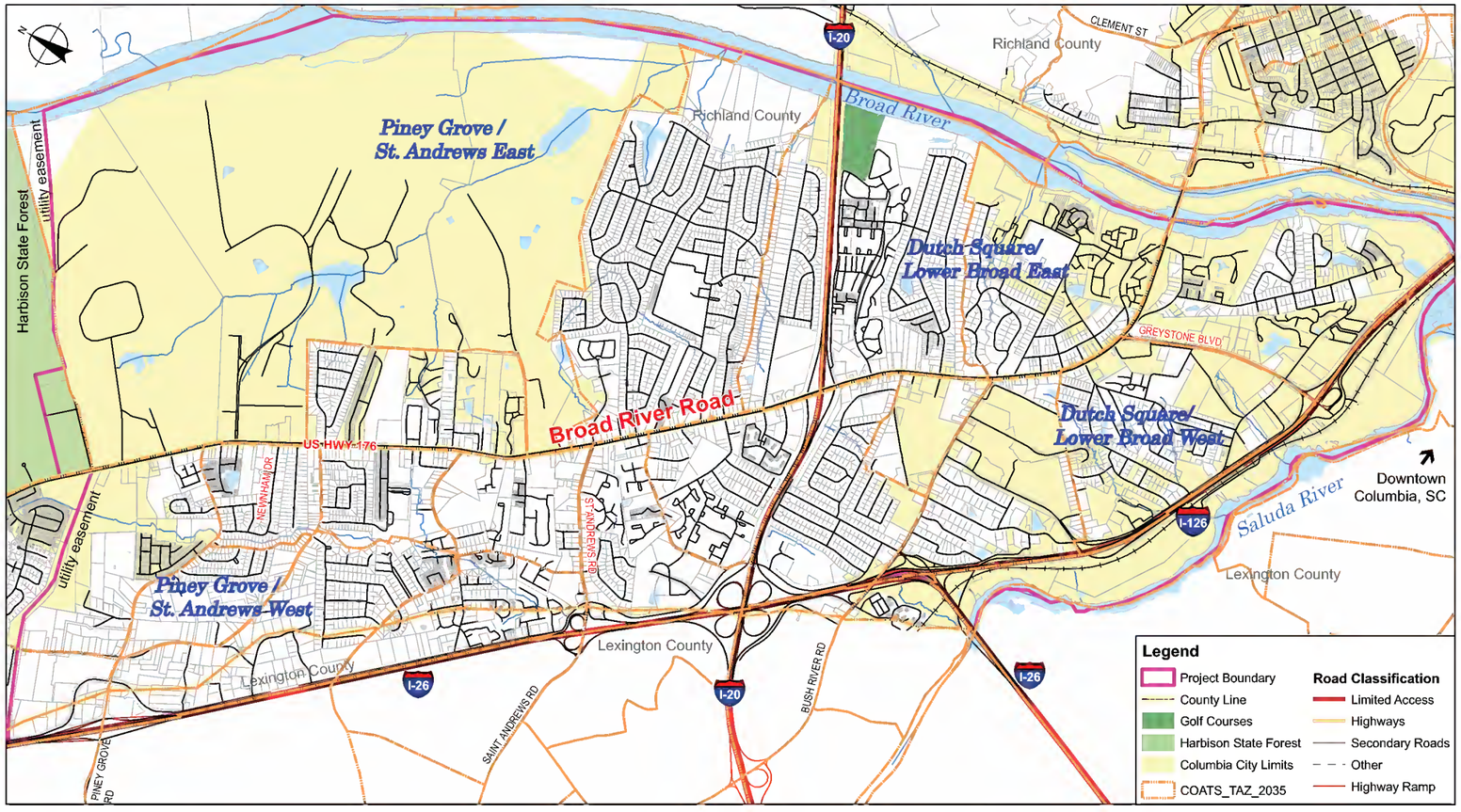


Figure 2.5 Transportation Map

The second half of the 20th century saw great prosperity in the region and Columbia became suburbanized. During the 1950s and 60s the Broad River Road corridor was an important shopping and service area for residents. The '60s also saw the construction of the Interstate system which divided the Broad River Road corridor area in half (creating the "Upper" and "Lower" Broad districts) and separated these from the St. Andrews and Bush River Road communities to the south. The 1950s and 60s saw the suburbanization of Columbia. Broad River Road became a major road servicing the area and 1961 saw the completion of I-20 and I-26 locally. Unlike many state highways, US 176 / Broad River Road functioned for only a short while before the adjoining interstates were complete. Therefore, it's "demise" cannot be completely blamed on a shift of traffic from surface road to Interstate.

Rail transportation played an important role in the region's growth by moving agricultural products, primarily cotton bales. Today, Columbia is served by daily Amtrak service via the Silver Star route along the east coast linking cities from New York to Miami. Figure 2.5 illustrates the existing transportation network within the Study Area.

PLANNING CONTEXT

The Richland County Neighborhood Improvement Program was established by County Council to coordinate and fund neighborhood master plans and improvement projects in Richland County. The program is a partnership between County government and neighborhood organizations. On March 1, 2005, the Richland County Council approved the first 10 priority focal areas for Neighborhood Master Planning. Once approved by County Council, the Broad River Road Corridor and Community Master Plan will be incorporated into the Richland County Comprehensive Plan. The Neighborhood Improvement Program is tasked with ensuring completion of the master plans and working with Council to initiate the plans' respective strategies.

The Broad River Road Corridor and Community Study Area incorporates two of these Neighborhood Planning Areas. These include; Dutch Square/ Lower Broad River Neighborhood Planning Area and Piney Grove/ St. Andrews Neighborhood Planning Area. The County is divided into five planning areas; North West, North Central, North East, Beltway, and South East. The aforementioned neighborhood planning areas within the Study Area boundaries are within the North West (Piney Grove/ St. Andrews) and Beltway (Dutch Square/ Lower Broad River) Planning Areas. Figure 2.6 illustrates the various Neighborhood Planning Areas in Richland County and the Study Area's location in relation to its surroundings. Figure 2.7 shows a detailed boundary for each neighborhood within the Study Area.

In addition, the Richland County Comprehensive Plan identifies the Dutch Square/ Broad River Road and the I-26/ Broad River Road exit as a Priority Investment Area. Priority Investment Areas are designated areas outlined in the Richland County Future Land Use Map as areas where growth is envisioned to be concentrated.

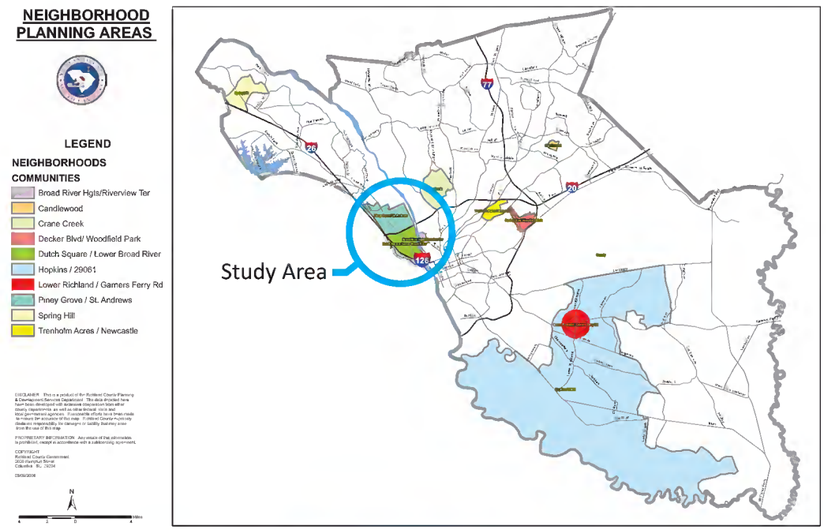


Figure 2.6 Showing Study Area within neighborhood planning areas.

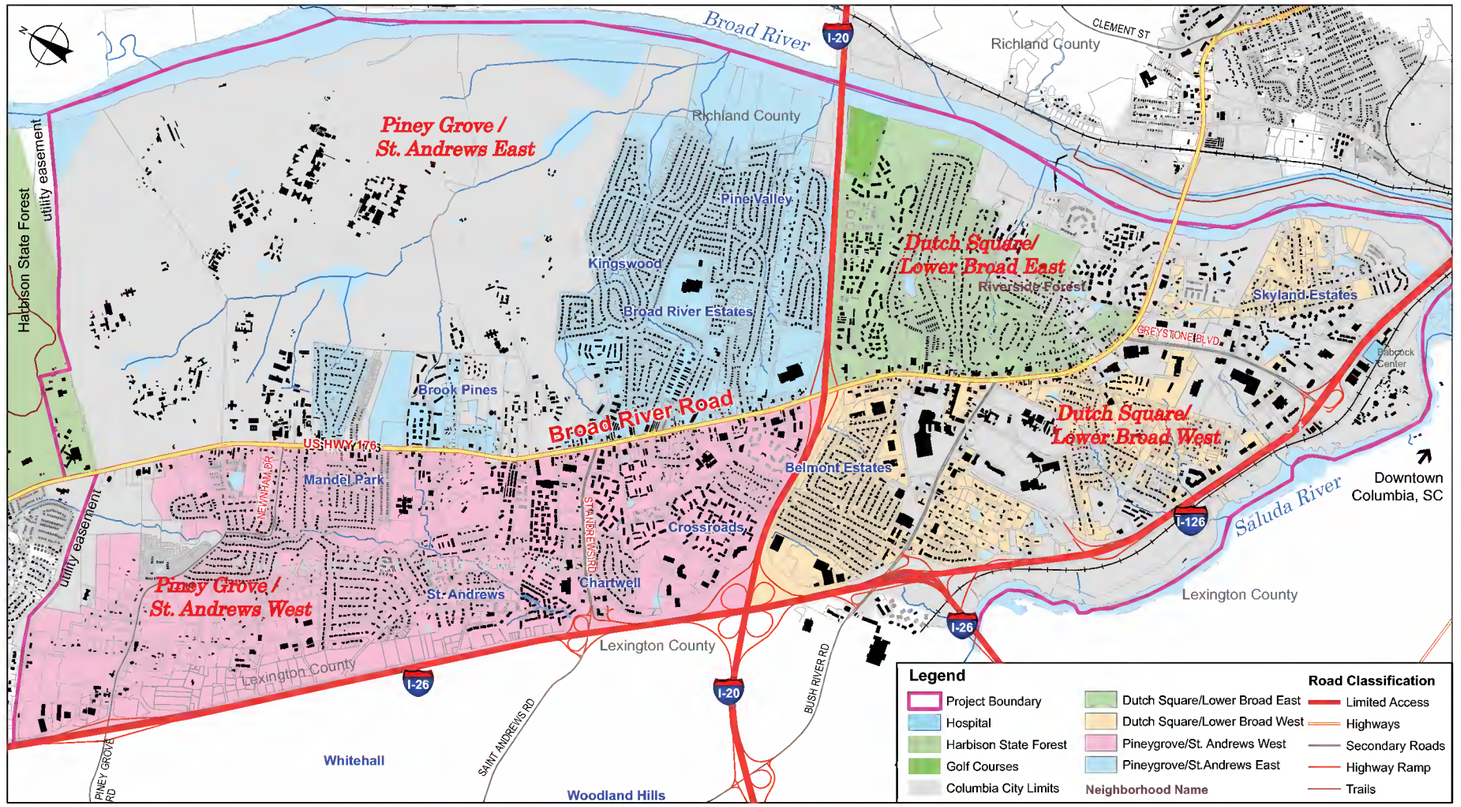


Figure 2.7 Neighborhood Map

Future Land Use

The Richland County Comprehensive Plan (2009) evaluates how the population is growing and changing, identifies where people live and work and provides measures for protecting the County's natural and cultural resources. Furthermore, the Plan addresses issues of land use in an effort to accommodate changes to the population, housing, and economic conditions. The Future Land Use Map serves as a guide for growth and does not change the current zoning of any area. When rezoning requests appear before the County, this Map will guide decision-making and assist in determining whether the proposed rezoning is in accordance with specified goals for future growth.

The Broad River Corridor and Community Study Area include desired future land uses for the two inclusive designated neighborhood planning areas; Northwest and Beltway Planning Areas. The Future Land Use Map envisions the Northwest Area as a Suburban/ low density area. The Beltway Planning Area which consists of the Dutch Square/ Lower Broad River neighborhoods is identified as the Urban Land Use district where high-density growth will be concentrated in the future. The Dutch Square/ Lower Broad River Neighborhood Planning Area is designated as an Urban Village and Suburban Priority Investment Area by the County's Future Land Use Map.

Suburban Priority Investment Areas

The I-26/ Broad River Road Exit and Dutch Square/ Broad River Road are identified as the two Priority Investment Areas within the district. According to the County's Comprehensive Plan, these areas are envisioned to contain a deliberate mix of residential, commercial, and civic uses. Housing should be varied at moderate densities (4-16 dwelling units per acre) and should include affordable housing. "Complete streets" should be available with access for vehicles, cyclists, and pedestrians and open space should be included and respected.

Zoning

Zoning serves as the primary tool for implementing the goals, objectives, and policies contained in the Comprehensive Plan. By acreage, more than half of the Study Area has been annexed into the city. However, after excluding the criminal justice and corrections campuses, we find that only seventeen percent of the land is within city limits and that over eighty-five percent of this is a non-residential use. Study area parcels annexed by the City show the opposite allocation of zoning districts having a concentration of office and commercial districts and comparatively little residential.

Currently, the Broad River Corridor and Community Study Area contains over 30 distinct zoning categories that represent five general development types— single-family residential, multi-family residential, commercial uses, industrial uses, and institutional uses. Since portions of the Study Area lie within the jurisdictional boundaries of both Richland County and City of Columbia, these zoning district classifications seem redundant in some instances. Most zoning within the Study Area consists of Residential zoning (largely multi-family and single-family) concentrated in the center of the Study Area and General Commercial (GC) along the major corridors fronting Broad River Road, St. Andrews Road, Bush River Road and Greystone Boulevard. The Planned Development (PD) district currently is the only designation that does not prohibit mixed-use development, however, development controls such as density, bulk, height, and design standards are also not stipulated in the zoning code for this district.

In analyzing the existing regulations, there isn't much variation in the requirements as it relates to density, setbacks, or minimum lot requirements. The following are some key observations related to the Richland County and City of Columbia zoning codes as it relates to the Study Area:

- Lack of mixed-use designations that could be applied to the compact high-density development patterns envisioned in this plan;
- The number of zoning districts can be greatly reduced without significant effect on neighborhood character;
- The code's use classification system should be modernized and streamlined;
- Urban design standards such as heights and bulk controls need to be incorporated into the code supported with relevant graphics, tables and charts.

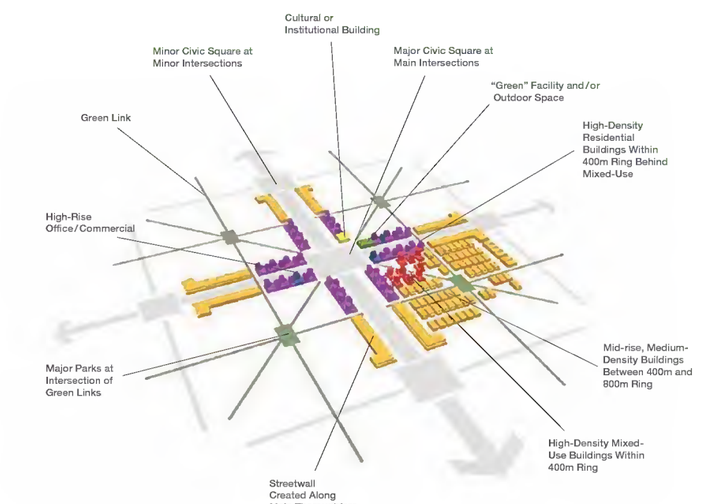
Emerging Planning Trends

Mixed-Use Development is a more efficient model of redevelopment and infill development than single-use development because it allows for multiple land uses – residential, commercial retail, commercial office, and lodging that can be integrated into a single block, building or site.

Combining different activities into a single site (or building as a mixed-use development), makes better use of valuable land, allows for common site servicing, and provides economies of scale for other infrastructure costs. Moreover, mixing residential and commercial uses adds vitality to downtown neighborhoods by extending street activity beyond the typical nine-to-five work day. Because people are occupying, coming from, and going to buildings for longer periods of the day, the resultant "eyes on the street" add to a feeling of neighborhood safety and community care. The ability to walk to work, shopping, recreation, and entertainment venues on pedestrian-friendly streets reduces reliance upon the private automobile and encourages use of public transit.

Transit-Oriented Development (TOD) promises to respond to urban challenges of the 21st Century by developing sustainable and compact neighborhoods where all residents are within a 5-10 minute walk of quick and efficient public transit. Mixed-use development, attention to density and scale, pedestrian- friendly streetscapes and a variety of housing forms are some of the characteristics that define TOD villages. An integration of transportation and land use planning, as well as other elements – market demands, environmental systems, community input and technical efficiencies – are essential in a planning process centred on the principles of transit-oriented design.

Context Sensitive Design contributes to transforming large transportation infrastructure investments – roadways, causeways and bridges – into public assets with a sense of community. CSD treats non-engineering aspects of context – historic, social and cultural values of community as well as the natural and aesthetic environment – with the same importance as the engineering aspects.



MASTER PLAN GUIDING PRINCIPLES

Prior to the preparing detailed recommendations for the Broad River Road Corridor and Community Master Plan, it was imperative to establish a set of principles for future development including transit oriented development. The primary strategy of the project team was to provide a set of comprehensive principles for the Study Area to help create vibrant places with a strong sense of community and pedestrian-friendly neighborhoods.

Seventeen planning principles are defined for the Study Area. These principles will help to direct growth toward creating a successful transit oriented community, and should be used as a framework to shape development around the identified Redevelopment Nodes and Neighborhood Planning Areas.

These planning principles have been compiled through an analysis of precedents and have been tested on projects of similar scale and nature, executed previously by the project team.

1 INTERCONNECTED STREETS

An interconnected street pattern is a traditional urban design technique that reduces congestion, encourages travel choice, and supports mixed use development.

2 COMPACT DEVELOPMENT

The scale of transit oriented development approximates the scale of the pedestrian. The extent of these neighborhoods is based on a comfortable walking distance from edge to center.

3 MIXED LAND USES

A mix of diverse and complimentary land uses in a compact pattern allows residents and workers to walk to work or to shop rather than driving for all daily needs.

4 WALKABILITY

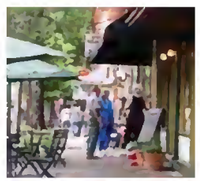
Pedestrian-friendly environments allow walking to be a pleasant, safe, and efficient alternative to (or extension of) the automobile.

5 OPEN SPACE

A variety of public open spaces contribute to a sense of place, healthy communities, and reduces the need for private open space for each household or workplace.

6 PUBLIC REALM

Transit oriented development is defined as much by its public realm as its private development. Public and semi-public spaces enable the neighborhood infrastructure to build community bonds, social interaction, and community participation.



7 COMMERCIAL CENTRE

Retail streets provide the goods and services of daily life, activate the street, reduce auto-reliance,
and increase ownership and safety of
the pedestrian realm.

8 TRANSIT STATION / STOP

Transit is at the heart of transit oriented development and transit facilities should be designed to connect with, not be isolated from, the surrounding neighborhood.

9 STREETSCAPE DESIGN

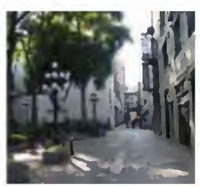
A highly connected street pattern with design elements coordinated to provide visual interest, pedestrian amenity, and sense of place improve the desirability of walking and shortens perception of distance.

10 MIXED USE BUILDINGS

Vertical and horizontal integration of uses encourages more people to live in transit oriented developments, ensuring evening and weekend use of buildings and providing valuable ‘eyes on the street’.

11 ARCHITECTURAL VARIETY

Promoting an architectural style that is pedestrian friendly, contains visual variation and, with improved economics of higher density, higher quality building materials.



12 NARROW & CALMED STREETS

Reduced street widths in combination with an interconnected street grid, will accommodate auto traffic in a manner that is safe, efficient, and compatible with increased pedestrian traffic.

13 STREET FACING BUILDINGS

Buildings should be placed near streets, not behind parking areas, to better define the street. Streetfront retail should be provided to humanize the building wall and activate the sidewalk.

14 REDUCED PARKING STANDARDS

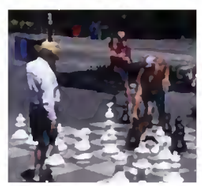
By reducing parking standards to reflect increased transit use and walking, the amount of site area that can be used for active uses or public amenities increases.

15 BICYCLE FRIENDLY STREETS / PARKING

Bicycles are efficient ways to expand the service area of the station without relying on automobiles or bus service. Bike lanes, bike routes, and secure parking make the bicycle an easy option.

16 MARKET ACCEPTANCE

Experience shows buyers and renters will choose smaller infill housing types when compared to their suburban counterparts, especially when located near community amenities and access to rapid transit.



17 PUBLIC ART

Public art adds meaning and value to public spaces. It increases a sense of place, belonging and provides a lasting cultural legacy.

Chapter 3

Community Involvement

Public involvement has been a vital component of the planning process in the preparation of this master planning document. The purpose of this citizen-led effort was to obtain insight into the issues and concerns of residents, business owners and property owners in an effort to determine their vision for the community's growth for a twenty-year planning horizon. Additionally, stakeholder focus group meetings were conducted at the onset of the project to obtain input relating to the community's assets, critical issues associated with the project, existing planning efforts and proposed projects that would help define a clear scope for the initiative.

This chapter of the Master Plan synthesizes the community's feedback solicited during the visioning process, stakeholder meetings, community workshops, and design "charrettes" conducted by the consultant team under the leadership of the CMCOG and Richland County. The information gathered during these community and stakeholder driven meetings form the basis for the recommendations and action strategies presented in this Plan.

From July 2009 to August 2010, over the course of several public workshops and internal staff meetings, the consultants worked with a diverse group of participants including residents, business owners, county officials, elected officials, and government representatives to create a vision that reflects community's desires related to the future growth of the neighborhoods that constitute the Broad River Road Corridor Study Area. More than 300 residents and stakeholders came together to participate in the visioning process to explore new concepts and opportunities for the revitalization of the St. Andrews community. Among the most innovative aspects of this process was the diverse range of community involvement techniques utilized by the participants to create a distinct identity for the Study Area. The following section provides a brief summary of the various meetings and workshops conducted during the planning process.

FOCUS GROUP MEETINGS

In October 2009, the consultant team initiated the community involvement process through a series of focus group meetings intended to obtain input from those who will be responsible in the implementation of the Broad River Road Corridor and Community Master Plan. Meetings were held with various stakeholders to obtain input relating to the community's assets, critical issues that needed to be addressed during the planning process, existing planning efforts and proposed projects that would help define a clear scope for the Master Plan. The groups invited to participate in these meetings included governmental representatives, County staff, key property owners and business groups, and civic groups. The following is a summary of the feedback received during the meetings.

FOCUS GROUP A – October 28, 2009 - 11:00 AM
Columbia Chamber of Commerce
City of Columbia Staff

List of Attendees
City of Columbia
Krista Hampton – Development Center Administrator
Marc Mylott – Director of Planning & Zoning Services
Chamber of Commerce
Courtney Herring – Public Policy CACCE Co-Director

FOCUS GROUP B – October 28, 2009 - 10:00 AM
CMCOG
SCDOT

List of Attendees
CMCOG
Reginald Simmons – Transportation Director
Gregory Sprouse – Principal Planner
Wayne Shuler – CMCOG
SCDOT
Lad Gibson - Program Manager - SCDOT
Jim Freyerson – Mass Transit Division, SCDOT

FOCUS GROUP C – October 28, 2009 - 10:00 AM
Richland County Staff

List of Attendees
Joe Kocy – Director of Planning
Carl Gosline – Transportation Planner
Brenda Carter – GIS Coordinator

FOCUS GROUP D – October 29, 2009 - 11:15 AM
Harbison State Forest – SC Forestry Commission
Richland County Sheriff
Richland County EMS

List of Attendees
Richland County Sheriff
William (Bill) McRoberts – Community Service Officer, Richland County Sheriffs Office
Richland County EMS
Neil Ellis – Emergency Manager
Harbison State Forest – SC Forestry Commission
James Miller - Manager of Harbison State Forest, SC Forestry Commission

FOCUS GROUP E – October 29, 2009 - 12:30 PM
Richland County Council Members
Richland County Administrator
Richland County Transportation Committee Chairman
Richland County Council

List of Attendees:
Kit Smith – Richland County Council
Richland County Administrator
J. Milton Pope – Richland County Administrator
Richland County Legislative Delegation
James C. Brown – Chairman, Richland County Transportation Commission

Focus Group Meeting
Mitzi Javers with CMRTA
November 12, 2009

Focus Group Meeting
Council person Joyce Dickerson
November 12, 2009

COMMENTS:

- A need for enhanced transit service within the corridor such as increased frequencies, bus shelters, transfer sub-stations, better signal timing, and park and ride facilities
- A need for increased pedestrian access between neighborhoods, employment centers, commercial areas and transit facilities
- A need for increased coordination between the city and the county to meet infrastructure needs, regulatory challenges and development objectives
- A need for a more integrated network of park and recreation facilities to include multi-use trails, neighborhood pocket parks, greenways and community centers
- A need for increased public investment in the corridor to include infrastructure improvements as well as the development of other public facilities that could serve as a catalyst for private investment. Examples include County administrative buildings, transit facilities, parks and community centers.
- The master plan needs to focus on utilizing existing assets and institutions within the corridor, such as the Riverbanks Zoo, Harbison State Forest, the Criminal Justice Facilities, Richland School District One, and the Three Rivers Greenway
- The master plan needs to account for the interests of existing businesses, residents, and other private stakeholders who are essential to the redevelopment process
- The master plan should encourage coordination between SCDOT and the local jurisdiction to develop context sensitive design solutions for addressing transportation problems within the corridor
- The master plan should support efforts by SCDOT to improve the I-26/I-20 and I-20/Broad River Road interchanges, which are key contributors to peak hour congestion within the corridor

COMMUNITY MEETINGS

Workshop 1: Community Information Meeting
December 7- December 9, 2009

The first community workshop for the project was held December 7th through December 9th, 2009 at the Dutch Square Mall. The meeting was a great success and was attended by over 175 participants. The IBI Group team facilitated the workshop in a presentation format for the first hour and then opened it up to questions from the audience during the second hour. The primary purpose of the workshop was to educate the community on the anticipated planning process for the study, and to share preliminary findings related to demographic and economic trends. Community feedback from all three evenings was collected though a questionnaire that was distributed to the audience during the “Q & A” session.

Workshop 2: Planning Charrette
May 11- May 13, 2009

The second series of workshops for the Master Plan was organized as a “charrette” led by the consultant team. The charrette process is a highly interactive process that allows the workshop facilitators to engage the audience in meaningful participation. Workshop #2 was held on three consecutive nights: May 11th through May 13th.

Session 1: SWOT Mapping
After the consultant’s presentation the audience was divided into six (6) break-out groups to discuss the Strengths, Weaknesses, Opportunities and Threats (SWOT) for the Study Area by specific geographic area. For example, the employment area along Greystone Road was identified as a project strength and the traffic problems at Interstate 20 & Broad River Road was identified as a weakness. The following maps summarize the strengths, weaknesses, threats and opportunities identified by the community for the Study Area.

Session 2: Draft Conceptual Plan Development and Presentation
Night #2 began with a presentation of the findings from Night #1. Information from all six groups was combined by the consultant team into an area-wide strengths, weaknesses, opportunities and threats (SWOT) plan. From these findings a Conceptual Plan was developed for the Study Area and presented to the audience representing solutions to the problems identified during the previous evening. The six break out groups re-convened to validate and improve on the ideas and concepts developed by the consultant team.

COMMUNITY SWOT MAPPING - PINEY GROVE/ ST. ANDREWS EAST

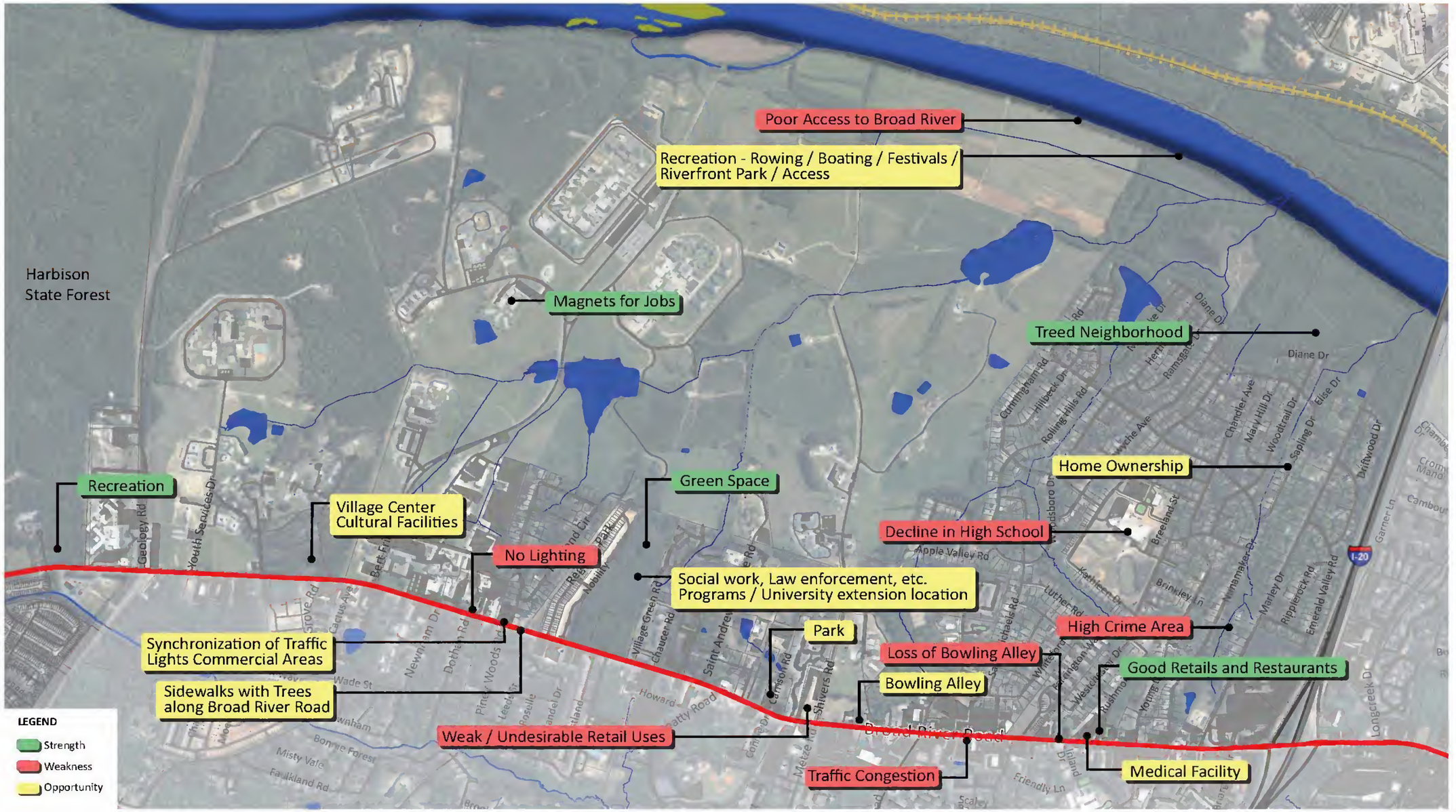


Figure 3.1 Community SWOT Map: Piney Grove / St. Andrews East

COMMUNITY SWOT MAPPING - PINEY GROVE/ ST. ANDREWS WEST

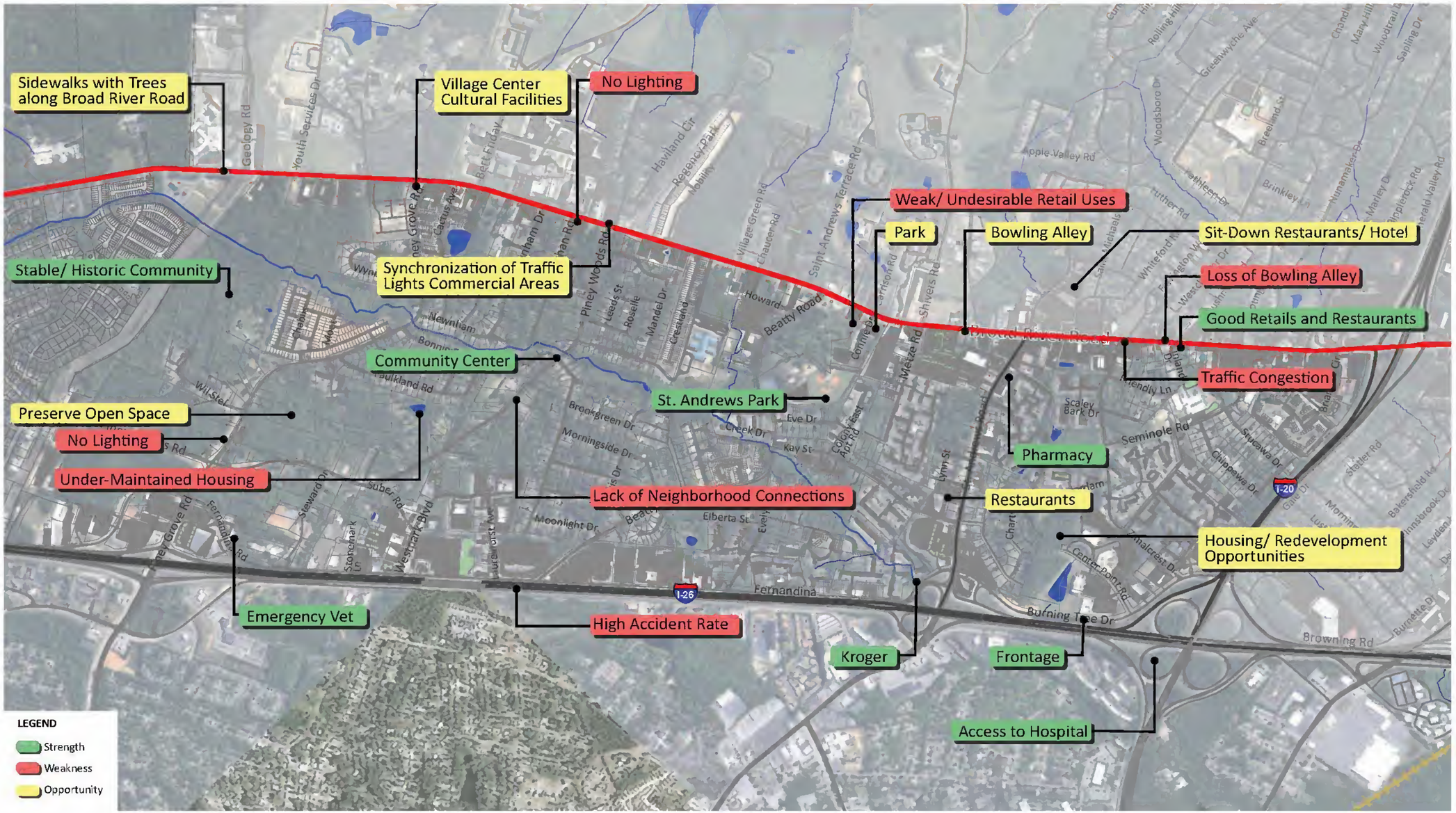
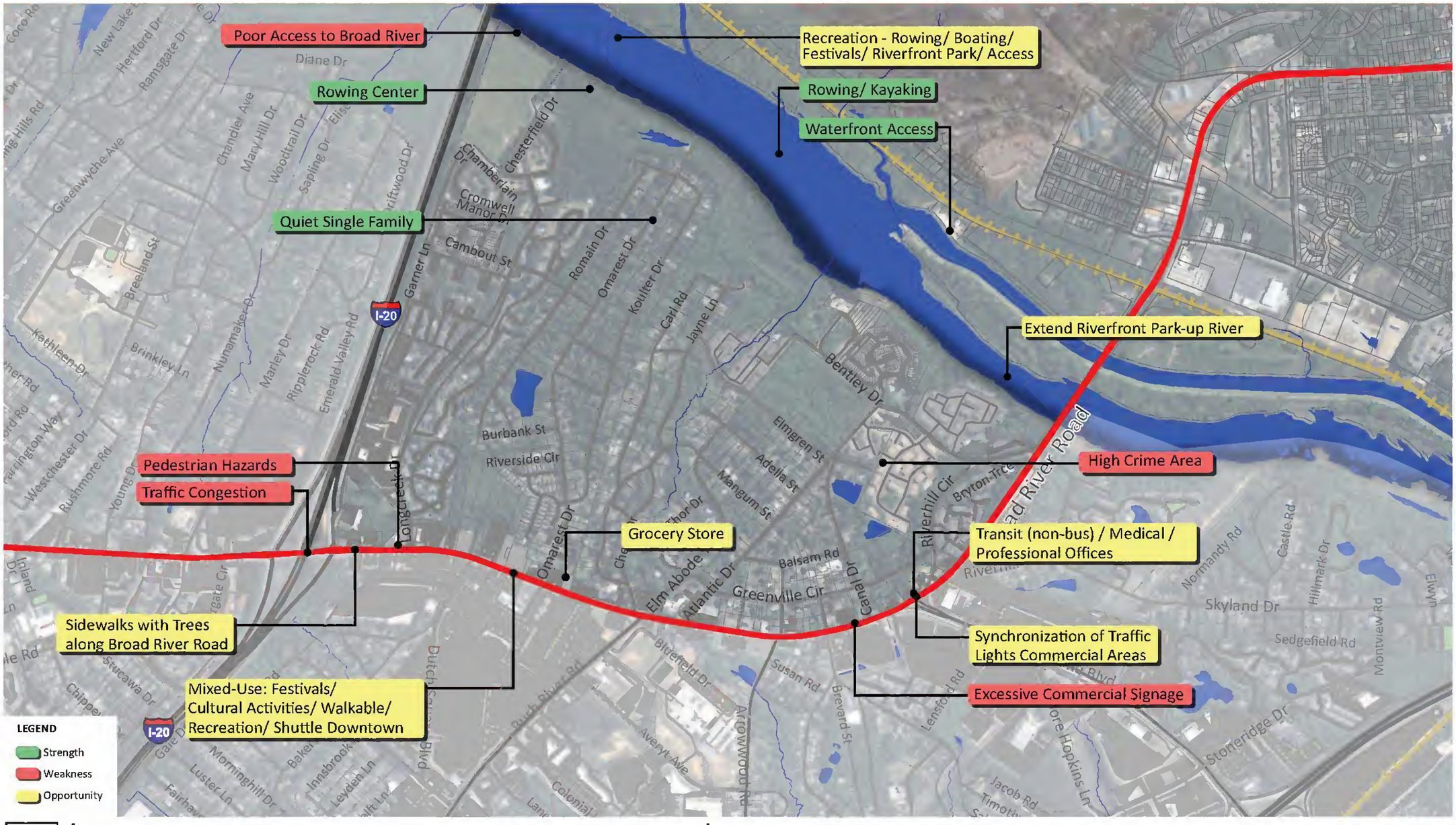


Figure 3.2 Community SWOT Map: Piney Grove / St. Andrews West

COMMUNITY SWOT MAPPING - DUTCH SQUARE/ LOWER BROAD EAST



IBI GROUP

IBI Group, Inc.
Central Midlands Council of Governments, Richland County, South Carolina
May 20, 2010

Broad River Road Corridor and Community Study

Figure 3.3 Community SWOT Map: Dutch Square / Lower Broad East

COMMUNITY SWOT MAPPING - DUTCH SQUARE/ LOWER BROAD WEST

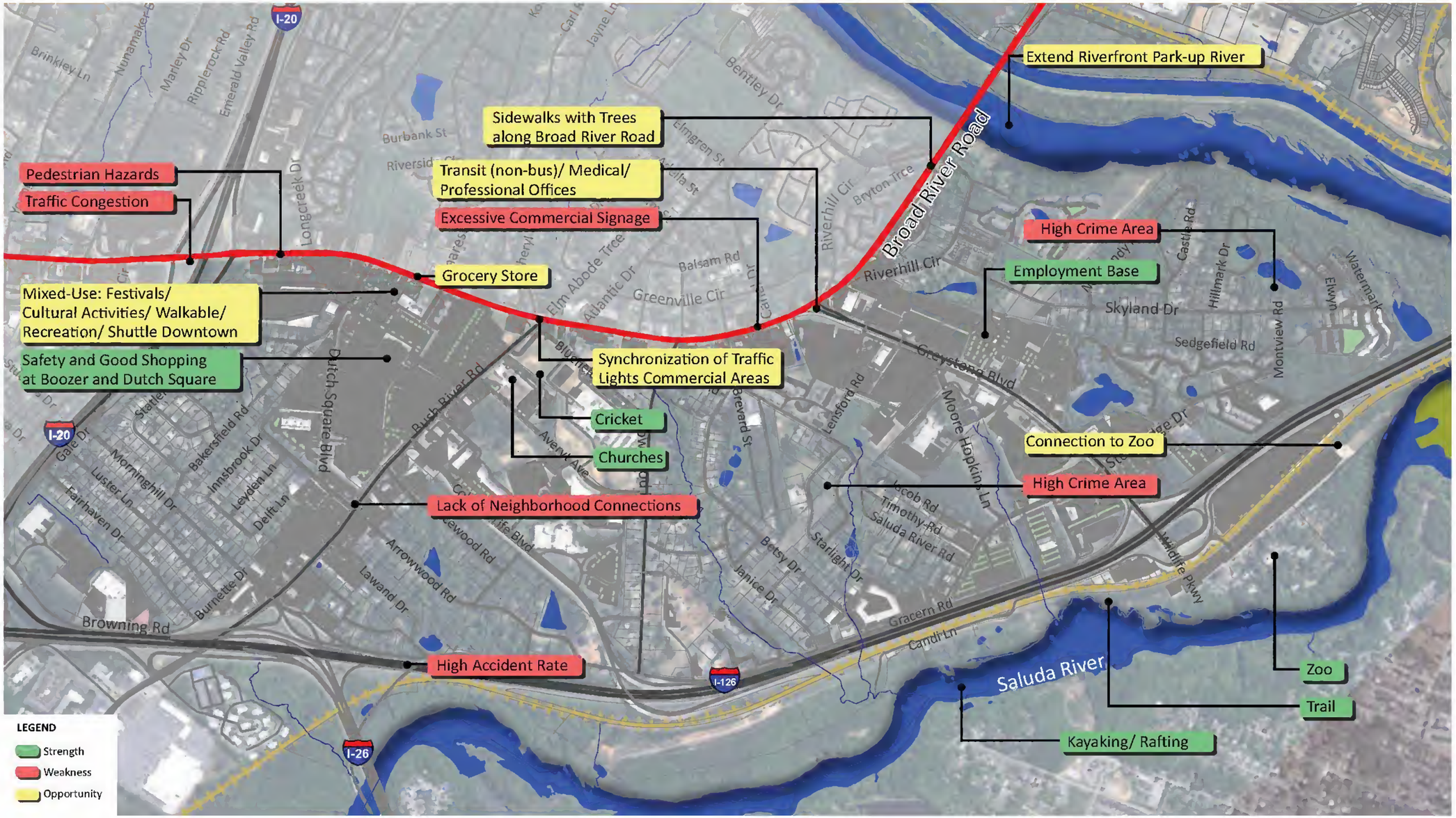
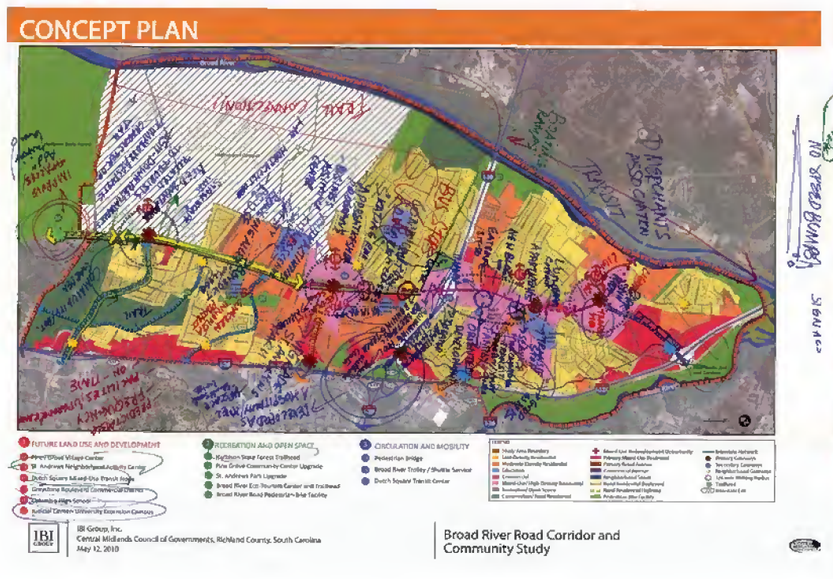
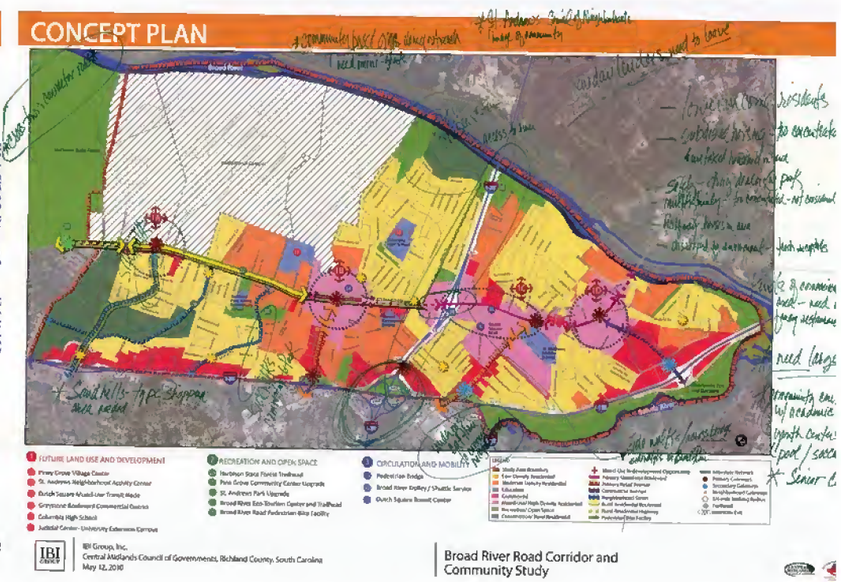


Figure 3.4 Community SWOT Map: Dutch Square / Lower Broad West

Session 3: Community Validation and Precedent Analysis

Night #3 began with a presentation of the Conceptual Master Plan. The six groups reconvened to review and analyze four specific redevelopment sites featured on the Conceptual Plan; Piney Grove/Broad River Road Area, St. Andrews/Broad River Road Area, Broad River Road extending from Interstate 20 to Bush River Road and the Greystone Boulevard Corridor. The consultant team received valuable insight from the participants on where to focus attention and what types of improvements they believed would most greatly facilitate economic development and aesthetic improvement along the Broad River Road corridor and the community as a whole. In addition, the participants engaged in an interactive exercise by identifying areas of varying intensities and character, based upon selected photographs that represented different development types and built form examples from case studies across the state and the country.






Balsam Rd
Greenville Cir
Canal Dr
Transit Hub
Riverhill Cir
Greystone Blvd
P

PLAN FRAMEWORK

The Broad River Road Corridor and Community Master Plan defines a clear vision, provides policy direction for future growth and defines parameters for economic development. It also serves as guideline for promoting the sound development and redevelopment of properties within the Study Area. Proposed recommendations and identified opportunities reflect the community's expressed desires, placed within the context of market realities and the current economic crisis faced by communities across the nation. Additionally, this document incorporates various concepts, projects, and strategies presented in previously adopted plans into an organized system of implementable action strategies that should be pursued for the successful realization of area's revitalization.

The Master Plan involved a thorough investigation of the area's existing conditions utilizing an extensive community input process. Through the leadership of the Central Midlands Council of Governments and Richland County, several infrastructure and physical improvement projects are expected to be implemented in the next twenty years to establish a foundation supporting the reinvestment and accelerating positive change in these neighborhoods. The neighborhood planning principles were formulated after analyzing the existing assets, the business climate in the Study Area and its surrounding areas, and existing county-wide programs and initiatives. These principles reflect the values and concerns of the community described by the residents and stakeholders during a series of workshops and focus group meetings conducted as part of the master planning process.

While the impact of the constrained national market conditions on the Broad River Road Corridor does imply a slower than usual growth rate and shortage in private sector investment in the near-term, it does not reduce the redevelopment potential and the untapped opportunities offered by the area's assets after the economy stabilizes. The Broad River Road Corridor and Community Master Plan is a guiding document for local government actions, designed to overcome deterrents to desired future growth and development in order to stimulate private investment. This Master Plan document is not intended to be static. Over time, the objectives and strategies of this Master Plan should be updated and revised based upon changes in the economy, relevant public concerns, and opportunities associated with private development proposals.

Opportunities for public improvements, redevelopment activities and proposed future land use composition are identified and graphically illustrated on the concept graphic (shown on the following page). The purpose of the Concept Plan graphic is to provide a holistic and simplified representation of the elements identified in the Master Plan. The narrative supporting the graphic translates environmental preservation efforts, economic development strategies, future land use classifications, and community activities into a physical land use program. Preserving and maintaining the existing fabric and character of the area's stable neighborhoods and the natural and cultural amenities while promoting quality growth and economic diversification is one of the primary goals of this master plan.

The Urban Design Plan identifies elements of private and public space that interact and contribute substantially to a well-defined "sense of place" and the catalyst projects that are needed to achieve the plan vision.

Plan Elements

This section of the document is organized into the following five chapters (Chapter 4 through Chapter 8) that represent the overriding themes identified through the planning process. These overriding themes are intended to serve as the foundation for pursuing an integrated approach towards promoting the development of compact and complete communities. "Complete Communities" are neighborhoods or districts that support the principles of Transit- Oriented Development, Smart Growth and New Urbanism- increased densities complemented by a diversity of housing types, services, and amenities served by an efficient multi-modal transportation network.

Chapter 4: Land Use and Development Characteristics

This chapter addresses the key attributes of the downtown's physical character; future land use composition; proposed development projects; development intensities and densities; affordable housing; and the seven character districts.

Chapter 5: Circulation and Mobility

The Circulation and Mobility chapter includes proposed improvements to the following; street and alley network, bicycle and pedestrian connectivity, trail network, multimodal transportation, and parking management.

Chapter 6: Urban Design

The primary issues addressed in the chapter relate to the public and private realm design guidelines including the following; streetscape design, gateways, open space and waterfront design, transit-oriented development principles, street grid and views, pedestrian connectivity, wayfinding and signage, site planning, building massing and bulk control criteria, architecture and historic preservation guidelines.

Chapter 7: Economic Development

The primary focus of the Economic Development chapter is related to downtown's regional context, employment base, tourism related events, marketing and promotion, strategies related to retaining and attracting businesses, and potential impacts of the transit service provision.

Chapter 8: Public Facilities and Amenities

This chapter addresses issues impacting the provision of the primary civic realm infrastructure including utility network, stormwater systems and telecommunications. Also, community facilities related to educational and cultural resources including; civic center, library, schools, public safety, parks, public restrooms, arts and culture facilities and programs, and other civic amenities.

Each plan element (presented as individual chapters) contains an overview section at the beginning that describes the existing conditions and its relationship to the Master Plan. The presentation of these elements is designed in a manner that addresses strategies from a regional level to the corridor level and finally to the neighborhood level. Each plan element is summarized by a brief overview that discusses the area-wide issues and opportunities, followed by a list of recommended action strategies that will ensure successful implementation of this plan. Special/ Catalyst Projects are described throughout the document connecting the overall corridor vision with strategic individual initiatives. Maps, tables, and illustrative renderings support the text in each chapter.

The Master Plan contains descriptions of several types of projects and programs, including; capital projects, private development, and government programs. Capital projects are those that are funded solely by the public sector to address specific infrastructure needs such as roads, utilities, streetscapes, parks and other municipal facilities including detailed planning and design studies to further evaluate specific improvements. The Master Plan also contains projects that provide opportunities for Richland County, the City of Columbia, and the private sector to work together towards mutually beneficial development activities. The public and private sectors can bring different resources and capabilities to bear on projects that fulfill the objectives of the Master Plan that otherwise might be unsuccessful. For these projects, public costs are undetermined at this time because the County's role in each will be defined through negotiation at the time of the project.

Finally, the Master Plan anticipates that Richland County will pursue various actions for the implementation of the suggested action strategies. Regulatory actions may need to be undertaken including revisions to the County's Comprehensive plan, land development regulations, and building codes. Land acquisition programs, such as land banking and property swapping, are not expected to be pursued at this time but may be incorporated as the redevelopment program matures to control prime development sites; thereby ensuring future development in a manner consistent with redevelopment objectives.

Objectives

The overarching objectives for the Broad River Road Corridor and Community Master Plan are as follows:

- Provide a tool for Richland County to promote development goals by showing prospective developers, public investment initiatives and redevelopment opportunities thereby reducing the developer's risk when investing in the community.
- Optimize transit operations in travel corridors to function efficiently and safely.
- Allow the County to make capital improvements projections based upon known future, public project needs, demands and proposed locations.
- Establish a framework for policy decisions that anticipate the need for densification of future development patterns.
- Facilitate the preparation of new land development regulations that provide a higher standard of urban and residential design.
- Locate mixed-use transit- oriented development nodes based upon anticipated future transit service improvements, expected market demands and reasonable residential service areas.
- Support desired social, environmental, physical and economic development strategies, as expressed by community representatives and area residents, including, but not limited to:
    - *Improve traffic circulation, pedestrian environment, and aesthetic character of the area's major roadways- Broad River Road, Piney Grove Road, St. Andrews Road, Bush River Road, and Greystone Boulevard.*
    - *Introduce the concept of "Complete Communities" in future redevelopment activities along the corridor.*
    - *Improve physical and visual access to the area's recreation and open space network.*
    - *Create community gathering destinations at strategic locations along the corridor.*
    - *Preserve the existing character of the area's stable residential neighborhoods.*
    - *Encourage infill, renovation and enhancement of residential areas and prevent commercial encroachment into neighborhoods.*
    - *Introduce mixed-use development products at varying price points at strategic locations along the corridor.*
    - *Increase home ownership opportunities.*
    - *Provide enhanced connectivity between the area's recreational resources, commercial centers, and neighborhoods.*
    - *Identify opportunities to locate essential community services in the area.*
    - *Expand existing public safety initiatives and programs.*
    - *Pursue beautification efforts and streetscape improvements, such as street lighting, traffic calming measures, and tree planting, to improve the overall perception of safety for the area residents.*
    - *Enhance the aesthetic character of the commercial corridors and neighborhood connectors to improve the community's investment image.*
    - *Promote development patterns and infrastructure improvements that ensure access to an integrated, safe, and aesthetically pleasing pedestrian environment to all residents.*
    - *Strengthen the existing network of community based services and institutions including the area schools, social service agencies, and faith based organizations.*
    - *Improve the business climate though capacity building, youth development, and workforce training.*
    - *Promote development patterns with higher densities of mixed-use in the proposed redevelopment nodes along the corridor with lower heights, building masses and residential uses in surrounding neighborhoods.*

1 FUTURE LAND USE AND DEVELOPMENT

1A Piney Grove Village Center

- Neighborhood- oriented cottage commercial uses with small-scale retail, local restaurants, neighborhood grocery store, bed and breakfast
- Public amenities- Post Office, Churches, Neighborhood Park
- Gateway Opportunity and Identity Signage
- Streetscape Improvements- wider sidewalks, tree planting, street furnishings, improved bus/ shuttle stop facilities
- Introduce shuttle/ trolley service between Piney Grove Village Center and other identified nodes along Broad River Road

1B St. Andrews Neighborhood Activity Center

- St. Andrews Middle School- improve existing streetscape character, traffic circulation, and pedestrian safety concerns
- Ensure adequate space for future expansion of school facilities
- Neighborhood Library/ Community Civic Center/ YMCA
- Business Assistance Center
- Vocational Technology Learning Center
- Joint-Use Recreational Opportunities with School District
- Streetscape Improvements- decorative street lighting, landscaped medians, directional signage, pedestrian amenities
- Primary Gateway Opportunity

1C Dutch Square Mixed-Use Transit Node

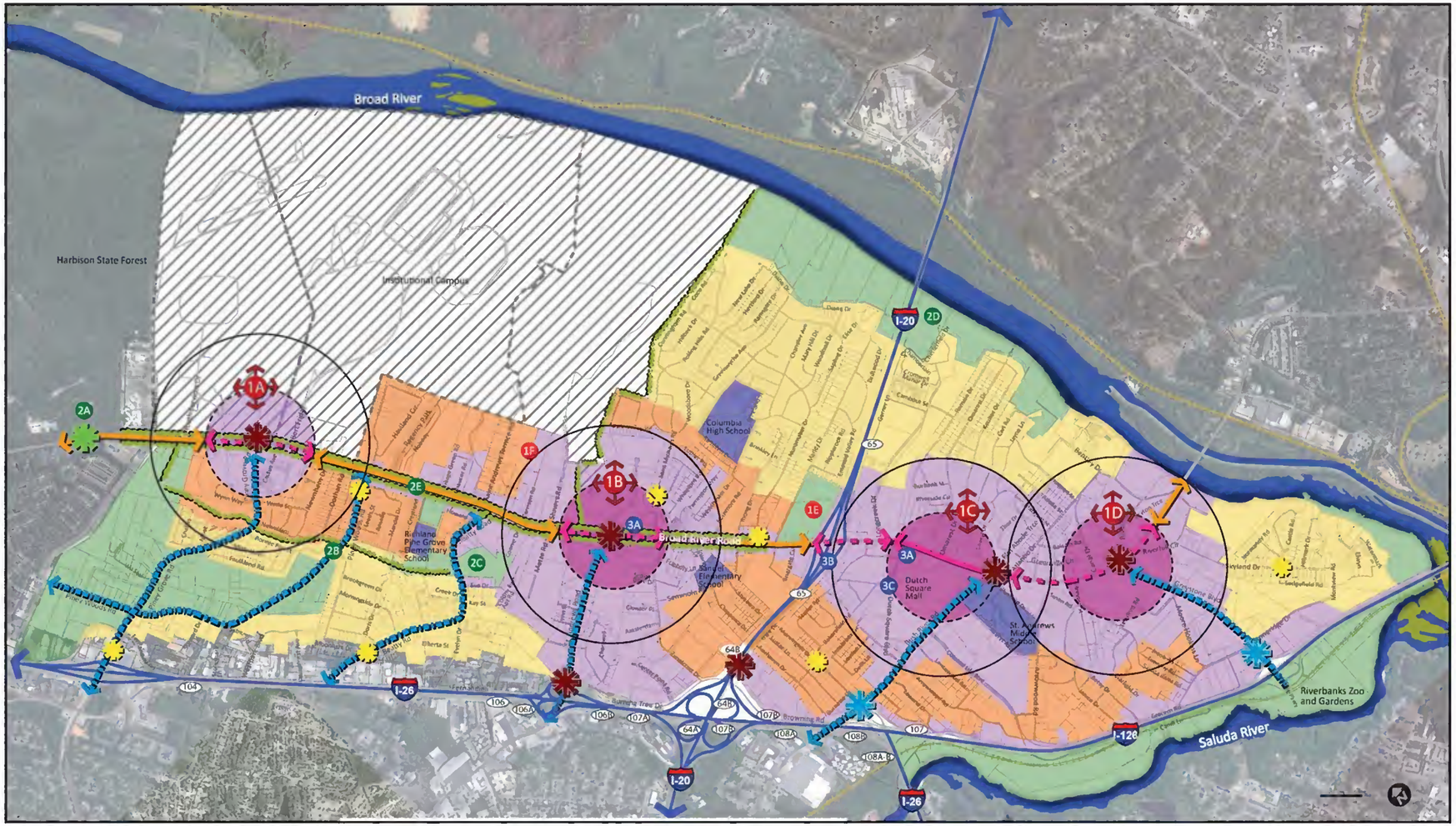
- Combined residential and commercial concept designed around future bus transit hub for CMRTA and parking structure
- Diverse housing types- townhomes, mid-rise residential, garden apartments
- Destination Restaurants and retail that promote extended hours of operation
- Class-A office space with hospitality uses
- Public Spaces- Movie Theater, Urban Plaza, Recreational Opportunities, Amphitheater
- Upgrade architectural character and site configuration with improved pedestrian connections to the neighborhoods, enhanced landscaping, and streetscape design improvements
- Primary Gateway Opportunity

1D Greystone Boulevard Commercial District

- Consolidation of large scale big-box stores and auto-dealerships into an interconnected mix of residential, neighborhood-oriented commercial, civic and regional commercial establishments
- Revise Future Land Use and Zoning to remove obstacles that discourage mixed-use development and big-box development
- Establish maximum and minimum parking requirements for all commercial uses
- Prohibit surface parking between sidewalks and retail storefronts
- Minimize driveway access points along the roadway

1E Columbia High School Joint-Use Sports Complex

1F Judicial Center- University Extension Campus



2 RECREATION AND OPEN SPACE

2A Harbison State Forest Trailhead

- Develop trailhead facility with bike rental facilities/ public restrooms/ parking
- Provide directional and monumental signage announcing entry into the Broad River Road Community

2B Pine Grove Community Center Upgrade

- Conduct a master planning study to determine the space and programming needs for the Pine Grove Community Center
- Work with neighborhood residents to increase awareness about existing programs
- Enhance visibility and access to the facility through improved signage and access management

2C St. Andrews Park Upgrade

- Connect neighborhoods to parks through a well-defined network of sidewalks and bikeways, where feasible
- Enhance visibility and access to the facility through improved signage and access management

2D Broad River Eco-Tourism Center and Trailhead

- Improve public access to the river's edge and promote the riverfront as a center of activity for area residents and visitors
- Develop a trailhead and a recreational park on public-owned undeveloped properties along the Broad River
- Enhance visual connections and physical connections to the river greenway

2E Broad River Road Pedestrian-Bike Facility

- Conduct a detailed alignment and feasibility study for developing a multi-use trail along Broad River, where opportunity exists
- Construct bicycle lanes and pedestrian trail where right-of-way exits, and require wider sidewalks and bicycle lanes to be provided in new developments

LEGEND

- Corridor Mixed-Use District
- Transition Mixed-Use District
- Neighborhood Residential District
- Suburban Residential District
- Education
- Recreation/ Open Space
- Mixed-Use Redevelopment Opportunity
- Primary Mixed-Use Boulevard (C5)
- Secondary Mixed-Use Boulevard (C4)
- Sub-urban/ Rural (C3)
- Neighborhood Street
- Pedestrian Bike Facility
- Interstate Network
- Primary Gateways
- Secondary Gateways
- Neighborhood Gateways
- 1/4-mile Walking Radius
- 1/2-mile Walking Radius
- Trailhead
- XX Interstate Exit

CONCEPT PLAN — BROAD RIVER ROAD CORRIDOR AND COMMUNITY STUDY

April 27, 2010
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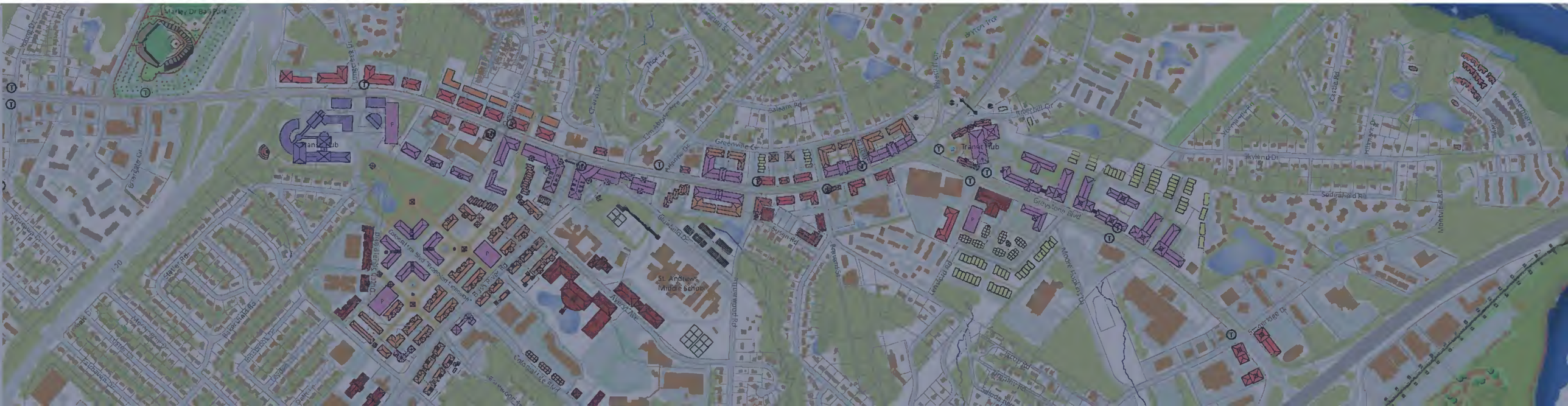
Chapter 4 Land Use and Development Characteristics



LAND USE AND DEVELOPMENT CHARACTERISTICS

This chapter of the Broad River Road Corridor and Community Master Plan presents a Land Use District Map and related development characteristics for properties within the Study Area boundaries. The land use recommendations build upon existing land use patterns and the County's future land use map applicable to properties in the Study Area; and seeks to recommend modifications necessary to emphasize the importance of transit-oriented development and implementation of sustainable practices throughout the Corridor.

One of the main challenges for the Broad River Road Corridor will be the transformation of the area from strip-style, auto-oriented commercial development to a multi-modal, pedestrian-centric urban environment. To overcome this challenge and to ensure the sustainable growth of the Broad River Road Corridor there will need to be a paradigm shift in the way residential areas, activity centers, transportation network, buildings, and natural resources are coordinated and designed. A primary objective of this Master Plan is to enable an expanded mix of retail, entertainment and residential uses throughout the corridor.

The chapter begins with a summary of the Study Area's existing development patterns followed by a general description of the envisioned land use districts, each containing their unique features and characteristics. These areas were determined on the basis of having similar land use composition, physical characteristics, and function. The second part of the chapter details specific action strategies related to achieving the desired development character for the land use districts. The remainder of the chapter presents a discussion of the "Redevelopment Nodes" and the "Neighborhood Planning Areas" that were prioritized working with participants of the community charrette process.

EXISTING CONDITIONS

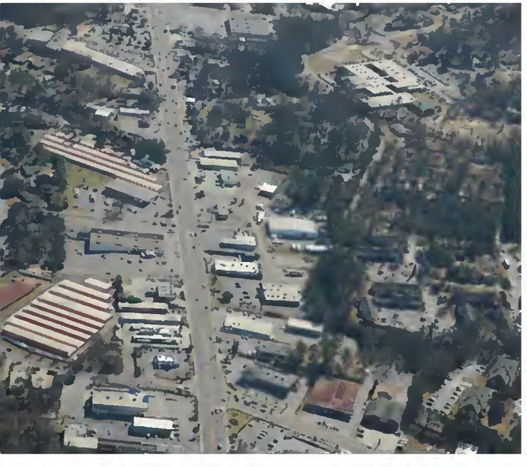
Broad River Road is an important commercial spine for the diverse group of residents living in proximity to the roadway. There are over 25,000 residents living within the boundaries of the Study Area in residential units accounting for nearly 80 percent of the area's total parcel count. According to the 2008 Multi- Family Rental and Condominium Survey conducted by the CMCOG, the Study Area contains approximately 13,400 housing units of which 8,713 or 65 percent are multi –family units (condominium, town homes and apartments). Vacant lands account for 20 percent of the Study Area acreage, presenting significant infill development opportunities. In addition, the Criminal Justice and Prison Campus consists of 10 parcels and covers 2,263 acres out of the total 2,380 acres (37 parcels) classified as institutional uses.

The Plan anticipates that the Criminal Justice and Prison Campus will not undergo any change in the short-term, however, it is envisioned that the campus will continue to serve as an integral component of the area's open space system while promoting joint economic development efforts for attracting governmental/ legal jobs to the area. Future uses on the underutilized portions of the campus fronting Broad River Road could possibly include a college or university extension campus for social work, legal services, and other criminal justice related professions.

Major thoroughfares traversing the Study Area - Broad River Road, Greystone Boulevard, Bush River Road, St. Andrews Road, and Piney Grove Road- are presently characterized by older suburban-style strip commercial development with an expanse of underutilized buildings, vacant retail space and a sea of asphalt in attached parking lots. Land uses along corridor include automobile sales, general retail uses (pharmacy stores, discount stores, pawn shops, adult uses), drive-through fast-food chains, office uses, light industrial uses, aging hotels, churches, and large underutilized sites. The large sites properties present key redevelopment opportunities including Dutch Square Center, Boozer Shopping Center, vacant K-Mart building and Intersection Center (former Service Merchandise building).

Poor circulation patterns along these major roadways caused by missing sidewalk connections, multiple driveway access points, narrow driveways creating difficult turning movements, and vehicular- pedestrian traffic conflicts have impacted connectivity between the residential neighborhoods. As new development and redevelopment occurs, opportunities to improve traffic circulation, parking, aesthetics and the pedestrian environment should be pursued.

The Master Plan anticipates that in the short-term, properties along the corridor will continue to develop as corridor commercial uses driven by favorable market conditions associated with high traffic volumes and regional growth. As key catalyst projects are pursued, it is envisioned that the Study Area will over time attract new development patterns that support more urban buildings with shared access, reduced curb cuts, rear parking lots and buildings located closer to the street. New developments will support uses that cater to local serving neighborhood uses such as grocery stores, cafes, sit-down restaurants, gas stations, hotels, chain restaurants, and offices. The intent of the redevelopment program is to sustain the long-term viability of the existing businesses while buffering views of the harsh physical conditions of the properties. This can be accomplished through the employment of a combination of tools including: merchants and neighborhood sponsored clean-up of properties, landscaping improvements, code enforcement and enforcement of appropriate development regulations.



PROPOSED LAND USE CHARACTER DISTRICTS

Proposed land use character districts identified in this section delineate context sensitive development patterns that were determined based on a comprehensive analysis of existing land use, circulation, parcel characteristics (ownership, size, access), and key redevelopment opportunity sites. The land use districts proposed in this section generally describe land uses, densities, and building heights envisioned for the four character districts identified in the Study Area. The districts do not indicate property rezonings but are intended to provide guidance for the future update of the development regulations.

As the redevelopment program envisioned in this Plan matures, it is anticipated that these distinct character areas will evolve into a seamless urban fabric with a complementary mix of land use elements- residential, employment, recreational, retail, cultural, entertainment, and tourist serving- that are interwoven through improved transit service, open space and the street network. While each district contains unique features that should be preserved and enhanced, this Plan envisions integrating these features through fundamental planning principles that typically serve as the essential building blocks of successfully revitalized urban areas:

- Compact mixed-use development and enhanced pedestrian comfort levels
- Increased densities
- Strategic location of key destinations and activity nodes
- Higher- quality public realm improvements (including upgraded infrastructure and beautification projects)
- Enhanced connectivity and linkages
- Unique character and identity

Strategic investments in these proposed character districts will provide the foundation for implementation of the community's vision. It will be essential to establish the critical mass of development and adjacent employment, residential life, and entertainment venues in and related to these districts necessary to support the TOD vision. Figure 4.1 illustrates the proposed Land Use Character Districts for the planning area. The four districts include:

DISTRICT	RECOMMENDED STANDARDS*
CORRIDOR MIXED-USE (Urban Center Zone)	Height: 5-8 stories Density Range: 30+ du/ac
TRANSITION MIXED-USE (General Urban)	Height: 3-4 stories Density Range: 10- 30 du/ac
NEIGHBORHOOD RESIDENTIAL (Sub-Urban)	Height: 2-3 stories Density Range: 5- 20 du/ac
SUBURBAN/ RURAL RESIDENTIAL	Height: 1-2 stories Density Range: 1-5 du/acre

* Recommended standards indicate general figures. Not every building would support these numbers.

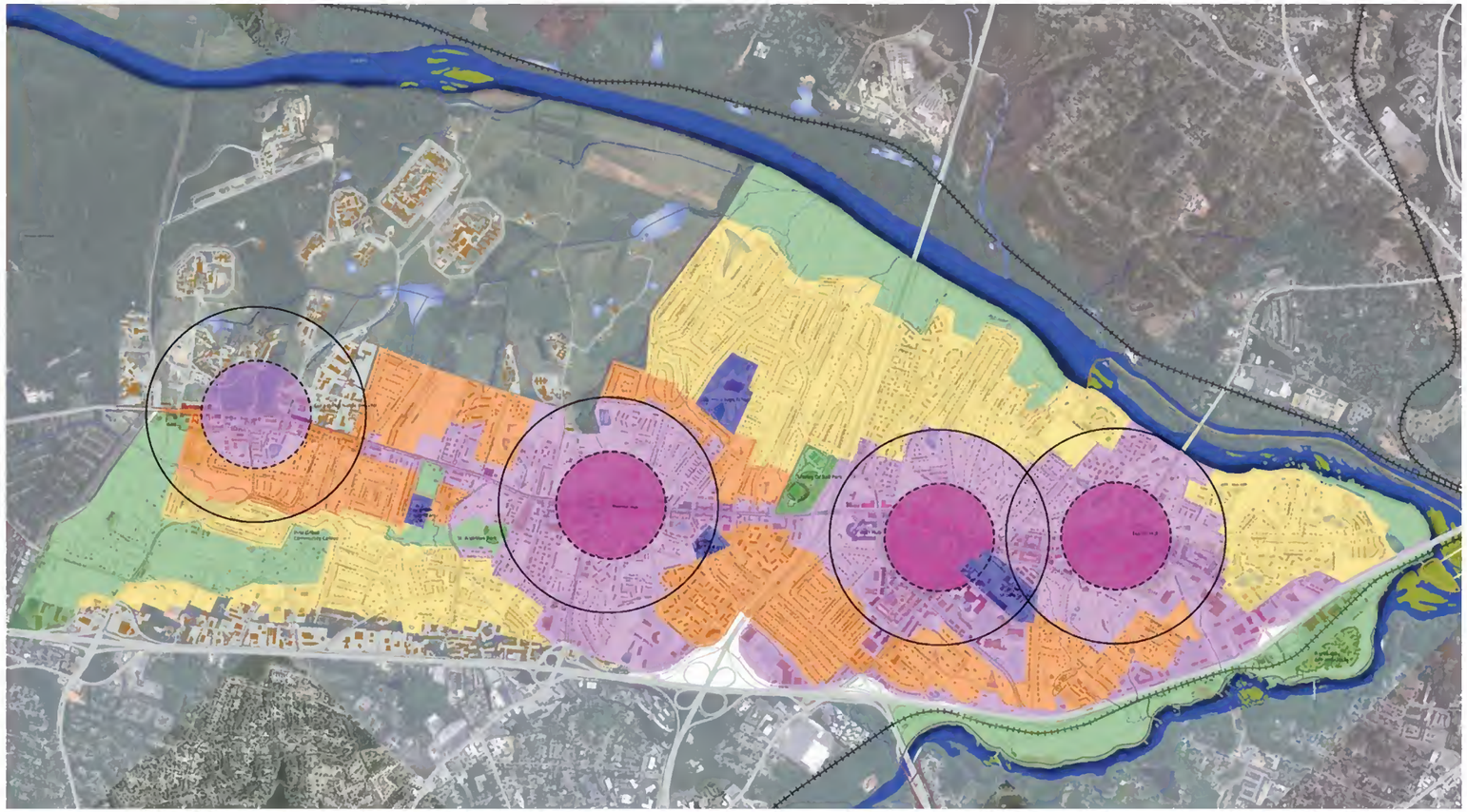


Figure 4.1 *Land Use Character Districts*

Corridor Mixed-Use Redevelopment District

The Corridor Mixed-Use Redevelopment District generally coincides with the "Redevelopment Nodes" and concentrates the most intense development in the center of future bus transit stops envisioned for these nodes. This district is characterized by high-density, 5 to 6 storied mixed-use development patterns supported with a strong array of civic facilities and amenities that are anticipated to serve a regional population. The Corridor Mixed Use Redevelopment District coincides with the General Urban Zone (C5) identified in the Institute of Transportation Engineer's Recommended Practice, *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach (ITE Practice)*. Figure 4.2 illustrates the Corridor Mixed-Use Redevelopment District.

The integration of transportation and land use strategies in support of the goal to promote creating "Complete Communities" is known as Transit-Oriented Development (TOD), a strategy that is gaining widespread acceptance in both urban and suburban centers across the country. The central planning ingredient for TOD is convenient access to revitalized public transit service – in the case of Broad River Road an improved CMRTA bus system – that directly serves moderate to high-density nodes of mixed use development.

Presently, the Corridor Mixed-Use contains a diverse range of single-use developments from older commercial buildings to institutional uses; from low-density residential uses to scattered offices uses; and vacant buildings and underutilized surface parking lots. Mixed-use development is the key component to forging vibrant communities because it produces the density, variety, and needed pedestrian activity.

Future development patterns envisioned in the properties within this designation help to illustrate the concept of allowing both vertical and horizontal mixed-use development. Vertical mixed-use refers to having several uses contained in one building with a change in uses occurring at different building levels. Horizontal mixed-use pertains to a site accommodating more than one use. For example a large-scale retailer, a bank and an office tower and town homes could be developed on one site under this scenario. The Plan recommends discouraging stand-alone single story commercial buildings and detached single-family homes in new developments.

The distinct features of this district include:

- a mix of housing types including attached units, with a range of commercial and civic activity at the neighborhood and community scale
- marked by predominantly detached buildings, balance between landscape and buildings, presence of pedestrians and
- designed with shallow to medium front and side yard setback and 5 to 6 story buildings with options to build up to 8 stories as incentive/ bonus

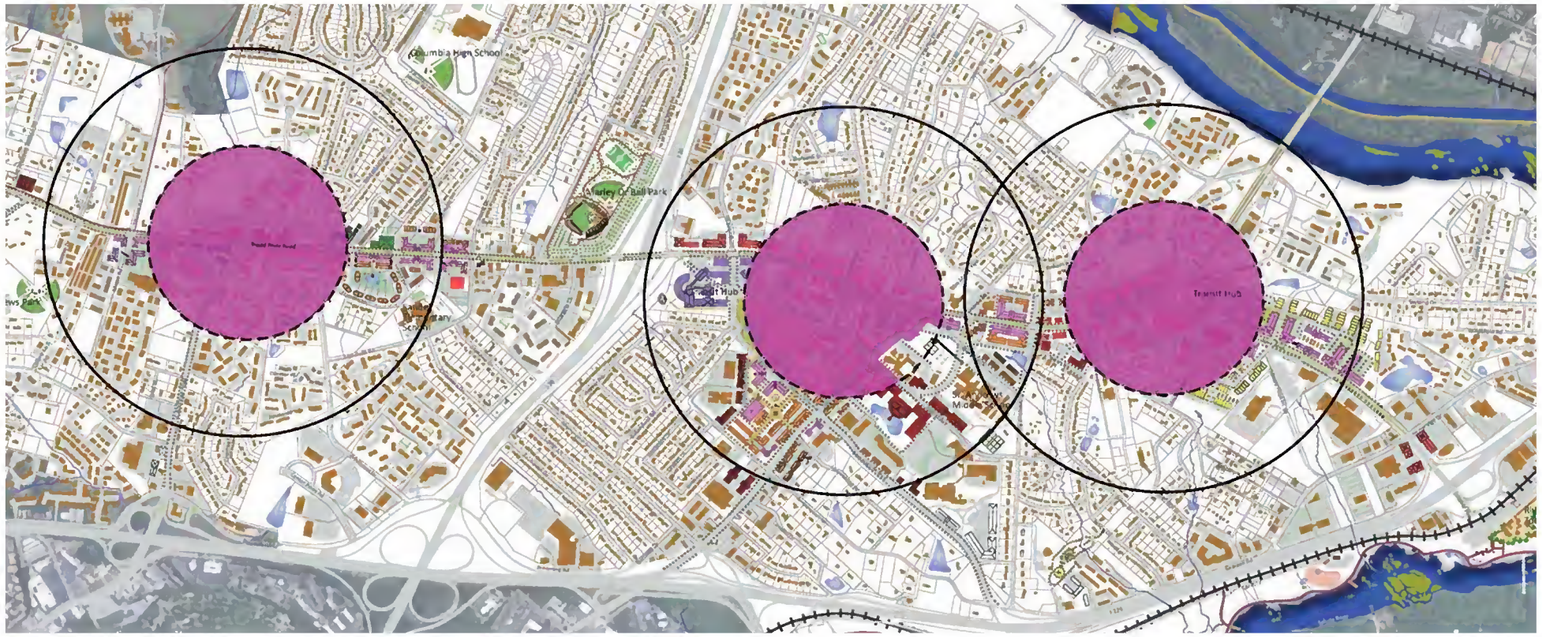


Figure 4.2 Corridor Mixed-Use Redevelopment District Map

Recommended Development Character: Corridor Mixed-Use Redevelopment District

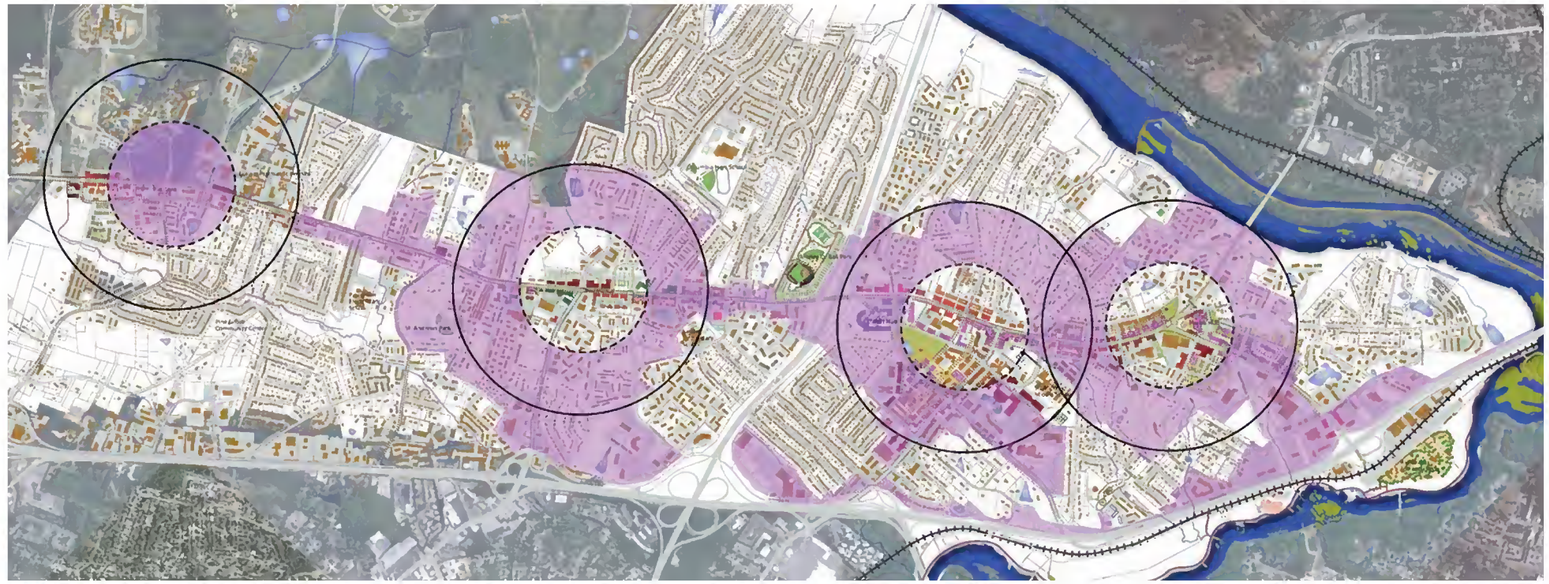
Transition Mixed Use District

The Transition Mixed-Use District is characterized by medium-density, neighborhood-scaled mix of uses located in 2 to 3 story buildings. The district generally encompasses areas within a 1/2- mile walking radius of the "redevelopment nodes". The properties in this district are located predominantly in the vicinity of the minor arterials providing the primary access to the district. Densities less than the Corridor Mixed-Use District but more than the predominantly residential districts described below are supported in this district. Development in this district should ensure adequate transition to the low-density existing residential area. This is accomplished primarily through placement of densities and intensities along the edges that require buildings to transition in height down to the surrounding residential areas. The Corridor Mixed Use Redevelopment District coincides with the Urban Zone (C4) identified in the Institute of Transportation Engineer's Recommended Practice, *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach (ITE Practice)*. Figure 4.3 illustrates the Transition Mixed-Use District.

Currently, the area within this proposed district consists of a mix of land uses with multi-family dwellings, strip commercial uses, automobile dealerships and sales, public facilities, churches, and single-family residential structures. Access to this district is provided presently through the minor arterials serving the area- Greystone Boulevard, Bush River Road, and St. Andrews Road. The existing streetscape conditions along these roadways are not conducive for creating an efficient pedestrian-friendly walkable environment. Some of these conditions include high traffic, lack of pedestrian cross-access, inadequate traffic calming measures, and a lack of bus stop amenities. The intent is to provide a pedestrian friendly environment that supports local commerce while ensuring minimal impact to the surrounding neighborhoods

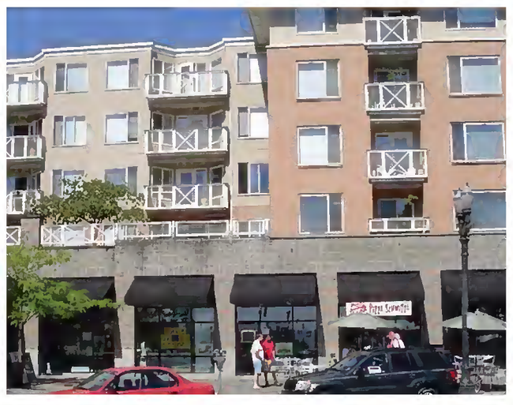
This district is envisioned to be redeveloped with mid-rise buildings between 2-4 stories in height; with an emphasis on creating a diverse stock of housing units such as town homes, garden apartments, and duplexes fitting with the appropriate architectural character, scale and density of the surrounding neighborhoods. This district is not intended for detached single-family residential development in the future. Neighborhood commercial uses may include coffee shops, bakeries, grocery stores, convenience stores, small urgent care or medical clinics, day-care centers, and pocket parks.

A key component required for successful redevelopment of a transit-oriented corridor is to attract the amount of residents within the core area by providing the base market for future transit stations; therefore, activities that support significant development intensities within a quarter-mile walking-radius are encouraged throughout this district. It is also important that there be diversity in the residential development along the corridor such that it includes both market rate and affordable housing.



3 *Transition Mixed-Use District Map*

Recommended Development Character: Transition Mixed-Use District



Neighborhood Residential District

The presence of a significant number of employees who work within the Study Area boundaries represents an untapped potential residential population that would live in the area if an upgraded built environment was created through a strong mixture of housing products at varying densities and price points. The proposed Neighborhood Residential District contains only residential development and is intended to provide a transition between the intense Corridor Mixed Use District and predominantly single-family neighborhoods described below in the discussion of the Suburban/ Rural Residential District. The Neighborhood Residential District generally occupies areas adjacent to the Transition Mixed Use District but changes character depending on its proximity to the adjacent single-family residential neighborhoods. Residential units in this district may take the form of detached single family homes, townhouses, or multifamily dwellings. This district is envisioned to allow for buildings 2 or 3 stories in height. Mitigation strategies such as adequate landscaping buffering and transition in heights will be required in all new developments to preserve the integrity of these neighborhoods. Figure 4.4 illustrates the Neighborhood Residential District.

Sub-Urban/ Rural Residential District

One of the major goals of the master planning effort is to preserve and enhance the stable single-family neighborhoods in the vicinity of the corridor. This Plan proposes specific growth patterns that increase the Study Area's development capacity while simultaneously introducing transition mixed-use areas that clearly define and preserve the residential character in the neighborhoods. The Plan anticipates that the areas within this district will undergo little change as it relates to land use composition in the short-term. Over time, new development in the neighborhood should be primarily residential with an emphasis on single-family development. Areas designated as Sub-Urban/ Rural District include the Piney Grove/ St. Andrews West Neighborhood located north of Beatty Road and the Kingswood/ Broad River Estates/ Pine Vallley neighborhoods located east of Broad River Road. This district is envisioned to allow two storied detached single-family homes and duplexes.

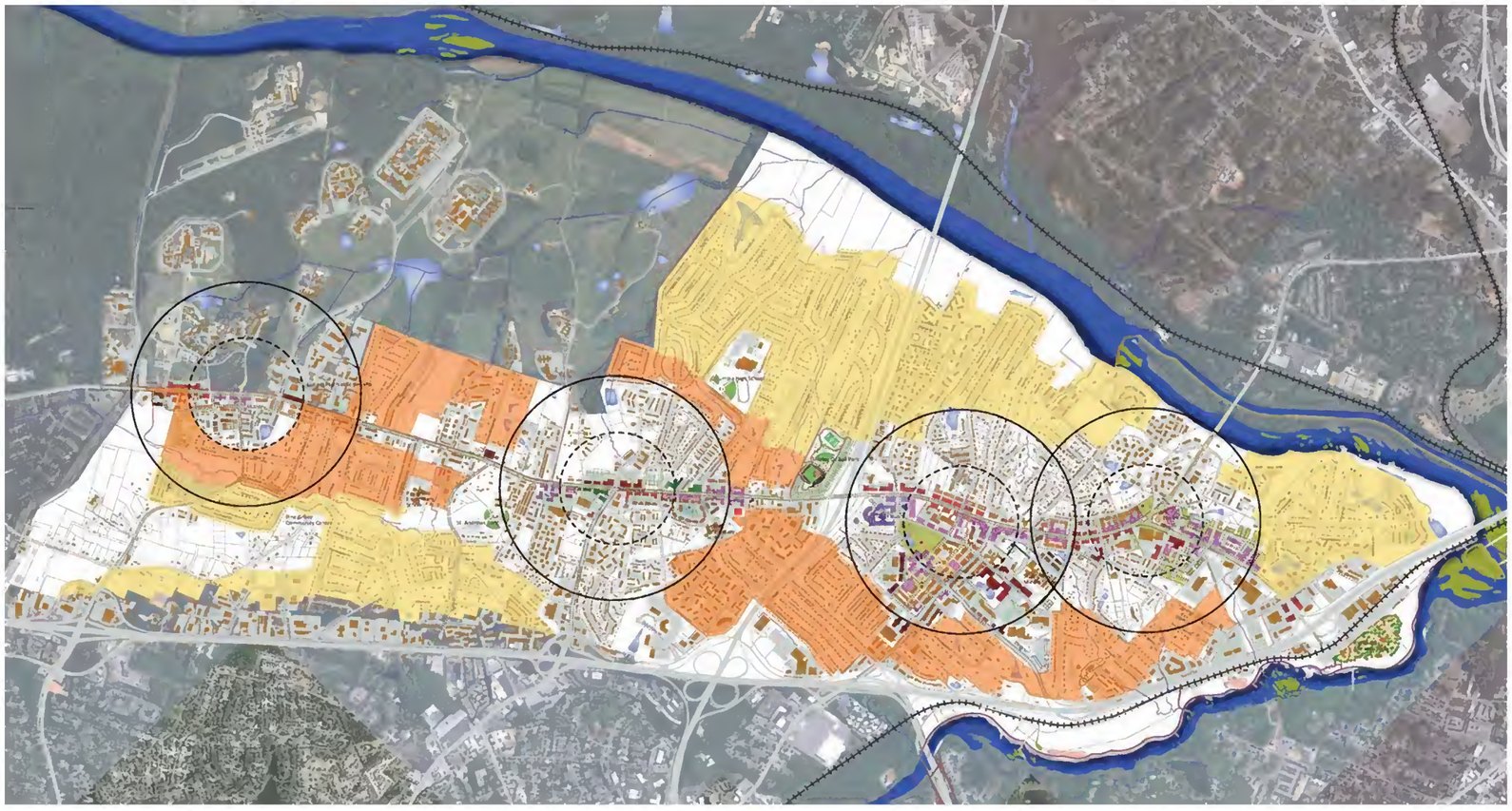


Figure 4.4 *Neighborhood Residential District and Sub-Urban/ Rural Residential District Map*

Public Facilities and Amenities

The Broad River Road Corridor and Community Master Plan sets a vision plan for the future of the Broad River Road area and its potential to develop as a vibrant, pedestrian-oriented, mixed use center. In order to support the anticipated increase in the corridor's residential and employment related population, it is critical that the development of public facilities is in place to serve the community. Existing public facilities are identified as a civic facility designation on the Land Use Districts map.

The walkability of a community is also enhanced by an efficient and equitable allocation of neighborhood amenities in close proximity to residential uses. During the planning process, several residents expressed their desire to locate essential public facilities as key anchors that will be critical in creating the desired vision. Some of the needs shared by the community include: health care facilities, upgraded community library, a neighborhood family center, community meeting space, grocery store, day care centers, educational institutions, neighborhood retail, parks, business assistance centers, youth activity centers. Institutional uses such as facilities related to Richland County administration or expansion plans could potentially be located within the Study Area to serve as a catalyst for revitalization.

As part of the visioning process, participants voiced their concern about public safety and crime issues in the Study Area. Redevelopment of blighted areas, incorporation of Crime Prevention Through Environmental Design (CPTED) principles such as increased street lighting and creating spaces that encourage the "eyes on the street" concept, and increased police presence in the area are some solutions that can help alleviate these crime-related issues.

REDEVELOPMENT NODES

As the redevelopment program evolves and the real estate market strengthens, the County will be in a position to work with property owners and investors to assemble, master plan and redevelop key sites. One of the principal recommendations of this Plan is to focus future development into "Redevelopment Nodes" along Broad River Road concentrated around proposed bus transit stops with dense commercial, residential and mixed use development patterns that promote walkable, pedestrian- friendly public spaces.

Dutch Square Mall Mixed-Use Transit Plaza

The redevelopment of the Dutch Square Mall and its surrounding larger sized properties including the Boozer Center, Intersection Center (Service Merchandise) building presents a unique opportunity to create a focal point for the presently auto-oriented sprawling development along Broad River Road. The 469,000 square-foot Dutch Square mall, with primary access points from Broad River Road and Bush River Road, was constructed in the 1970s as the "largest mall in the Carolinas". Belk and Burlington Coat Factory serve as the anchor stores for the mall with AMC Theaters, Office Depot, and over 40 occupied stores. With the opening of the Columbiana Center in the 1990s less than 10 miles of the Dutch Square Mall, and loss of retail dominance along commercial arterials nationally, there has been a gradual decline in consumer traffic and deterioration of the site over the last two decades. Figure 4.5 illustrates the existing building footprints of the Dutch Square Mall area.

According to a report[1] published in 2005 by Congress for New Urbanism in cooperation with the U.S. Environmental Protection Agency, of the 2,000 regional malls nationwide, 19 percent of the malls were reported to have sales per square foot of $199 or less. These sites are often referred to as "dying malls" or "Greyfield" sites by real estate professionals primarily due to the trend in gradual decline of the economic fabric and ambience of these once thriving regional shopping centers. Greyfields are defined as economically obsolete malls and other sites that offer large infill redevelopment opportunities, typically without the contamination of brownfield industrial sites.

The current economic recession has forced owners of these greyfield sites across the country to rethink their strategy to resurrect the viability of their properties and evaluate development and redevelopment alternatives to transform these single, retail-only structures into mixed-use developments. During the community workshops, there was a mixed response to the redevelopment of the Dutch Square Mall and its surrounding properties. Some community members expressed reservations against demolition of the existing mall structure; others shared their vision of a full demolition of the existing structure and reorientation of the intersection as a transit oriented mixed-use urban district. Based on the community input, this Plan presents two alternatives for the redevelopment of the Dutch Square Mall properties.

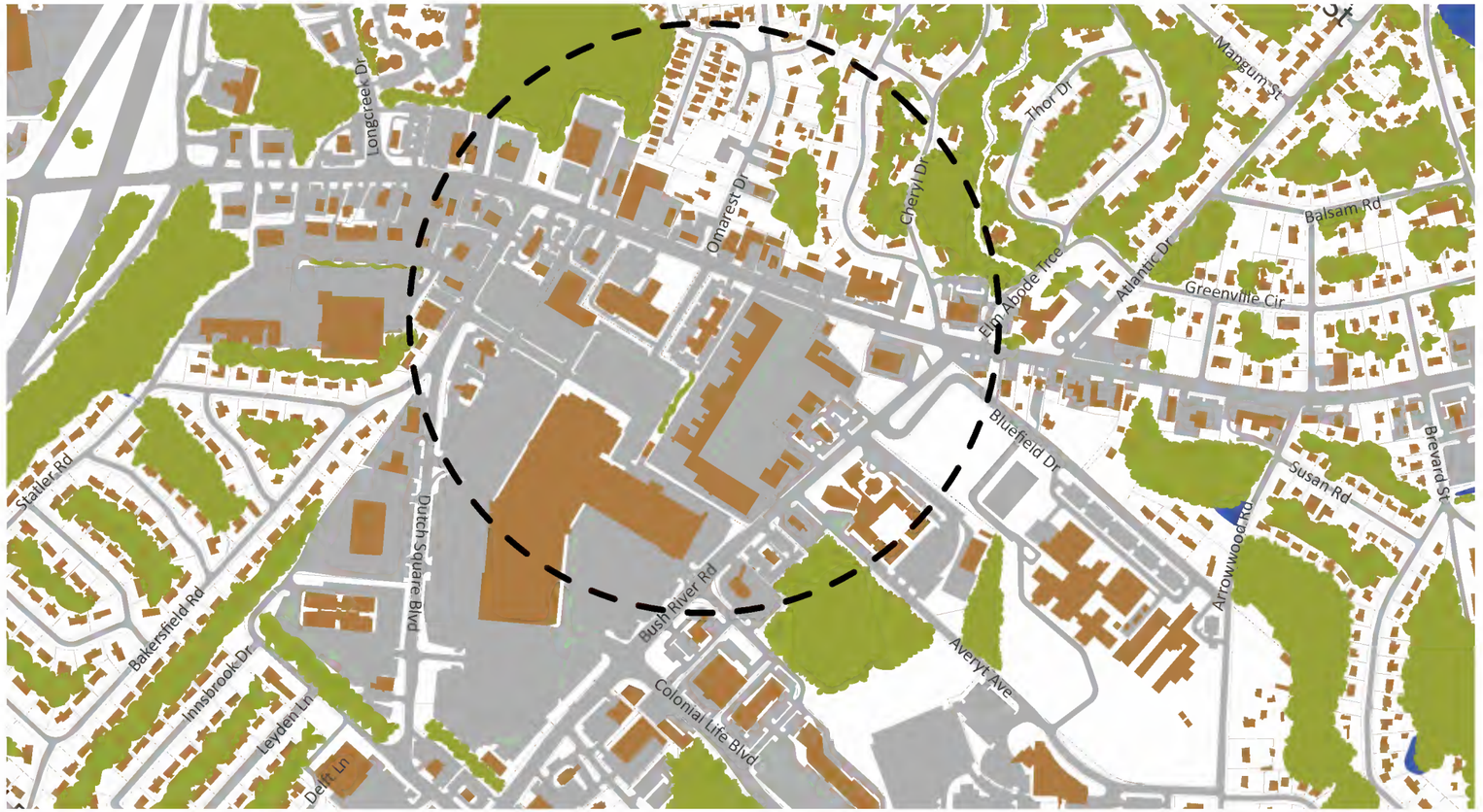


Figure 4.5 *Existing Conditions: Dutch Square Mall*

Both alternatives include future redevelopment of vacant or underutilized properties within a quarter-mile walking radius of the Broad River Road and Bush River Road intersection. The Dutch Square Mall Mixed-Use Transit Plaza is envisioned as the focal point within the Broad River Road Corridor Study Area and is intended to create a revitalized destination for area residents that provides for the community's shopping, living, working, and recreation needs within an upgraded walkable environment. The redevelopment area includes the existing Dutch Square Mall, Boozer Center, existing St. Andrews Middle School and H.B. Rhame Jr. Elementary, vacant Intersection Center building, vacant K-Mart building, and existing commercial uses.

At some point in the future, CMRTA plans to develop a transit hub along Broad River Road, and the Dutch Square Mall Transit Plaza presents an exciting opportunity to create a TOD neighborhood offering a mix of uses combined with predictable and frequent service by bus transit to Downtown Columbia and the surrounding neighborhoods and employment centers. When improvements to the transit service identified in this plan are completed, this node will be the prime candidate for developing a mixed-use transit oriented center for the community.

1 "Malls into Mainstreets: an in-depth guide to transforming dead malls into communities". Congress for the New Urbanism. Retrieved from http://www.cnu.org/mallsintomainstreets on July 29, 2010

Alternative A: Existing Mall Structure Remains

This alternative assumes retaining the existing mall structure and allows for the addition of infill development and public realm improvements in the expansive sea of asphalt separating the mall site from the surrounding neighborhoods and the connecting roadways. This scenario features reinvestment in the mall to revert the inward orientation to create double-sided storefronts on the exterior of the building facade providing access and visual interest for the pedestrian at the street level. New higher-density residential, commercial-retail and office, and live-work buildings will be introduced along the frontage of the property with elements of a walkable community including an urban plaza, new street extensions, buildings with entrances directly from street level, and on-street parking. The proposed bus transit hub will be located at the currently vacant Service Merchandise building and will require assemblage of properties fronting Broad River Road. Figures 4.7 and 4.8 illustrate the Alternative A phasing plan I and the Alternative A phasing plan II, respectively.

By retaining the existing mall structure, any change to the Bush River node would be limited to small-sized parcels within the current boundaries. This will significantly reduce the redevelopment potential of the site and its ability to serve as a focal point for the community. Some of the disadvantages of this alternative include:

- Reduced developable footprint available to create a vibrant mixed-use district as the mall occupies a large portion of the node;
- Inadequate site area to create a new street grid system that will alleviate traffic concerns along Broad River Road and Bush River Road;
- Inability to introduce higher density residential uses to support a feasible transit service for residents;
- Lack of flexibility in designing a concentrated transit facility;
- Inadequate area available for introducing open green space for community recreation purposes.

Figure 4.7 Alternative A phasing plan I

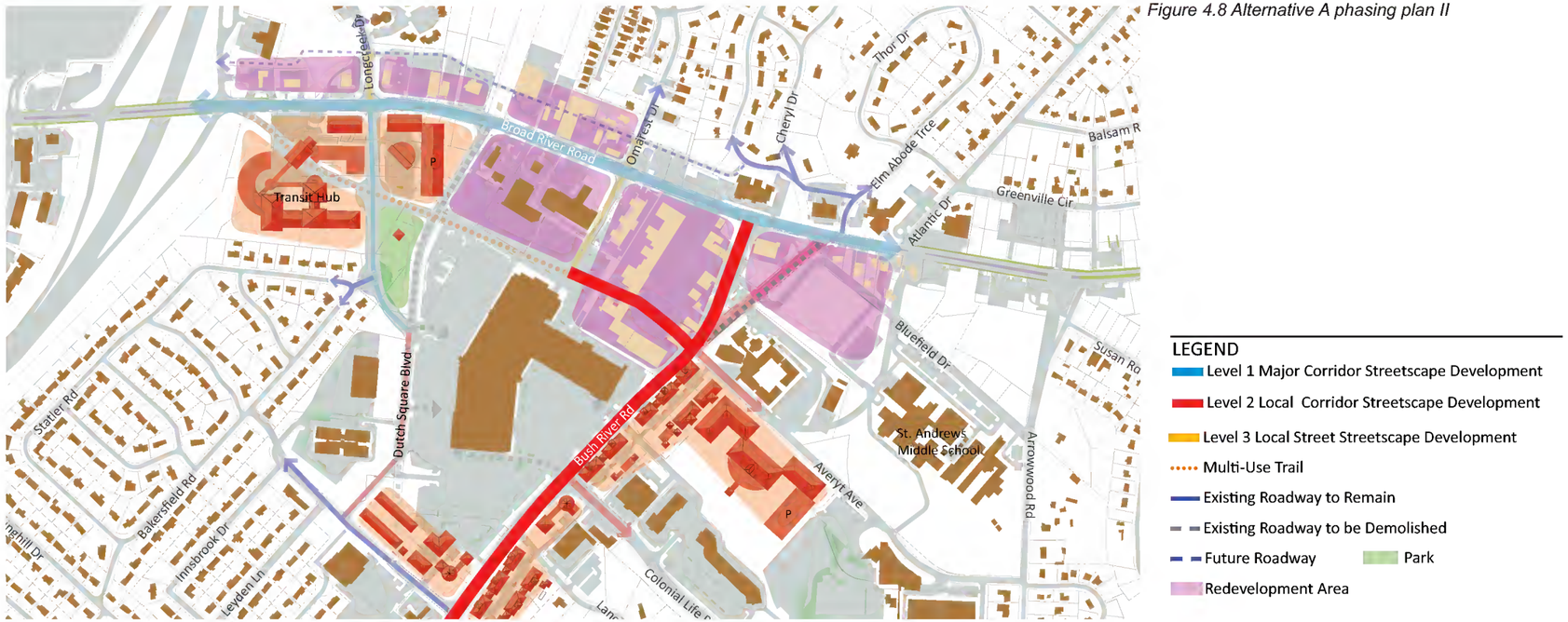


Figure 4.8 Alternative A phasing plan II

Alternative B: Redevelopment of Existing Mall Site

Alternative B envisions a new mixed-use urban district fabric created by demolition of the existing mall structure, thereby providing more programming and financial flexibility in its redevelopment. This alternative involves assemblage and reconfiguration of the Dutch Square Mall, Boozer Shopping Center, the Service Merchandise Building, and other underutilized properties and buildings within the vicinity of the mall as a consolidated center of activity accommodating a mix of uses serving the community needs. It is anticipated that the current redevelopment underway (church and limited commercial improvements) at the Service Mechandise site is short term. As property values and developer interest rises in the coming years, this site will become vital to the construction of the proposed Transit Hub and associated uses. Figure 4.9 illustrates Alternative B.

Higher density mixed-use buildings with commercial on the ground floor of buildings and residential units on upper floors is envisioned to provide activity at street level while encouraging a diversity of community uses including specialty retail, destination restaurants, live-work units, and civic open spaces. The intent is to create a compact, walkable development pattern featuring pedestrian-scaled streetscape improvements and 2-3 story buildings aligned along a main street connected to the existing neighborhoods through a new street grid pattern. On-street parking along Broad River Road, Bush River Road, and Colonial Life Boulevard will be introduced to create an "urban feel' for the area and calm traffic within the proposed development.

Parking is located in large lots behind buildings and in two structured parking facilities located at strategic locations on the site. Uses in the reconfigured site could include major retailers, grocery store, theater, and a diverse mix of housing products including multi-family apartments, town homes, and live-work units.

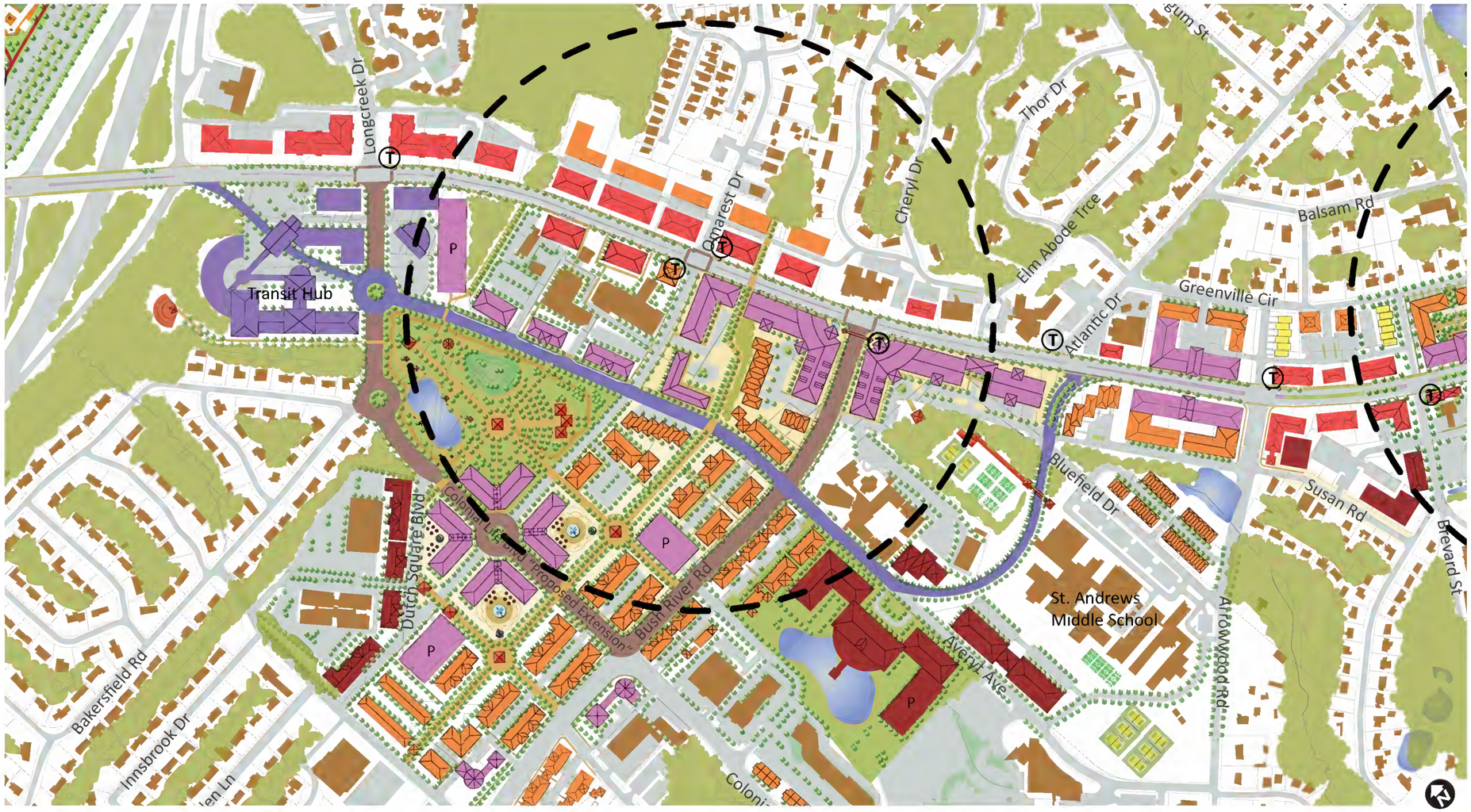
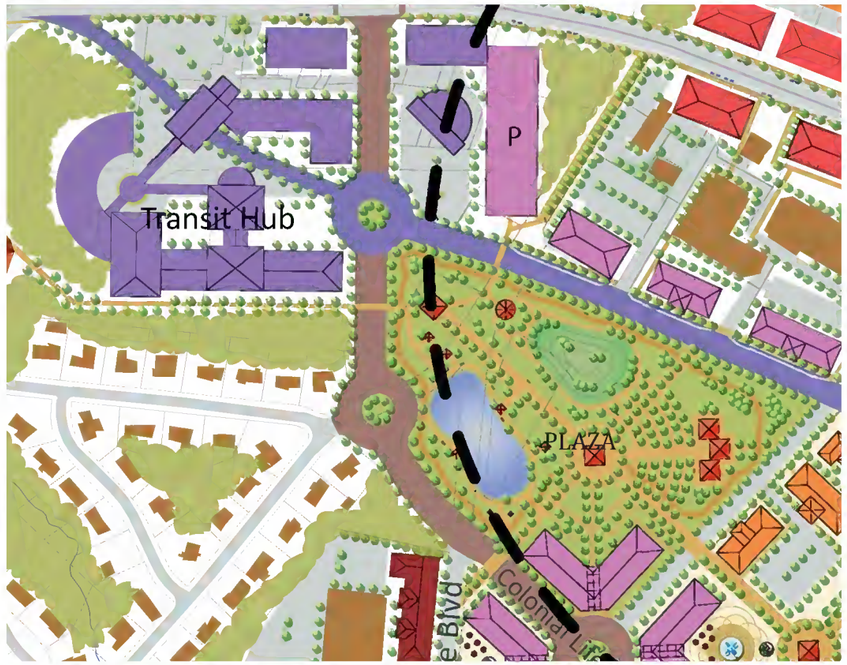


Figure 4.9 Dutch Square Urban Plaza (Alternative B)

CATALYST PROJECT: DUTCH SQUARE PEDESTRIAN PLAZA AND TRANSIT CENTER

The most significant public realm improvement in this district will be the creation of the Dutch Square Urban plaza. Connecting the revitalized Dutch Square Mall to the neighborhoods, the plaza is envisioned to be designed as a public space suitably sized to accommodate civic uses including festivals, farmers market, outdoor vendors, framed with restaurants, cafes, and upper-floor residential units. The new gathering space should be more urban and interactive by creating common spaces that encourage increased pedestrian activity.



PRECEDENTS: MALL REDEVELOPMENT

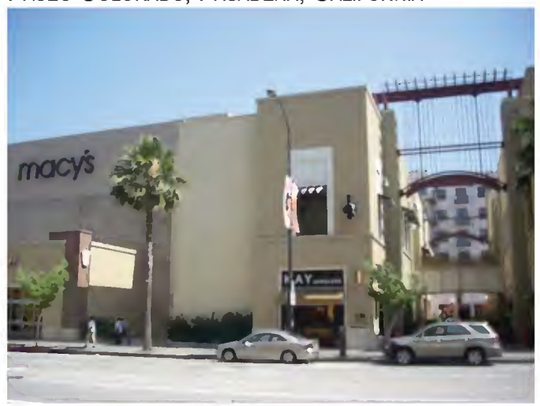
Source: "Malls into Mainstreets: an in-depth guide to transforming dead malls into communities". Congress for the New Urbanism. Retrieved from http://www.cnu.org/mallsintomainstreets on July 29, 2010

Winter Park Village, Winter Park, Florida

"Winter Park Village is a redevelopment of the 400,000-square-foot enclosed Winter Park Mall. The site is located two miles from Interstate 4, and is surrounded by strip retail centers and low-density residential uses. Features a long-term, phased mixed-use main street -development including housing and generous civic space."

SITE: 32 acres / suburban
USE OF EXISTING STRUCTURE: Demolished except for Dillards store, now converted to retail with lofts above
RETAIL: 322,000 sf
OFFICE: 120,000 sf
RESIDENTIAL: 58 units
CIVIC SPACE: Small park at central intersection
ACCESS: 2 miles from interstate

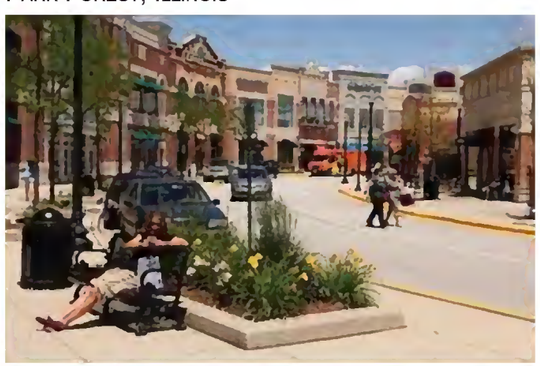
Paseo Colorado, Pasadena, California



"Paseo Colorado is the redevelopment of a 1978 enclosed regional mall site into a mixed-use district fronting Pasadena's Colorado Boulevard. Historic street grid was reestablished in this project with the old mall retrofitted so storefronts face revived streets, rather than internal corridors. "

SITE: 11 acres / urban
USE OF EXISTING STRUCTURE: Partially demolished, old store slots newly opened to street
COMMERCIAL: 560,000 sf
OFFICE: 10,000 sf flex space
RESIDENTIAL: 387 rental units
CIVIC SPACE: Historic streets revived, connected to historic Civic Center, public plazas, pedestrian only paseo
ACCESS: Excellent access to 2 interstate highways, served by 4 city bus lines and the Pasadena Arts Bus

Park Forest, Illinois



"A suburban mall revitalization project in Chicago's southern metropolitan area, Downtown Park Forest is a 48-acre project with Village Hall, independent- and assisted-living facilities, retail, office, and cultural center that create a central downtown."

SITE: 48 acres / suburban
USE OF EXISTING STRUCTURE: One anchor box converted to office space, others demolished, smaller buildings retrofitted and renovated
RETAIL: 275,000 sf
OFFICE: 75,000 sf
RESIDENTIAL: 335 rental units, 65 for-sale units, 155 senior housing units/ assisted living
CIVIC SPACE: Village Hall, Illinois Theater Center, small green at center
ACCESS: 2 miles from interstate, bus lines provide access to regional commuter rail service

St. Andrews Neighborhood Activity Center

The St. Andrews Neighborhood Activity Center is identified in an area generally defined by properties within a quarter-mile walking radius of the Broad River Road and St. Andrews Road intersection. The node is envisioned to be developed in a way that complements the existing moderate density residential development patterns with a mix of community-oriented uses. This area provides the best opportunity to implement the concept of creating "Complete Communities" integrating new civic uses, at-grade convenience retailing and new neighborhood retail uses and entertainment venues (bowling alley, community performing arts center). Figure 4.10 illustrates the St. Andrews Neighborhood Activity Center.

Redevelopment of this node will provide an opportunity to transform the existing deteriorating conditions along Broad River Road from typical strip commercial uses into a community focal point and congregation space. Encouraging neighborhood-oriented development in this node will create an extremely desirable community center that hinges upon essential building blocks for community- education, employee training, and quality job creation. Existing uses surrounding the proposed Neighborhood Activity Center include: Richland County Library- St. Andrews Regional, self-storage facilities, vacant land, deteriorating retail stores, and underutilized commercial properties.

The Plan anticipates that the Neighborhood Activity Center will accommodate a broad spectrum of education and community facilities to transform the St. Andrews node into a community gathering space from its existing perception as a magnet for undesirable social activities. The proposed St. Andrews Neighborhood Activity Center consists of civic amenities including a University/ College Extension Campus related to the judicial facilities, an upgraded neighborhood library and business resource center, and a community center with an arts and vocational campus, tool library, and recreation facilities.

Small-scaled retail uses that serve the basic needs of the residential uses are recommended along St. Andrews Road and Broad River Road. These uses may include a neighborhood-scaled grocery store, sit-down restaurants, coffee shops, dry cleaners, bakeries, and other community needs identified by residents in ongoing neighborhood planning efforts. Improved streetscaping, landscaping, sidewalk widening, traffic calming, and other infrastructure related projects should be pursued to develop the investment image of the area for potential investors and future residents.

Figure 4.10 *St. Andrews Neighborhood Activity Center*

CATALYST PROJECT: ST. ANDREWS BUSINESS ASSISTANCE/ COMMUNITY CENTER

The St. Andrews Business Assistance Center is envisioned as an anchor facility in the area programmed to retain and attract businesses to the area, expand training and mentorship opportunities, and increase job accessibilities for the area residents and employers.

In conjunction with the proposed improvements to the St. Andrews Redevelopment Node and the St. Andrews Regional Library, a new community center should be constructed that focuses on developing the strengths and resources of the area youth, families, and neighborhoods with an emphasis on connecting individuals with the informal sources of support within the neighborhood. The development objectives for the proposed community center should include essential community services to the area residents, including but not limited to: After-school programs, Literacy Programs, Computer Skills, Health Education and Services, Peer Counselling, Financial Management Programs, and Day-care facilities Some model programs provided through the center may include:

- The Business Resource Center – a one-stop resource for providing personal computers with Internet access, interactive videos and an extensive business reference library for business planning and research.
- Small Business Enterprise (SBE) Program -- certifies small businesses and provides technical assistance to enhance contracting and procurement opportunities with Richland County and City of Columbia
- Weed and Seed Program -- offers community development services.
- SCORE (Counselors to America's Small Business) --offers business counseling, training, assessment and mentoring at no cost to the client.
- University/ College Intern Volunteer Program

CATALYST PROJECT: ST. ANDREWS PARK AND LIBRARY IMPROVEMENTS

The County, working with the Greater Columbia Chamber of Commerce, should develop a detailed strategy on working with regional educational institutions including University of South Carolina, Benedict College, and Remington College to expand their presence in the area. There exists a great potential for attracting higher learning establishments in the area, as satellite campuses for the regional institutions or technical centers related to the criminal justice and prison campus (public administration, law, or social work), riverfront and community garden (environmental sustainability, urban agriculture), other fields including arts and cultural development.

Students, faculty, staff, and other employees will serve as the residential base and have the opportunity to live within walking distance from their respective work places or the transit station in the future.

CATALYST PROJECT: UNIVERSITY/ COLLEGE EXTENSION ST. ANDREWS CAMPUS

The County, working with the Greater Columbia Chamber of Commerce, should develop a detailed strategy on working with regional educational institutions including University of South Carolina, Benedict College, and Remington College to expand their presence in the area. There exists a great potential for attracting higher learning establishments in the area, as satellite campuses for the regional institutions or technical centers related to the criminal justice and prison campus (public administration, law, or social work), riverfront and community garden (environmental sustainability, urban agriculture), other fields including arts and cultural development.

Students, faculty, staff, and other employees will serve as the residential base and have the opportunity to live within walking distance from their respective work places or the transit station in the future.

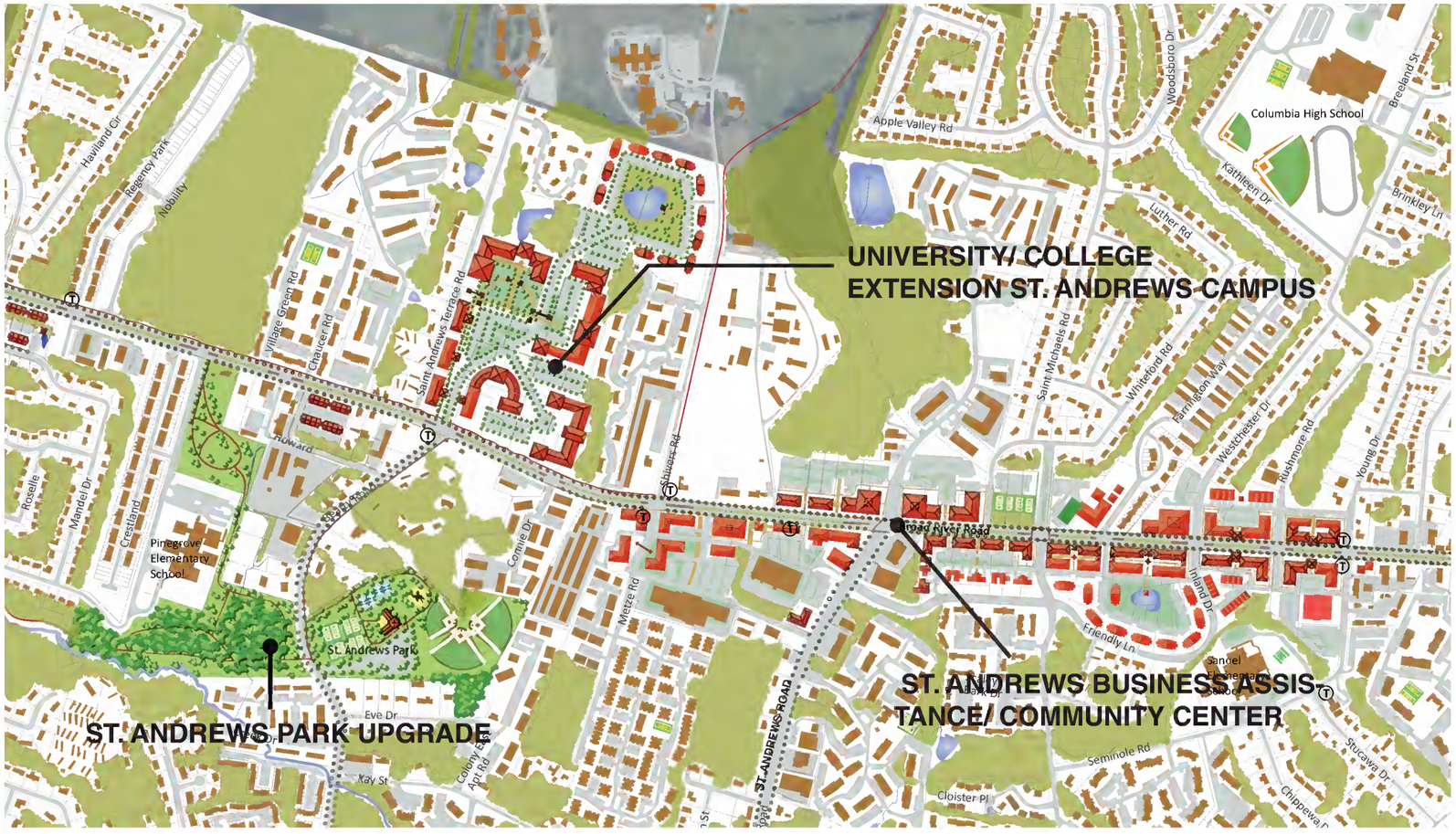


Figure 4.11 *Catalyst Projects: St. Andrews Redevelopment Node*

Greystone Boulevard Gateway

The intersection of Greystone Boulevard and Broad River Road is currently designed to accommodate the needs of the automobile sales concentrated around the Greystone Boulevard corridor. Figure 4.12 illustrates the Greystone Boulevard Gateway. As discussed in the market study (Appendix C), while automobile sales form an integral component of the area's economy, the current recession and increasing public awareness about environmental quality and escalating gas prices have cast a doubt in the long-term sustainability of large car dealership properties.

Similar to the "greyfields" or aging mall buildings, car dealerships are characterized by expansive surface parking areas fronting roadways with multiple curb-cuts. While the design of car dealerships is not conducive to creating pedestrian-friendly urban environments in the short-term, there is an untapped opportunity to create new uses for these large lots that support some of the principles of walkable communities. Some of these principles include: consolidated dealership facilities; shared access points; rear or side access to the property; developing a sense of enclosure and retail frontage for pedestrians on ground levels; and improved landscaping and buffering requirements.

As the area undergoes future development and redevelopment, mixed-use buildings with higher residential densities and retail at ground floor should be required. It is anticipated that this area will continue to serve as the regional employment center with new tourism related businesses such as hotels and chain restaurants introduced at locations that provide visibility from the interstate.

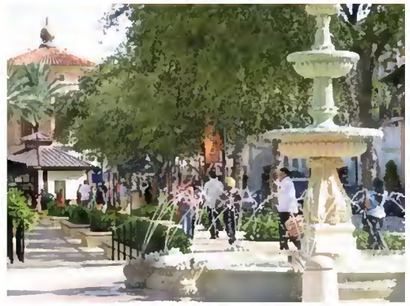
In addition, Greystone Boulevard Commercial Gateway also has the potential to serve as an alternative location for a CMRTA intermodal transit center because of its proximity to I-126 and the railroad (if developed in the future). A consolidated parking structure could be developed at this location in the future to serve as off-site parking for the zoo visitors, park and ride facility for the transit hub, and serve as parking facility for the automobile sales facilities in the area.

Figure 4.12 *Greystone Boulevard Gateway*

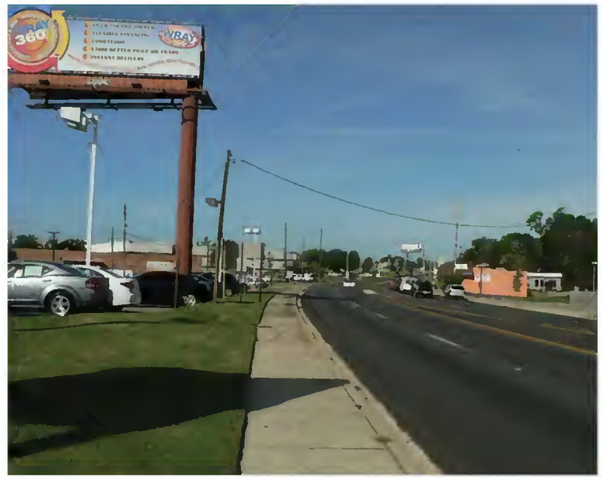
CATALYST PROJECT: GREYSTONE BOULEVARD URBAN PLAZA

Currently, the Greystone Boulevard intersection with Broad River Road serves as the first access point into the Study Area from Downtown Columbia/ I-126. Greystone Boulevard terminates at the road leading to Riverbanks Zoo and Botanical Garden creating another unique opportunity to develop uses targeted to the tourist base visiting the area along the corridor. The roadway also had the potential of developing a dedicated transit route connecting retail along Broad River Road to the Zoo and area employers. Placing a gateway in combination with well-designed mixed-use buildings in an upgraded streetscape environment at this intersection will help create a sense of arrival into the Study Area. Preliminary urban design concepts for this node suggest creating a small plaza and open space with outdoor seating and landscaping to integrate the built form with the streetscape improvements.

Precedents: Urban Plaza



CATALYST PROJECT: GATEWAY AND STREETSCAPE IMPROVEMENTS



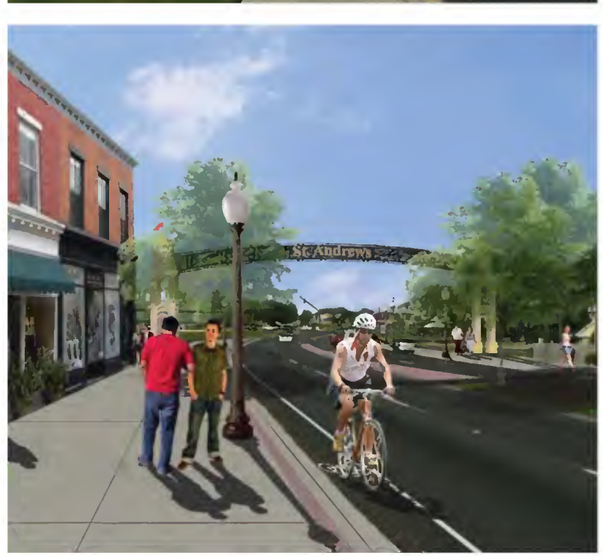


Figure 4.13 Photo showing existing condition looking into Greystone Blvd. (top). Photo- Simulation illustrating proposed improvements (bottom).

Piney Grove Village Center

The proposed Piney Grove Village Center near the intersection of Piney Grove Road and Broad River Road, located in close proximity to the Harbison State Forest and surrounding undeveloped natural areas, provides a unique opportunity to integrate eco-tourism and natural recreation opportunities with the existing low-density community fabric. The vision for this node is to create a compact, eco-tourism oriented center that serves the daily needs of area residents by encouraging uses such as a community garden, farmers market, small-scale cooperative store, and neighborhood cafes and restaurants. These uses could be complemented by nature tourism related uses such as bed and breakfast inns, boutique hotels, bicycle and kayak rental stores, service shops, pharmacies, and other similar uses. Figure 4.14 illustrates the Piney Grove Village Center.

Harbison State Forest has 18 miles of recreational trails and a canoeing/ kayaking landing located near Broad River. The facility also has an environmental education center and attracts visitors and locals throughout the year providing an untapped tourist base for the Piney Grove neighborhood. Participants at the community workshops repeatedly expressed their desire to preserve the natural areas in order to maintain the existing character of the neighborhood. Based on the community input combined with a lack of recreational facilities in the area, the vision for the Piney Grove Activity Center is to create an identity for the area by capitalizing on its proximity to the State Forest facility and proposed trail network.

Figure 4.14 *Piney Grove Village Center*

CATALYST PROJECT: TRAILHEAD, COMMUNITY GARDEN AND FARMERS MARKET

The Piney Grove neighborhood consists of large tracts of undeveloped land that contribute significantly to the rural character of the neighborhood. and the study's overall intent to further environmental preservation goals, the vision is to develop a **community garden** and a year-round public farmers market to sell the produce grown in these community gardens to local and regional population.

The community garden could also include an educational component for environmental preservation and urban agriculture studies. The public market could offer many community benefits including: enhancing prospects for economic development; providing opportunity for local retailers including minority entrepreneurs; and creating a public space for interaction and community gatherings. As a regional destination, the public market would have to provide adequate parking facilities for residents and visitors. Since there are few property owners in this area, the County should initiate discussions with the property owners to determine their interest in pursuing the public market concept as a public-private partnership. The public-private market concept involves complex development, implementation and management tasks that should be addressed in a separate market feasibility study.

Precedents: Trailhead/ Community Garden/ Farmers Market

ACTION STRATEGIES: REDEVELOPMENT NODES

Transforming the current automobile dominated development pattern to the envisioned pedestrian-friendly environment will require an incremental phased implementation approach towards attaining the desired results. Public leadership, private reinvestment, and continued community involvement are key elements in revitalizing the Broad River Road Corridor. Transforming the community's vision into reality will require increased coordination with several governmental agencies and partnerships with the community's stakeholders.

The following section lists the key action strategies for implementation of the Redevelopment Nodes described above. Chapter 9 provides further detail to the various implementation efforts defined in the following action strategies.

Establish Broad River Road Corridor TOD-Mixed-Use (TOD-MU) Zoning Overlay District

Existing zoning regulations are not well-suited for the types of dense mixed-use developments and public realm improvements envisioned for the Broad River Road Corridor. It is recommended that the County consider establishing a TOD- Mixed-Use zoning overlay district for properties fronting Broad River Road within the Study Area and around each redevelopment node within a ¼ -mile radius of the proposed nodes. Overlay Zoning Districts are regulatory tools that are superimposed over an existing base zoning district with supplementary regulations. The intent of this new TOD- Mixed-Use zoning district is to permit mixed uses with additional development controls such as permitted and prohibited land uses, built form design, building height requirements, site planning principles, parking requirements, open space dedication, and other pedestrian-oriented public realm improvements. Establishing the zoning district will ensure that new construction and redevelopment is consistent with the TOD and Compact Community planning and design principles presented in this plan. Implementation of the zoning district will help create a development environment that will offer more predictability and flexibility in the development process. The land use districts and design guidelines presented in the Plan should be used as the basis for creating an area-wide Regulating Plan and related development standards for guiding the quality and character properties in the Study Area.

Because a significant share of the properties in the identified redevelopment nodes are within the jurisdiction of both Richland County and the City of Columbia, it will be necessary to develop an appropriate mechanism for administering the development of the proposed TOD-MU Overlay District. The County should initiate discussions with the City of Columbia to create a Joint Planning Area for implementing various policy and capital improvements along the Corridor, including the administration of the TOD-MU Overlay District. A joint County-City development review committee or task force may also need to be formed in order to minimize the risks associated with unpredictability during the development review process for the private sector, while ensuring that growth management objectives of both Richland County and City are accomplished. The Overlay District should also include a comprehensive set of Urban Design Guidelines and Architectural standards that is supportive of improved bus transit levels in the future and mixed-use development patterns in the Study Area.

Develop multi-agency Joint Planning Agreement/ Memorandum of Understanding

In current times of limited resources and constrained budgets, local government agencies are increasingly developing innovative mechanisms to maximize existing resources and work collaboratively to provide higher service standards and an improved quality of life for its citizens. The County should initiate discussions with the City of Columbia, Central Midlands Council of Governments, and Central Midlands Regional Transit Authority to designate the Broad River Road Corridor as a joint planning area and establish procedures for joint action in the implementation of planning and capital improvements in the area. Some of the planning and capital projects that will have a direct impact on the revitalization of the proposed redevelopment nodes include: provision of utilities, application of land development regulations on properties situated in areas adjacent to the two jurisdictional boundaries, right-of-way preservation for future multi-modal transportation improvements, joint redevelopment activities, and joint financing such as Tax Increment Financing (TIF) and grant stacking strategies. The Memorandum of Understanding (MOU) could be used to delineate the responsibilities of the various agencies related to the continued planning and implementation of the Broad River Road Corridor and Community improvements.

Conduct Finding of Necessity Study and Designate Redevelopment Project Area Boundaries to utilize the benefits of the Tax Increment Financing tool provided by the South Carolina legislation.

It is recommended that the County conduct a finding of necessity study establishing blight conditions and to designate a "Redevelopment Project Area" per the South Carolina Code of Laws (Title 31, Chapter 7). This would enable the County to use TIF as a financing tool for redevelopment. The next steps are to finalize the redevelopment project boundaries; prepare a redevelopment plan; hold public hearings; and adopt or approve the redevelopment plan through the approval of an ordinance This Plan contains many of the elements required by SC legislation for preparing redevelopment plans including preliminary "redevelopment project costs".

Using the Tax Increment Financing tools made available in the legislature, the redevelopment plan can provide focus and oversight for the land development process while improving the appearance and marketability of the area. *Chapter 9: Implementation Program* discusses Tax Increment Financing mechanism in detail.

ACTION STRATEGIES: REDEVELOPMENT NODES (Contd.)

Target public realm improvements within the proposed Redevelopment Nodes, specifically the Dutch-Square Mall Transit Node and the St. Andrews Neighborhood Activity Center, as the focus for immediate to short-term investments. Immediate projects within these nodes include the following:

- Prepare a detailed Streetscape Design Master Plan to address pedestrian environment and safety improvements along Bush River Road and St. Andrews Road
- Enhance physical appearance of these nodes through small incremental projects such as community clean-up efforts and construction of gateways
- Conduct master planning and feasibility studies for identified civic facilities in the Redevelopment Nodes including:
    - Piney Grove Village Center- Community Garden and Farmers Market
    - St. Andrews Neighborhood Activity Center- Community Center, University/ College Extension Campus and Upgrading St. Andrews Park
    - Dutch Square Mall Transit Plaza- Transit Station Area Plan
- Develop detailed phasing strategies for implementing infrastructure upgrades including plans that outline density target- based phasing
- Locate trip generating land uses around proposed transit oriented redevelopment nodes and stops.
- Concentrate trip generating land uses in 'core areas' adjacent to designated transit stations and stops. Not all transit stops may be appropriate locations for trip generating land uses.
- Combine high-density residential and employment uses to create compact, mixed-use cores within existing transit-supportive areas and TODs.

Pursue Public-Private Partnerships in redevelopment of catalytic projects within the Study Area

- Contact property owners within the redevelopment node to determine their interest in supporting for the redevelopment efforts.
- Work with developers of all large-scale developments such as the Dutch Square Mall Redevelopment to include phasing strategies for density targets connected to implementation of transit infrastructure in development plans
- Collaborate with area real estate agents and developers to market the area and facilitate negotiation of leases for vacant properties
- Work with existing business owners and future private sector investors to obtain easements required to construct streetscape improvements along major roadways and to provide a continuous service lane along the rear lot lines.
- Develop an online inventory of available properties working in cooperation with local realtors and use data to aggressively market key sites in the Study Area.

Develop a Land Assemblage Strategy to acquire vacant properties and underutilized buildings that could be either used as leverage in development negotiations or to develop proposed civic amenities.

- Develop a financing strategy including securing grants for land acquisition of properties as they become available on the market.
- Conduct an assessment of public owned properties in the area and determine which of these properties will play an important role in leveraging TOD initiatives or alternatively used for land swapping in exchange for properties in the redevelopment nodes.
- Develop an incentives package to stimulate private development in the redevelopment nodes while furthering the goals and objectives of this Plan.

Additional Strategies

- Develop a grant stacking strategy to leverage revenues with matching grant programs.
- Create a checklist of incentives or a "development toolkit" as a tool for encouraging new infill development and redevelopment in the proposed nodes to ensure consistency in evaluating and negotiating application for development around these nodes.
- Develop an ongoing Stakeholder Engagement and Neighborhood Planning Process to determine specific needs and programmatic requirements for civic facilities within the redevelopment nodes.

NEIGHBORHOOD PLANNING AREAS

Residential uses constitute the largest component of the existing land use categories in terms of the total number of properties, accounting for nearly 80% of the total parcel count (5,204 out of 6,601 properties) and over 30% of the total land area (2,138 acres). There are nearly 4,000 single-family housing units and over 8,500 multi-family dwelling units located within the Study Area boundaries. The area has the largest concentration of apartments (7,600+) in the Columbia region with 60% of all housing units reported as renter-occupied.

The two neighborhood planning areas within the Study Area boundaries were further broken down into six distinct sub-areas for analysis purposes (Figure 4.15) based on their existing character, function, and development potential. These six sub-areas include:

1. **Piney Grove Neighborhoods Sub-Area**
2. **St. Andrews West Neighborhoods Sub-Area**
3. **St. Andrews East Neighborhoods Sub-Area**
4. **Lower Broad East Neighborhoods Sub-Area**
5. **Dutch Square West Neighborhood Sub-Area**
6. **Greystone Boulevard Neighborhood**

There is a high degree of diversity in the existing housing stock and property conditions within each neighborhood, discussed in detail below. While each neighborhood has unique assets and issues, there are some general issues observed in the residential areas as a whole. These include high percentage of low-density development, aging building stock, lack of diversity in price points and housing products, increasing commercial encroachment, crime and negative perception issues, high renter-occupancy, high vacancy rate and lack of pedestrian connectivity between the different neighborhoods. Deteriorating single-family, multi-family and apartment structures, as well as infrastructure conditions such as broken and missing sidewalks, drainage problems, inadequate water and sewer infrastructure capacity and poor road surfaces, were identified as key issues during the site inventory. These conditions deter private investment and become more costly to correct over time. Majority of the residential areas in the Study Area are not within the City of Columbia's jurisdiction. Community members expressed their concern during the planning workshops related to the higher costs of connecting with the City's sewer system and need for upgrading the County's utility network.

The efforts to develop concentrated mixed-use nodes along the key intersections in these neighborhoods should be supported by a harmonizing effort to revitalize and preserve existing neighborhoods. Some areas within these neighborhoods have significant assets such as mature tree canopies, natural open space areas and well-maintained sidewalks. It is important to ensure that the benefits of the identified "Redevelopment Nodes" are extended and shared by existing neighborhoods and residents. By promoting improvements within these nodes and its surrounding neighborhoods, the area's overall investment image is expected to improve and serve as a foundation for new investment and development of new housing development in the area. It is critical that the neighborhoods are well connected to the redevelopment nodes and trail system through new street extensions and pedestrian linkages, where possible.

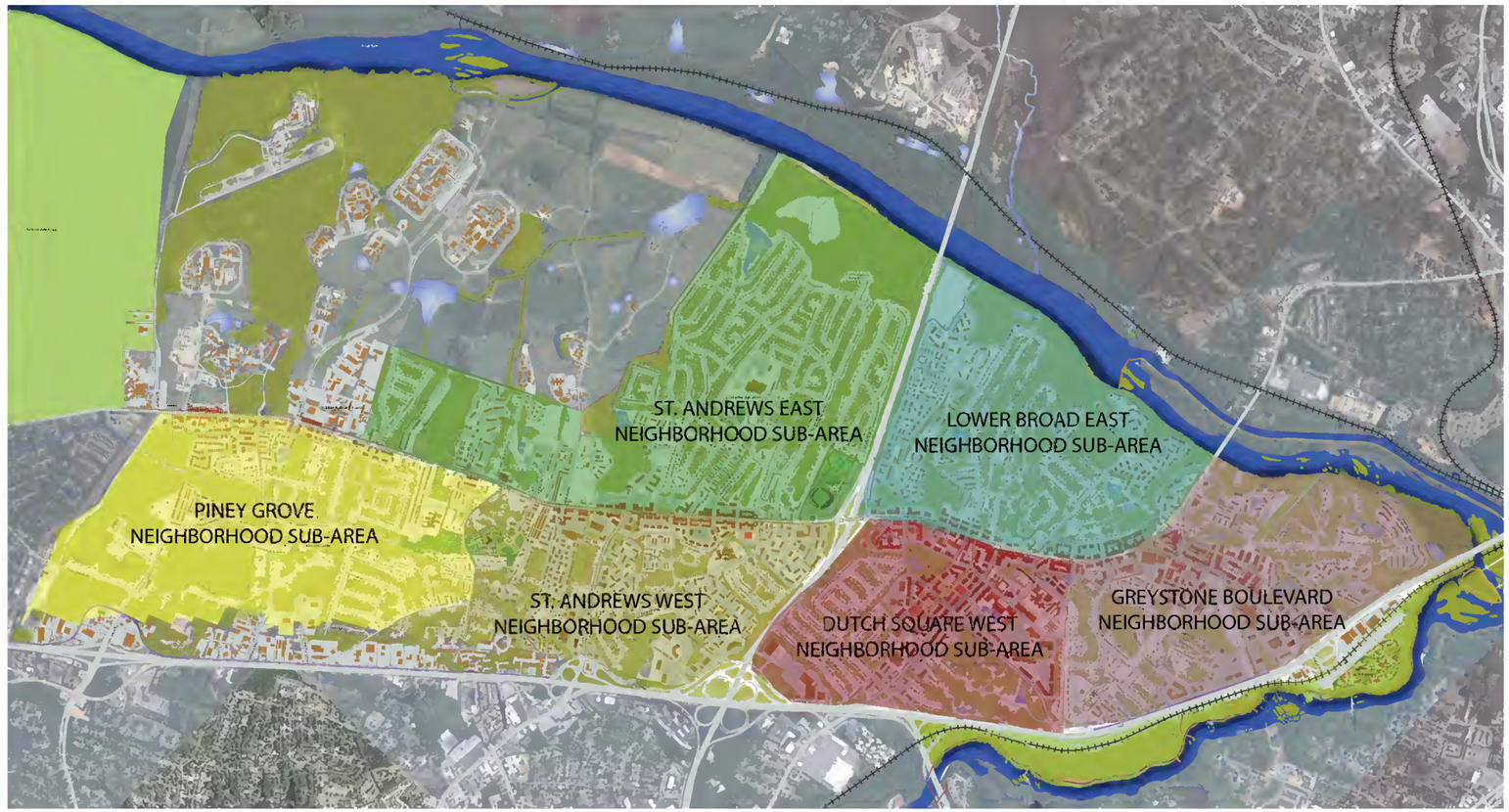


Figure 4.15 *Neighborhood Planning Sub-Areas Map*

PINEY GROVE NEIGHBORHOODS SUB-AREA

Concentrated on the north-western extent of the Broad River Road Community Study Area, the Piney Grove Neighborhoods Sub- Area is generally defined by the residential areas between Broad River to the east, I-126 to the west (excluding properties in Lexington County) Beatty Road to the south and Harbison Way to the north. The neighborhood currently consists of the least intense residential development- characterized primarily by single-family residential development- within the Study Area boundaries, and includes the Pine Grove Elementary School. Set amidst a beautiful tree canopy and undeveloped natural areas along Piney Grove Road, this sub-area will remain predominantly low density and retain its rural character. Figure 4.16 illustrates the Piney Ridge Road Neighborhood Sub-Areas.

In addition to the development concepts related to the Piney Grove Village Center Redevelopment Node presented earlier in the document, the community garden, pedestrian/ bicycle trail system, and upgrade of the St. Andrews Park are key projects identified for this sub-area. Landscaping improvements, street lighting, and sidewalk improvements are some of the other public realm improvements envisioned for the neighborhoods. The intent is to preserve and strengthen the existing neighborhood character as a foundation for attracting new investment in owner occupied residential development within an overall goal of creating a green and sustainable community fabric.

Figure 4.16 *Piney Grove Neighborhood Conceptual Plan*

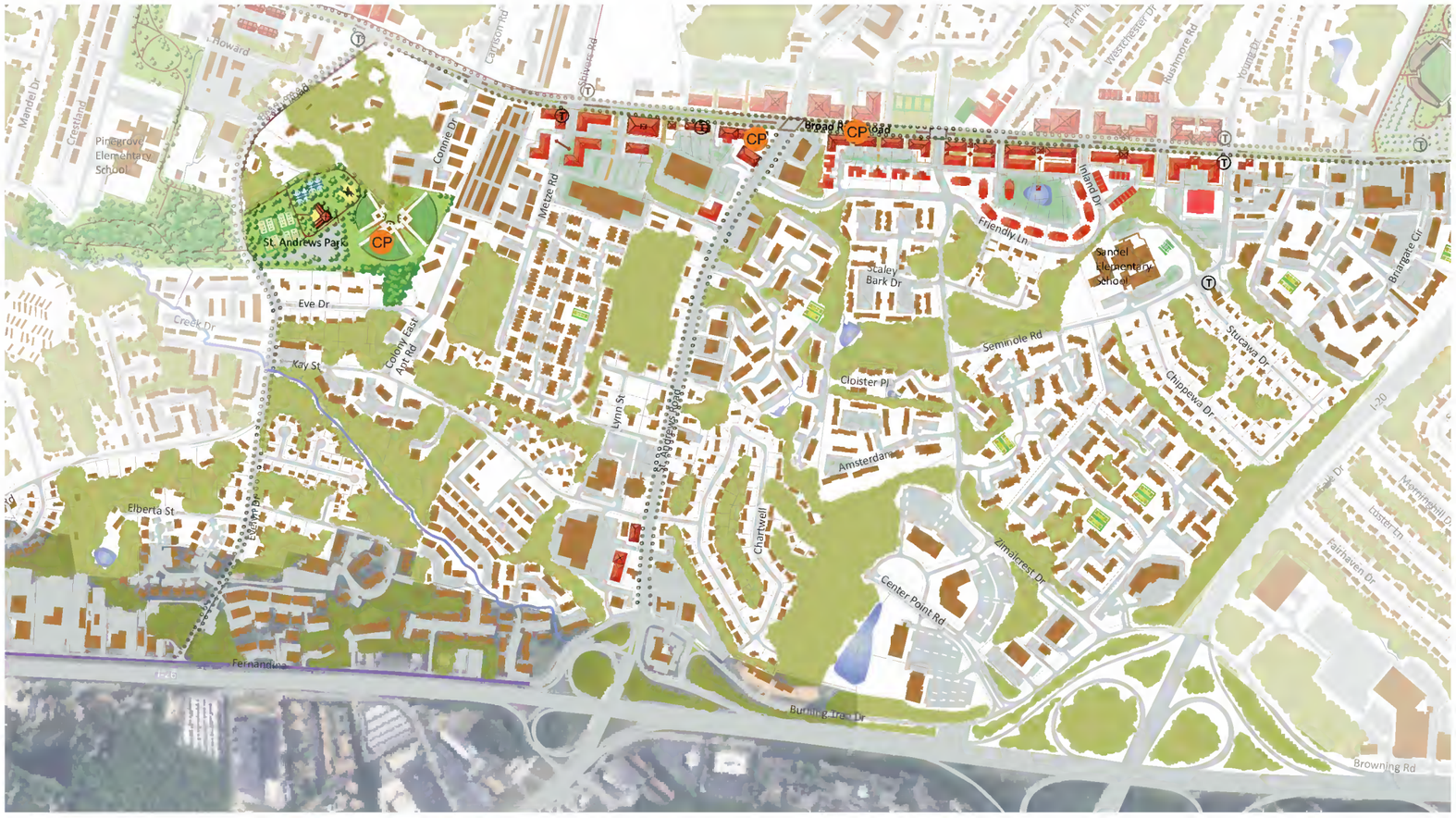
ST. ANDREWS WEST NEIGHBORHOODS SUB-AREA

The sub-area identified as St. Andrews West Neighborhoods currently accommodates some of the highest concentration of moderate to high density housing units in the entire Study Area. The sub-area includes neighborhoods located west of Broad River Road between Beatty Road and I-20. Neighborhoods within this sub-area include St. Andrews, Chartwell, and Crossroads. Figure 4.17 illustrates the St. Andrews West Neighborhoods Sub-Area.

In addition to providing the needed critical mass for cost-effective transit service, the neighborhoods within this sub-area also function as an integral component of the market base for commercial and retail development being proposed in the St. Andrews Neighborhood Activity Center Redevelopment Node. Sections of the residential neighborhoods, in particular the apartment buildings, have experienced significant deterioration primarily due to outdated building designs. Lack of public facilities and amenities- missing sidewalks, unpaved roads, lack of recreation facilities, inadequate transit service- have exacerbated issues related to investment in the area.

The Plan anticipates that the housing units will undergo little change as it relates to land use composition in the short-term. Over time, as public realm improvements to the redevelopment node are completed and private sector investment is attracted into the neighborhood, new development should be channeled to introduce diverse residential products at varying densities and price points to the area. The Plan recommends that the neighborhood be redeveloped with mid-rise buildings between two and four stories in height; with emphasis on creating a diverse stock of housing units such as town homes, garden apartments, duplexes, and bungalows fitting with the appropriate architectural character, scale and density of the surrounding neighborhoods. Small scale commercial development on properties fronting St. Andrews Road should be encouraged to introduce community-oriented retail that serves the daily needs of the neighborhood. The vision is to support the development of retail uses that accommodate extended hours of operation- cafes, restaurants, book stores- to stimulate activity into non-work hours and generate pedestrian activity in the area.

As the redevelopment efforts are successfully completed and the neighborhood witnesses an increase in population and investment, the Plan anticipates that the St. Andrews Park facilities will need to be upgraded and expanded to provide additional educational facilities and recreational resources to future residents. This Plan identifies a combination of strategies to create public open space and provide enhanced access to existing recreational facilities such as developing vacant lands for small passive neighborhood parks to complete the system, where possible. Another alternative to ensure the provision of adequate recreational facilities in proximity to residential neighborhoods, is to work with the School Board to provide joint use park sites and programs. The Pine Grove Elementary School and the Sandel Elementary School are the two institutions located in the sub-area.



Legend

- Existing Buildings
- Infill Redevelopment Opportunities (Proposed)
- Existing Open Space/ Tree Canopy
- Proposed Streetscape Improvements
- CP Catalyst Project
  - St. Andrews Community Center/ Business Assistance Center
  - St. Andrews Library Upgrade
  - St. Andrews Park Upgrade

Figure 4.17 *St. Andrews West Neighborhood Conceptual Plan*

The St. Andrews Activity Center Redevelopment Node proposes an array of civic uses- community center, business assistance center, upgraded St. Andrews Public Library, and Arts and Vocational Campus. These uses will ultimately help in redefining the functional and visual character of the neighborhood and provide a focal point in the neighborhood's center for public gathering and to reduce the negative image and undesired activities from the area. The Plan recommends redeveloping the existing library and assembling land to create a facility that has improved physical access to the downtown redevelopment area and provides a functional and architecturally significant activity center for community engagement and culture.

As it relates to public realm improvements, the Plan recommends that the County continue work to secure the preservation and enhancement of these neighborhoods through neighborhood planning efforts, code revisions and infrastructure improvements including gateway treatments, sidewalk improvements, road paving, lighting, improved bus transit service and facilities, and installing directional signage to area destinations. In conjunction with these improvements power lines should be placed under ground when feasible, utility systems should be upgraded, pedestrian scale street lighting and sidewalks installed, and an ongoing neighborhood planning process initiated.

ST. ANDREWS EAST NEIGHBORHOODS SUB-AREA

The St. Andrews East Neighborhoods Sub-Area consists of the Kingswood, Pine Valley and Broad River Estates neighborhoods. Figure 4.18 illustrates this sub-area. This area, located east of Broad River Road and north of I-20, was once considered to be a relatively stable neighborhood in terms of property values, occupancy rates, and housing conditions. Over time, the neighborhoods have witnessed a gradual decline in the overall physical character. During the public workshops, participants identified issues related lack of recreational facilities, crime and safety as the major concerns for this neighborhood. Issues related to proliferation of discount stores, automobile sales, and vacant buildings at the front door to the neighborhood have exacerbated issues related to the resale value of the properties in the neighborhood.

The proposed St. Andrews Activity Center Redevelopment Node is envisioned to infuse vitality into the neighborhood and reorient the existing strip commercial development pattern into a mixed-use town center model serving both neighborhoods on either side of Broad River Road. Traffic calming improvements (reduced speed limits, paved pedestrian crossings) and beautification projects (landscaping, gateways, sidewalk enhancements) will be necessary to attract quality development in the area.

Broad River is another valuable but underutilized asset that forms the back yard to the neighborhoods in this sub-area. Community members unanimously identified the riverfront's edge as the Study Area's greatest strength, weakness, and opportunity. Serving as the northern boundary to the Study Area, the Broad River waterfront offers an exceptional opportunity to serve as the area's environmental and recreational spine with the potential of forging new trail linkages connecting the balance of the community with this amenity. The Plan envisions creating a unifying identity for the entire stretch of open space along the riverfront and introducing diverse recreational and eco-tourism uses that will serve as a regional and local destination for residents and visitors. Chapter 7: Public Facilities and Amenities contains a detailed description of the redevelopment opportunities for the Broad River Waterfront.

The presence of the Columbia High School in the neighborhood, and the School Board's recent investment in upgrading the high school facility is definitely an asset as they are considered as one of the strongest location factors with families buying homes. However, the current high school facility is located in center of the neighborhood, thereby limiting its ability to expand in the future. The Marley Drive Park and currently vacant Palmetto GBA building provides an opportunity for the County, working in collaboration with the School Board, to assemble land and redevelop the two sites as a sports complex/ ballpark fields. Redeveloping this site as a joint-use facility would provide the community with needed recreation amenities and give the high school facility more flexibility to expand in the future.

Figure 4.18 *St. Andrews East Neighborhood Conceptual Plan*

LOWER BROAD EAST NEIGHBORHOODS SUB-AREA

The Lower Broad East Neighborhood Sub-Area is located east of Broad River Road on the south side of I-20. It consists of residential areas that are similar in character to the St. Andrews East Neighborhoods Sub-Area with typical suburban single-family development patterns- cul-de-sacs, dead ends, and large lot sizes. The area also consists of multi-family dwelling units with a concentration of apartments along Garner Lane. Garner Lane serves as a frontage road for the area. Figure 4.19 illustrates the Lower Broad East Neighborhoods Sub-Area.

Properties with frontage along Broad River Road are characterized by conditions that epitomize suburban style auto-oriented development. Redevelopment of the Dutch Square Mall Transit Node as a mixed-use compact urban core will have a positive impact on the future development in this sub-area. In the event that the Dutch Square Mall property redevelops as a transit-oriented hub over the course of the next twenty-five years, redevelopment efforts in this neighborhood will offer an exceptional opportunity to attract increased densities, especially within a half-mile walking radius from the future bus transit station.

As it relates to properties on the riverfront, the vision is to provide increased public access to the waterfront through recreational and eco-tourism opportunities. The area is better positioned to be redeveloped as a waterfront civic amenity than the properties in the St. Andrews East Neighborhood Sub-Area primarily because of the 30 acre County-owned property located on the waterfront which would bring down the costs of land acquisition associated with the project. The Riverside Golf Center is located next to this property and should be incorporated into the overall master planning effort for the future development along the waterfront.

The Plan does not advocate tearing down existing buildings in the neighborhoods nor does it anticipate that the redevelopment program will result in displacement of the existing population residing in these neighborhoods. As Broad River Road redevelops and new businesses move into vacant structures, the Lower Broad East Neighborhood is expected to witness a gradual transformation in its land use composition. Similar to the strategies discussed for the St. Andrews West Neighborhood, the Plan recommends the future of the two sub-areas be marked by an increase in diversity of housing opportunities (town homes, bungalows, duplexes, and apartments), while at the same time introducing incremental low-impact changes with combined mixed-use buildings that house neighborhood retail, coffee shops, and small scale retail stores in the vicinity of the St. Andrews Activity Center and the Dutch Square Mall Transit Plaza redevelopment node. As the redevelopment efforts achieve desired results in attracting private investment, it is anticipated that the neighborhoods will provide opportunities to strengthen the area's potential as a stable residential base serving as a new gateway to the Broad River waterfront amenities.

In addition to ensuring that the public infrastructure is in place for this transformation to take place, the Plan recommends establishing policies and programs that protect the residential areas and stimulate private investment in housing restoration and in-fill development. Residential areas should be buffered from industrial and commercial uses while zoning strategies should discourage commercial encroachment into surrounding neighborhoods. Using a multitude of funding sources, the County should establish a residential property improvement grant program to encourage housing restoration. As demand increases, residential design standards should be established to ensure new housing is consistent with the character of the downtown core and designed to the highest quality.

Figure 4.19 *Lower Broad East Neighborhood Conceptual Plan*

DUTCH SQUARE WEST NEIGHBORHOOD SUB-AREA

The Dutch Square West Neighborhood Sub-Area includes properties west of Broad River Road between I-20 on the north and Saluda River Road to the east. This sub-area consists of a mix of uses with a high percentage of retail and office uses including the Dutch Square Mall and the Boozer Center. Other uses in the area include the St. Andrews Middle School, vacant buildings (Intersection Center), and a high concentration of single-family neighborhoods. Since this neighborhood is within the Dutch Square Mixed-Use Transit Plaza Redevelopment Node, it is envisioned to transform into the heart of commercial activity for the Broad River Road Corridor and Community Study Area. Figure 4.20 illustrates the Dutch Square West Neighborhood Sub-Area.

Future development character in this sub-district is envisioned to develop as much centralized parking located to the rear of buildings, when possible. All parking should be carefully designed to be safe, convenient and properly identified by adequate signage for the public. This allows more building frontage adjacent to pedestrian oriented streets. As part of this concept, pedestrian improvements must link the parking areas to the various uses through shared access points.

Legend

- Existing Buildings
- Infill Redevelopment Opportunities (Proposed)
- Existing Open Space/ Tree Canopy
- Proposed Streetscape Improvements
- CP — Catalyst Project
  - Dutch Square Transit Center
  - Dutch Square Pedestrian Plaza

Figure 4.20 *Dutch Square West Neighborhood Conceptual Plan*

GREYSTONE BOULEVARD NEIGHBORHOOD SUB-AREA

This sub-area consists of the neighborhoods located south of Saluda River Road to the southern extent of the Study Area near the edge of Broad River. Automobile sales and car dealerships dominate the landscape of Greystone Boulevard- the primary gateway into the neighborhoods. The area also consists of a concentration of low-density housing units, industrial uses, office park buildings, and vacant lands situated in a rural (north of Greystone Blvd.) and suburban (south of Greystone Blvd.) setting. Figure 4.21 illustrates the Greystone Boulevard Neighborhood Sub-Area.

The sub-area acts as a gateway into the community from Downtown Columbia and other surrounding neighborhoods as it is the first exit off I-126 into the Study Area. Proposed future development within the Greystone Boulevard Gateway will have an impact on the redevelopment potential of the neighborhoods in this area. As discussed earlier in the description of Land Use Districts and the Greystone Boulevard Gateway, with the exception of intense development within a half-mile radius of the node, future uses in the Suburban/ Rural district are limited to low-density residential development. The area also includes office parks accessed through Fernandina Road that also serves as the frontage road running parallel to I-126.

Some of the concerns that are impacting the residential neighborhoods in this sub-area include commercial encroachment, traffic circulation problems, lack of identity and deteriorating pedestrian amenities such as broken sidewalks, lack of landscaping and pedestrian amenities. The existing street network does not adhere to the traditional grid pattern henceforth discouraging increased connectivity and circulation between neighborhoods. Because of the area's scattered development pattern, there are few opportunities to create new streets or street extensions to connect neighborhoods internally while alleviating traffic congestion issues along Broad River Road. The intent is to enhance residential areas through investment in public infrastructure while promoting programs that support investment in residential development which will ultimately help in enhancing property values.

Legend

- Existing Buildings
- Infill Redevelopment Opportunities (Proposed)
- Existing Open Space/ Tree Canopy
- Proposed Streetscape Improvements
- CP Catalyst Project - Greystone Transit Plaza and Gateway

Figure 4.21 *Greystone Boulevard Neighborhood Conceptual Plan*

ACTION STRATEGIES: NEIGHBORHOOD PLANNING AREAS

Ongoing Planning

- Continue to work with the residents and businesses to address planning and development issues, through an ongoing neighborhood planning process, including: conversion of septic to sewer systems; identifying priority streets for installing sidewalks and traffic calming measures; programming for proposed community facilities; and community clean-up drives.
- Conduct a feasibility study to explore programmatic demands and space needs for the expansion of the St. Andrews Park and Pine Grove Community Center. Some of the activities could include a neighborhood resource center, day-care center, after school programs, or a performance venue.
- Establish a "Neighborhood Steering Committee" that guides the combined efforts of all the neighborhood associations thereby creating synergy for redevelopment.

Recreation and Open Space

- Connect the residential neighborhoods with area recreational facilities, educational institutions, commercial areas, public spaces, and adjoining neighborhoods through the trails system and extension of service roads in new development, when possible.
- Identify opportunities to develop pocket parks through acquisition of privately owned vacant lots, dilapidated or uninhabitable structures and initiating joint use agreements with area schools and faith based institutions.

Neighborhood Character and Identity

- Work with the Sheriff's Department to identify sites in the neighborhood that have a detrimental impact on the investment image and the tax base of the community. The County should consider appointing a dedicated Building Code Enforcement Officer that actively enforces code violations for boarded properties, dilapidated structures, and overgrown lots.
- Develop policies that hold absentee landowners accountable for the maintenance and upkeep of property conditions. Institute a landlord-tenant training program to increase community awareness and encouraging the owners to maintain their properties.
- Ensure adequate landscaping buffering between incompatible uses.
- Establish Residential Façade Improvement Program to enhance and upgrade existing quality of housing.
- Develop design strategies to minimize the visual impact of the state prison and correctional facility.
- Work with area faith-based institutions to generate community support and participation in maintaining the neighborhood's aesthetic environment.
- Work with commercial property owners to institute a sidewalk maintenance and beautification program.
- Consider the provision of flexible development standards in future zoning code revisions for minimum lot sizes to enable development of smaller owner-occupied single family residential lots.

Home Ownership

- Work with area institutions and non-profit organizations to initiate education and counseling programs that assist existing and prospective homeowners with programs such as life management skills, home maintenance and repair counseling, financing options, and debt management.
- Seek opportunities to form partnerships between developers and residents that encourage local participation in the investment that is anticipated to be generated from future growth and development.
- Work with area banks to create incentives such as increased points added to credit scores and lower mortgage payments for potential buyers who complete a home buyer's education program.

Economic Development

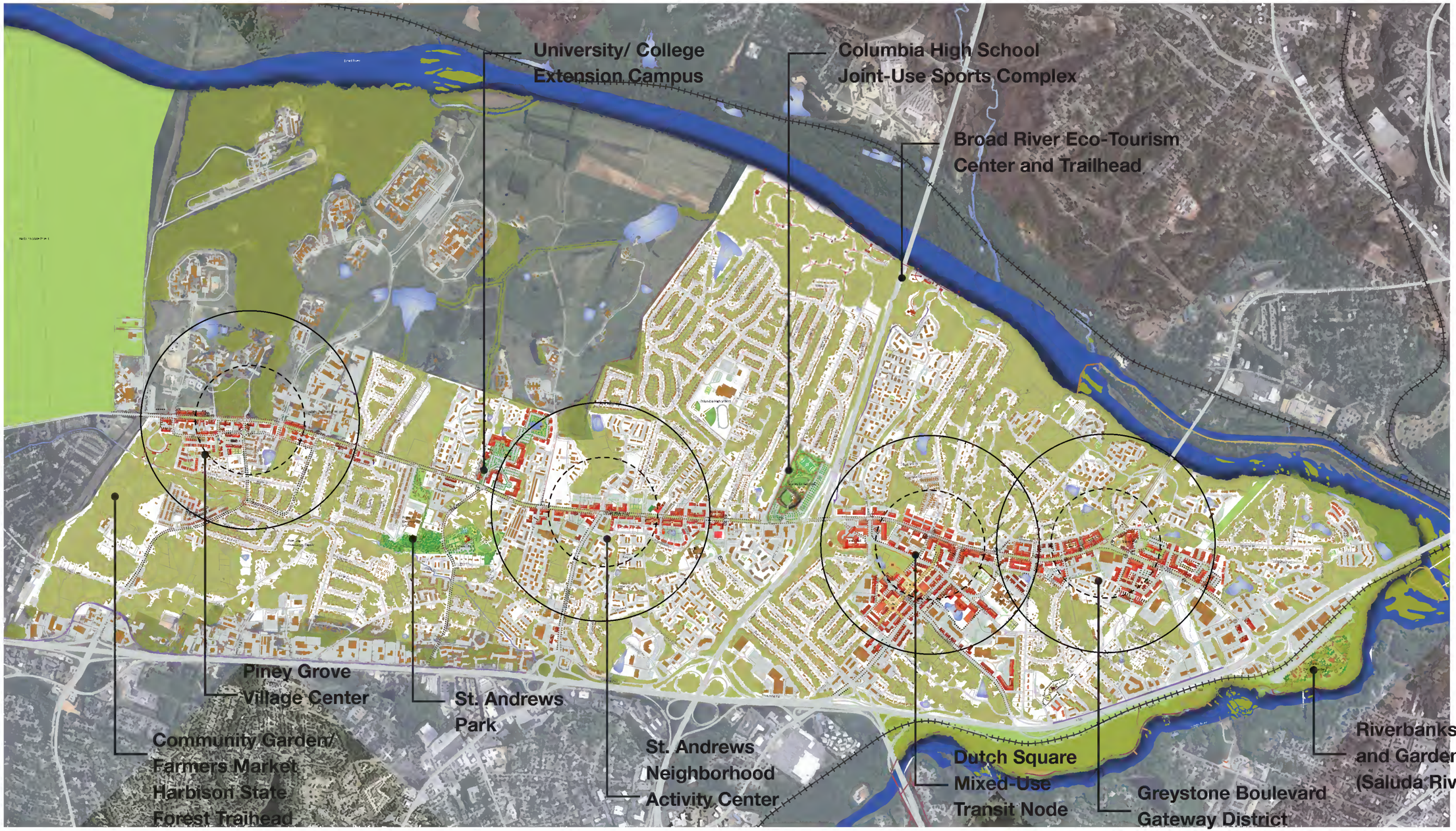
- Collaborate with local realtors to create a comprehensive inventory of residential properties available in the neighborhood.
- Encourage adaptive reuse of vacant and underutilized properties to accommodate community facilities and activities (vocational technology training center/ business resource center/ job training center).
- Attract neighborhood commercial establishments that meet the needs expressed by the residents, such as a grocery store and local restaurants along the major thoroughfares traversing the neighborhoods.

Recommended Development Character: Neighborhood Planning Areas






URBAN DESIGN PLAN FIGURE 4.22



Chapter 5 Circulation and Connectivity

CIRCULATION AND CONNECTIVITY

Meaningful changes that enhance circulation and connectivity and expand mobility for area's travelers will be accomplished through a comprehensive transportation planning effort. The future redevelopment of the Broad River Road corridor and connecting roadways, takes into account the County and COG's desire for increased walkability must be enforced through good urban design and targeted improvements to the area's transportation system that are in context with the existing fabric of the Study Area.

After a brief discussion of walkable urban design and the importance of vehicle speed on walkability, this section will provide recommendations for improving the area's major transportation networks- *Roadways; Pedestrian Facilities; Transit; Parking Supply; and Bicycle Facilities*

ROADWAYS

This section will frame design issues for the Broad River Road corridor by reviewing traffic counts to better understand where the pressure for additional traffic capacity is or is not needed. A major result of this research should be the determination of whether or not Broad River Road should be redesigned to accommodate more or less traffic.

Functional Classification

Functional classification defines a thoroughfare's function in a network, how it should operate and governs the selection of certain design criteria such as design speed, travel lane width and level of land access. Figure 5.1 illustrates the functional classification of the roadways throughout the Study Area.

Broad River Road is classified as a principal arterial. Arterials, as defined in A Policy on the Geometric Design of Highways and Streets (The Green Book by AASHTO 2004), are intended to provide the highest level of service at the greatest speed for the longest uninterrupted distance with some degree of access control. Therefore, arterials provide higher levels of vehicle mobility and lower levels of land access. These competing issues are discussed in greater detail later in this report.

The following major thoroughfares in the Study Area are classified as minor arterials:

- Greystone Boulevard
- Bush River Road
- St. Andrews Road
- Piney Grove Road

Piney Woods Road, Beatty Road, Dutch Square Boulevard, Arrowwood Road and Stoneridge Road are all classified as collectors. Colonial Life Boulevard is classified as a freeway, while all other thoroughfares in the area are local roads.

Collectors provide a less highly developed level of service at a lower speed for shorter distances than arterials, by collecting traffic from local roads and connecting them with arterials. Collectors specifically balance vehicle mobility and land access. Local roads primarily provide access to land with little or no through movement.

Traffic Volumes

Regional traffic for the area was obtained by the South Carolina Department of Transportation (SCDOT) and the Central Midlands Council of Government (CMCOG), in the form of average annual daily traffic (AADT) or total volume of vehicle traffic on a thoroughfare for a year divided by 365 days. Most increases or decreases were minimal given the high volumes reported, further supported by the 6-year average. Subtle changes in traffic are likely the result of transportation improvements shifting movement from one corridor to another within the region, while overall volumes remained the same.

According to an interview with SCDOT representatives, Broad River Road, has been resurfaced recently from the Broad River Bridge to Kennerly Road. The Columbia Area Transportation Study (COATS) 2035 Long Range Transportation Plan does not identify any widening projects in the Broad River Corridor area as priorities in its 30-year improvement plan. The Broad River Road Bridge is currently being replaced and will include pedestrian and bicycle improvements, along with a pedestrian ramp to the canal.

A focus group meeting with representatives from the SCDOT (Program Manager and the Mass Transit Division) included a discussion about the ways the State is trying to address congestion issues on the Interstates (I-26 and I-20). Any improvements, especially to the parallel commuter system of I-26, will have a positive impact on Broad River Road's traffic capacity and redevelopment efforts.

Broad River Road has developed like many arterial corridors throughout the United States; with multiple lanes and frequent commercial driveways, often leading to congested conditions. Broad River Road is required to carry all types of motor vehicle trips whether long range or short distance access trips. In fact, there is a driveway nearly every 100 feet between Bush River Road and Seminole Road, with even more in other sections of the corridor

The SCDOT Access and Roadside Management Standards require 220' of driveway spacing on a 35 mph street carrying more than 2000 vehicles per day. By that criteria, a large majority (upwards of 80% based on a preliminary aerial review) of driveway access along the Broad River Road corridor Study Area does not meet SCDOT standards, for typically suburban adjacent land development.

A full hierarchy of streets is needed to deal with these differing functions, supported by the manual of highway design by the American Association of State Highway and Transportation Officials (AASHTO). In a situation like Broad River Road, congestion and crashes occur because slower speed access trips are placed on a high speed arterial.

Departments of Transportation are undertaking efforts to better manage access along these types of arterials. Access Management limits and consolidates access along major roadways, while promoting a supporting street system and unified access and circulation systems for development. The intended result is a roadway that functions safely and efficiently. The Transportation Research Board (TRB) suggests that by "managing roadway access, government agencies can increase public safety, extend the life of major roadways, reduce traffic congestion, support alternative transportation modes, and even improve the appearance and quality of the built environment."

The TRB further states, "without access management, the function and character of major roadway corridors can deteriorate rapidly. Failure to manage access is associated with the following adverse social, economic, and environmental impacts:

- An increase in vehicular crashes,
- More collisions involving pedestrians and cyclists,
- Accelerated reduction in roadway efficiency,
- Unsightly commercial strip development,
- Degradation of scenic landscapes,
- More cut-through traffic in residential areas due to overburdened arterials,
- Homes and businesses adversely impacted by a continuous cycle of widening roads, and
- Increased commute times, fuel consumption, and vehicular emissions as numerous driveways and traffic signals intensify congestion and delays along major roads."

Traffic Safety Accidents/ Traffic Signals

Fortunately, there was only one (1) traffic-related death within the Study Area on Broad River Road in 2009 near the intersection of Broad River Road and Piney Woods Road. It involved a pedestrian lying and/or illegally in the roadway.

However, there were a number of accidents reported in 2009. The large number of accidents at Longcreek Drive and St. Andrews Road are likely the result of high traffic volumes. St. Andrews Road showed higher than average peak hour volumes. Longcreek Drive's proximity to I-20 and short distance between signals (along Broad River Road) might also lead to the increase in incidents. Note that a majority of all accidents were the result of driving too fast for conditions (mostly on dry, clear days) and failure to yield to right of way. This indicates two important issues that must be addressed in the design and redevelopment of the corridor:

- Thoroughfare design recommendations must be made that encourage slower, safer driving speeds; and
- The number of driveways must be considered to ensure potential right of way conflicts are kept at a minimum.

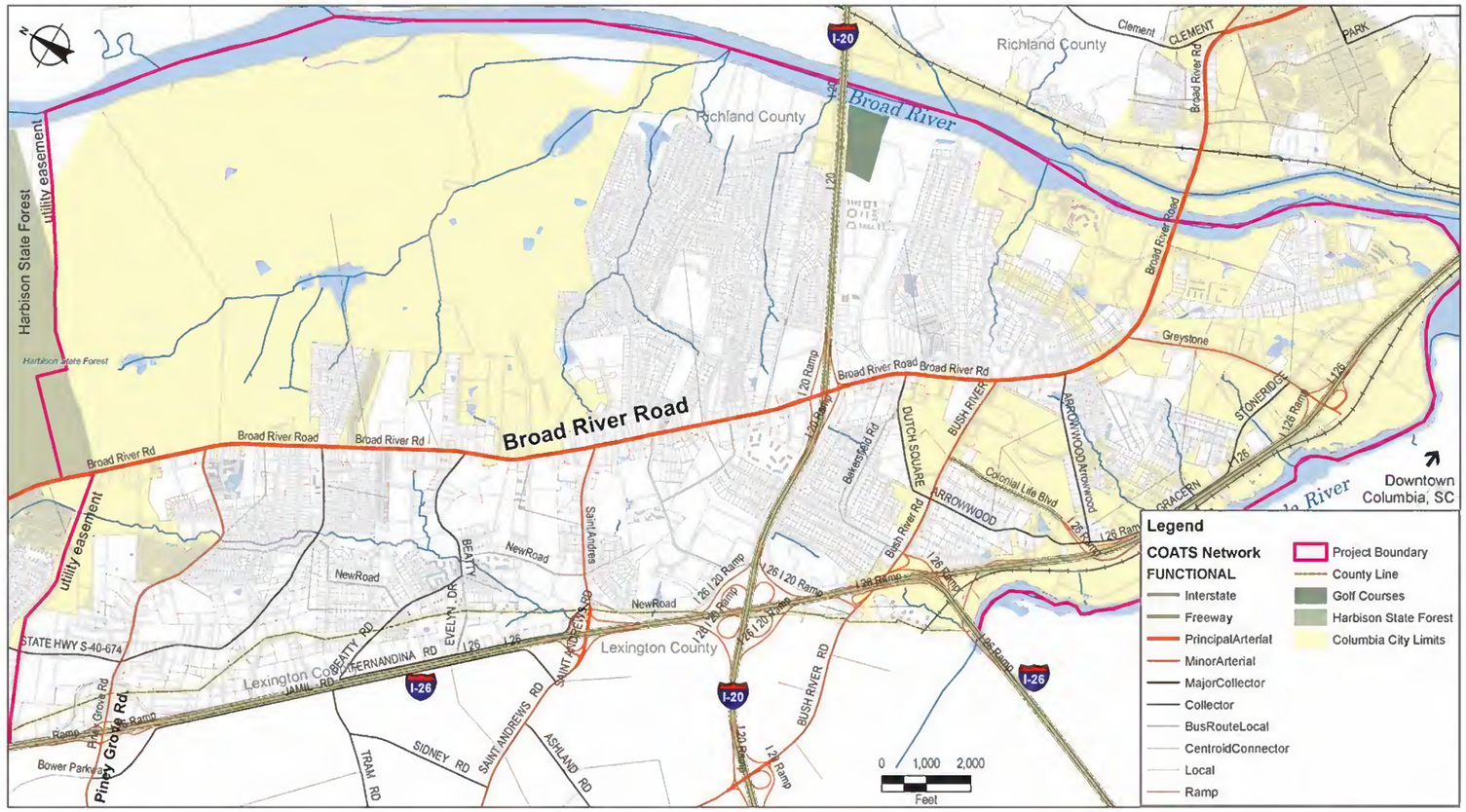


Figure 5.1 *Functional Classification Map*

Interchanges

The interchange at I-26 and I-20 has historically caused traffic problems due to its high volumes and proximity to other intersections/interchanges at I-26 eastbound, Bush River Road and St. Andrews Boulevard. The interchange, often referred to as "Malfunction Junction," is a two-level clover-leaf, with left turns being accommodated by loop ramps. Cloverleafs have a couple major disadvantages: the weaving of traffic, which is further complicated in the Study Area by the short distances between major interchanges, and they require a large amount of land to build. The SCDOT has reviewed a number of alternatives to improving the capacity, safety and efficiency of the interchange at I-26 and I-20. Some of those alternatives include a complete redesign of the interchange to a re-striped express lane that would provide extra capacity in the peak hour peak directions for commuters.

This interchange has a significant impact on Broad River Road. When traffic becomes congested on I-26, a spillover of traffic is experienced on Broad River Road during those times, as Broad River Road parallels I-26 and provides access to the same major thoroughfares. Any improvements to traffic flow on I-26 and to the interchange in general will positively impact the amount of traffic utilizing Broad River Road for the same movement, providing additional capacity on the corridor for more local trips.

The interchange at I-20 and Broad River Road is a Single-point urban interchange (SPUI). It is a modification of a diamond interchange, bringing the two intersections of the diamond into one single intersection over or under ("over" as is the case with Broad River Road) the free-flowing road. This is a more urban design for interchanges, in that it requires substantially less land than cloverleaf-style interchanges.

SPUI's avoid the issue of traffic weaving, but traffic efficiency suffers from stacked left turn lanes that also impact the amount of green time provided to the other heavy movements, normally through trips.

The interchange at this location, not only deposits a large amount of vehicular traffic onto Broad River Road, it is also a substantial divider that separates parcels on one-side of Broad River Road from parcels on the other side of I-20. It essentially divides the corridor at that location, making it nearly impossible to plan for pedestrian connectivity on either side of the interstate. This lack of connectivity and inhospitable pedestrian environment is recognized by the urban design Plan for the Dutch Square Mall Mixed-Use Transit Node, which confines the urban "town center style" growth and development to the southeastern portion of Broad River Road. The Plan, therefore, assumes no improvements to the interchange at I-20 and Broad River Road.

The SCDOT, while having reviewed redesigns for this intersection in the past, currently does not have any improvement plans for I-20 at Broad River Road. Richland County, however, does list improvements to this interchange as a high priority.

The Study Area has a rather extensive service road network that helps provide relief to the local interstates. Observation and interviews with stakeholders indicated that the following service roads are used a great deal by travelers wishing to avoid the interstates, especially during commuting peak times:

- Stoneridge Drive
- Gracern Rd.
- Morning Hill Dr.
- Browning Rd.
- Burning Tree Dr.
- Fernandina Rd.

Efforts should be made to maintain the efficiency of these service roads and provide similar, new connections when possible.

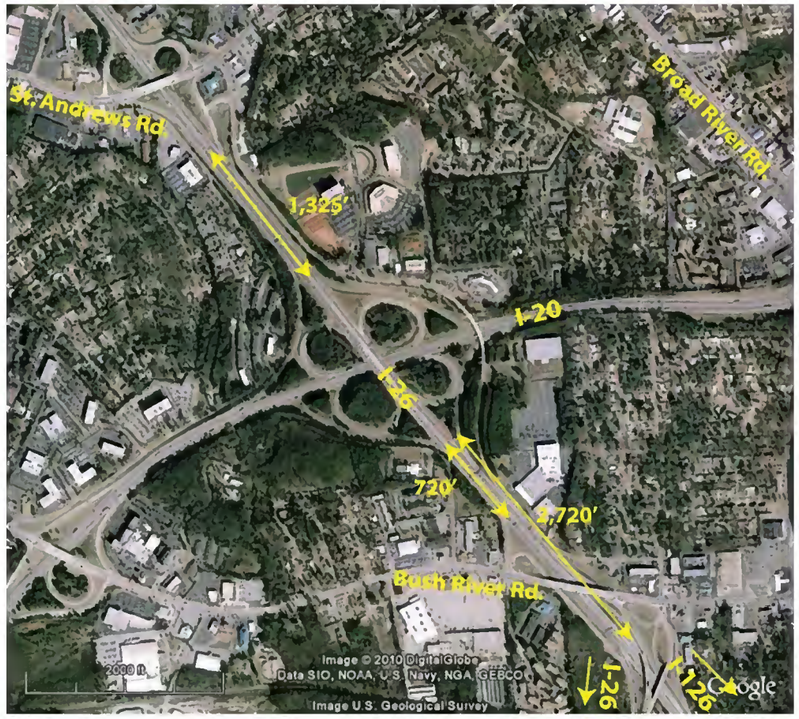


Figure 5.2 *Interchanges at I-26 and I-20 (Top) Interchange at I-20 and Broad River Road (Bottom)*

PEDESTRIAN CIRCULATION AND WALKABILITY CONDITIONS

"Walkability" is a term used in this effort to describe the extent to which places are comfortable for pedestrians, cyclists and transit users. Walkable places require a mix of uses, public spaces, a fine-grained network of connected streets that provides many options for travel, managed vehicle speeds and human-scaled development placing amenities and services within a ¼ mile radius of one's home. A walkable community is one that encourages the use of a mix of modes (pedestrian, bicycle, transit and motor vehicle). Walkable communities are created by a number of factors; a few are listed below:

- On-street parking
- Mixture of uses and densities
- Streets with managed speeds
- Connected network of streets
- Buildings fronting streets
- Sidewalks
- Narrow streets

Existing Walkability Conditions

A walkability audit of Broad River Road was performed on February 8, 2010 by the consultant team. This audit was conducted to assess the overall walkability of the corridor and utilized an extensive collection of data. (Appendix B)

As part of this master planning process, the consultant team measured the "walkability" of the Broad River Road corridor to assess total mobility, using an analysis tool called the Walkability Index. Grading a location's walking environment is basic to assessing its total mobility. Successfully applied in several cities, The Walkability Index achieves a block by block, pedestrian level of service score. This score is highly related to bicycle and transit mobility potential for a given block.

For the purposes of the Broad River Road Corridor and Community Master Plan, the designation "C" (Context) is used interchangeably with "T" (Transect). The Walkability Index utilizes the Transect (or Context) theory to describe context zones, which organizes the natural, rural, suburban and urban landscape into categories of compactness, richness of design opportunity and street structure. One operating principle of the Transect is that elements of a certain type belong in certain environments; for example, an apartment building belongs in a more urban setting, and a house on a large lot belongs in a more rural setting. Some kinds of thoroughfares are urban (streets), and some are rural (roads). For the Walkability Index, the Sub-urban (C3) to Urban Core (C6) zones were analyzed. These Transect zones are briefly described as the following:

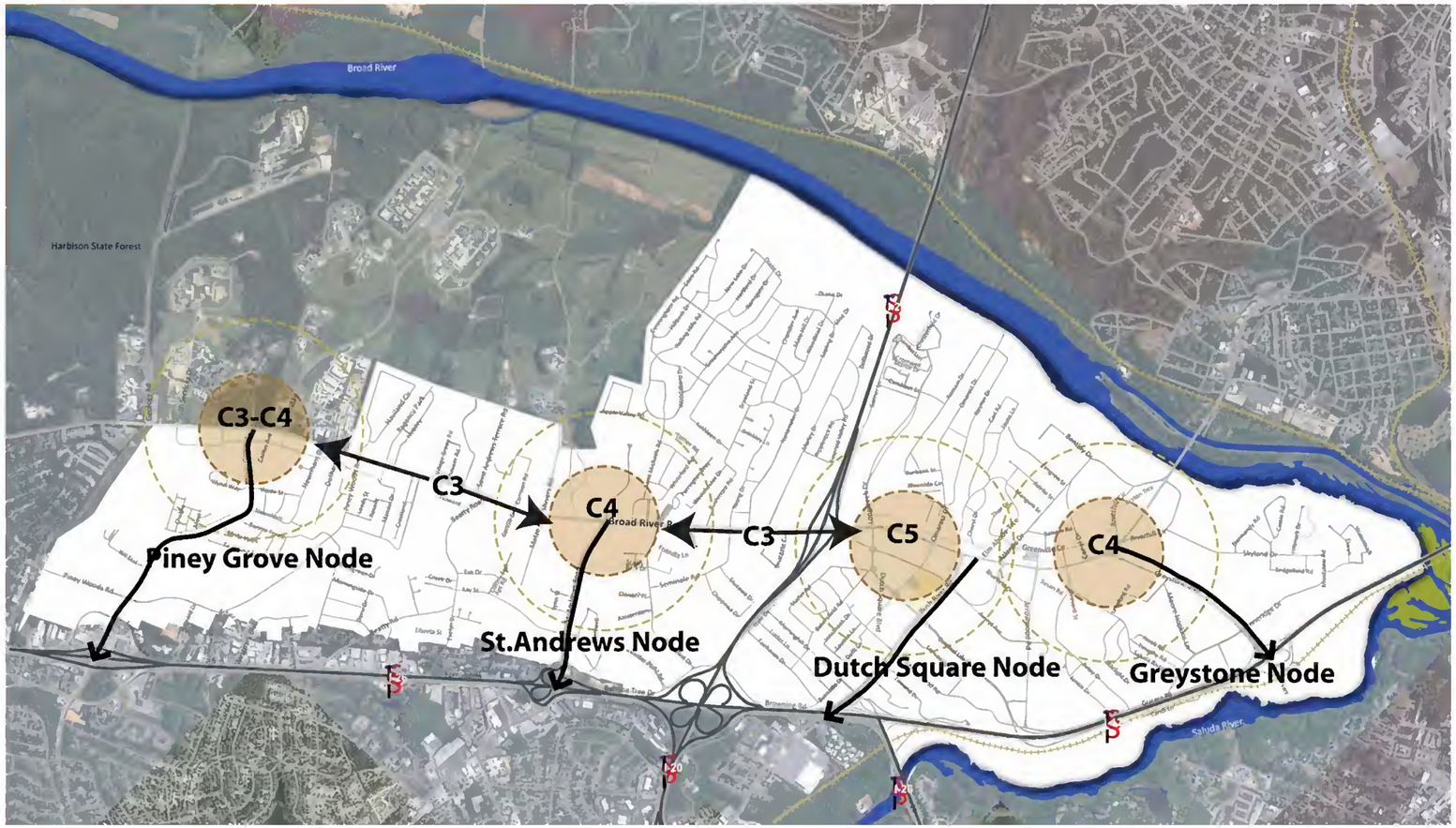


Figure 5.3 Nodes and Context Map

- C3 Sub-urban consists of low density residential areas, adjacent to higher zones with some mixed use. Blocks may be large and the roads irregular to accommodate natural conditions.
- C4 General Urban consists of mixed use but primarily residential urban fabric and may have a wide range of building types: single, sideyard and rowhouses. Streets with curbs and sidewalks define medium-sized blocks.
- C5 Urban Center Zone consists of higher density mixed used buildings that accommodate retail, offices, rowhouses and apartments. It has a tight network of streets, with wide sidewalks, steady street tree planting and buildings set close to the sidewalks.
- C6 Urban Core Zone consists of highest density and height, with the greatest variety of uses, and civic buildings of regional important. It may have larger blocks, streets have steady street tree planting and buildings set close to the wide sidewalks. Typically only large towns and cities have an Urban Core Zone.

The main design elements leading to this low level of walkability are narrow sidewalks, wide travel lanes, lack of building enclosure, minimal number of land uses. These elements all led to the observed high travel speeds, often in excess of 35 mph, and are evident in nearly every segment of the Study Area.

These low scores negatively affect bicycling and transit ridership, as well. As noted earlier in the section, "walkability" is really a term used to describe the overall comfort of a thoroughfare to pedestrian, cyclists and transit users. Like pedestrians, bicyclists are more comfortable and safer in a setting with lower motor vehicle speeds, particularly when the cyclists are not greatly separated from motor vehicle traffic on a path. The lack of bicycle facilities along Broad River Road and high motor vehicle speeds on the thoroughfare itself lead to poor bicycling conditions.

Observations and design know-how suggest the following prioritized features contribute to an excellent pedestrian experience, the lowest number indicating the highest importance.

10. Narrower Streets
9. Street Trees
8. Lower Traffic Volumes
7. Sidewalks
6. Interconnected Streets
5. On-street Parking
4. Lower Traffic Speeds
3. Mixed Land Use
2. Buildings Fronting the Street
1. Small Block Size

These parameters have proven themselves through extensive practice and in the field. When a majority of these are combined in one location, pedestrians are routinely seen.

Design

As described above, it is recommended that the design of Broad River Road should change as its function and context. Three distinct thoroughfare types (C3 - Suburban Commercial, C-4 - General Urban Commercial and C5 - Urban Center Commercial) are recommended to achieve the desired context for Broad River Road as it changes from suburban to town center; identified in Figure 5.4.

Town Center

The designation C5 avenues and C4 avenues are identified on the Plan. nearly identical, C5 varies from C4 only in the anticipated levels of pedestrian improvements. C5 areas will include slightly improved pedestrian paving systems, bollard lighting and additional mid-block crosswalks. The proposed plan and section design for the "town center" of C5 and C4 portions of Broad River Road is shown in Figure 5.5. This section of the corridor should have a "target speed" of 25-30 mph. "Target" speed versus "design" speed is an important distinction in that design speed is defined by curvature and super-elevation where target speed incorporates and relies upon many elements of the urban street environment to achieve the resulting speed. Elements such as narrow travel lanes, on-street parking, adjacent building frontages, street trees, presence of sidewalks and short block lengths all help to inherently manage speed. These elements must be managed and coordinated on both sides of the right of way line. When these elements are present, drivers "read" a street and travel with care and caution, driving at managed speeds that are appropriate to the intended urban environment.

Using the existing right-of way and pavement width, it features buildings built to the back of sidewalk, vehicular lighting (25' standard), pedestrian lighting (12' standard), bollard lighting (C5), 12' sidewalks with trees in tree wells, 8' parking lanes, two 10' travel lanes in each direction and a safety strip/flush median strip of 8'. Bicyclists are accommodated by a shared lane marking, called a "sharrow". At intersections where turning movements are expected and allowed, the on-street parking and safety strip are dropped to allow room for the center turn lane. All measurements are given from face of curb to face of curb, incorporating the gutter as part of the parking lane.
In addition to the improvements shown in the cross section above, pedestrian street furniture

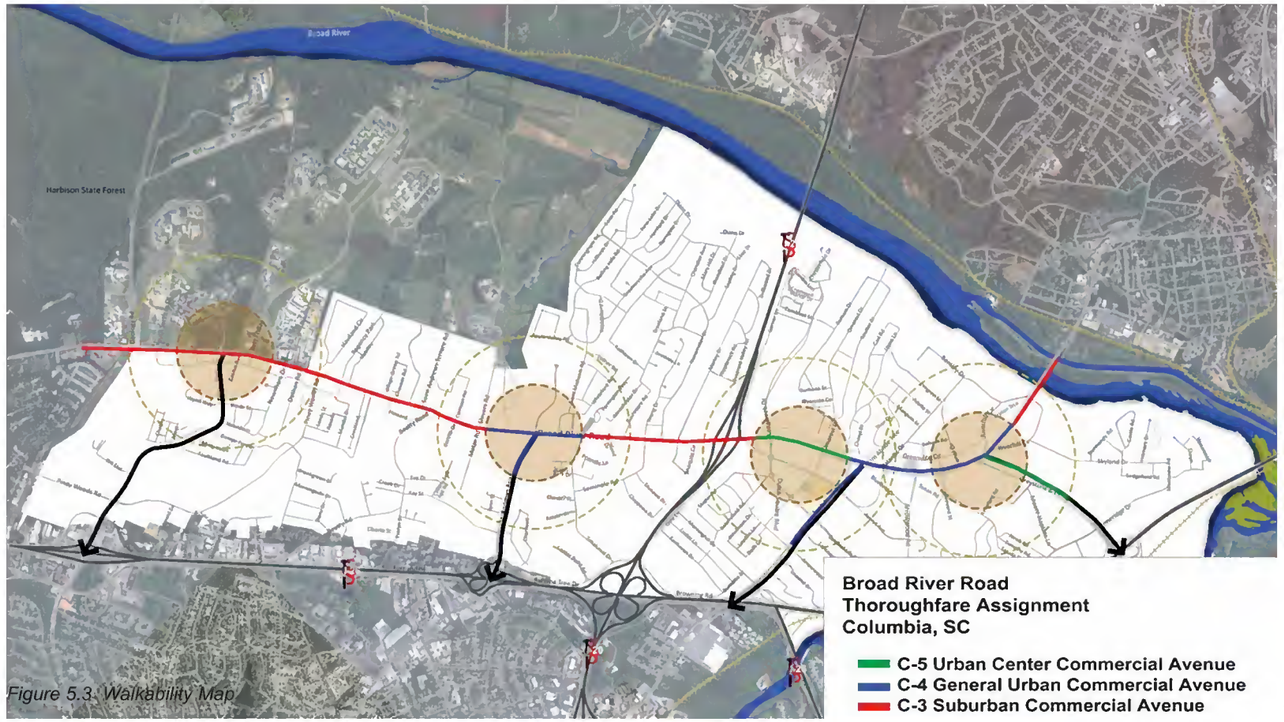


Figure 5.3. Walkability Map

Figure 5.4 *Thoroughfare Assignment*

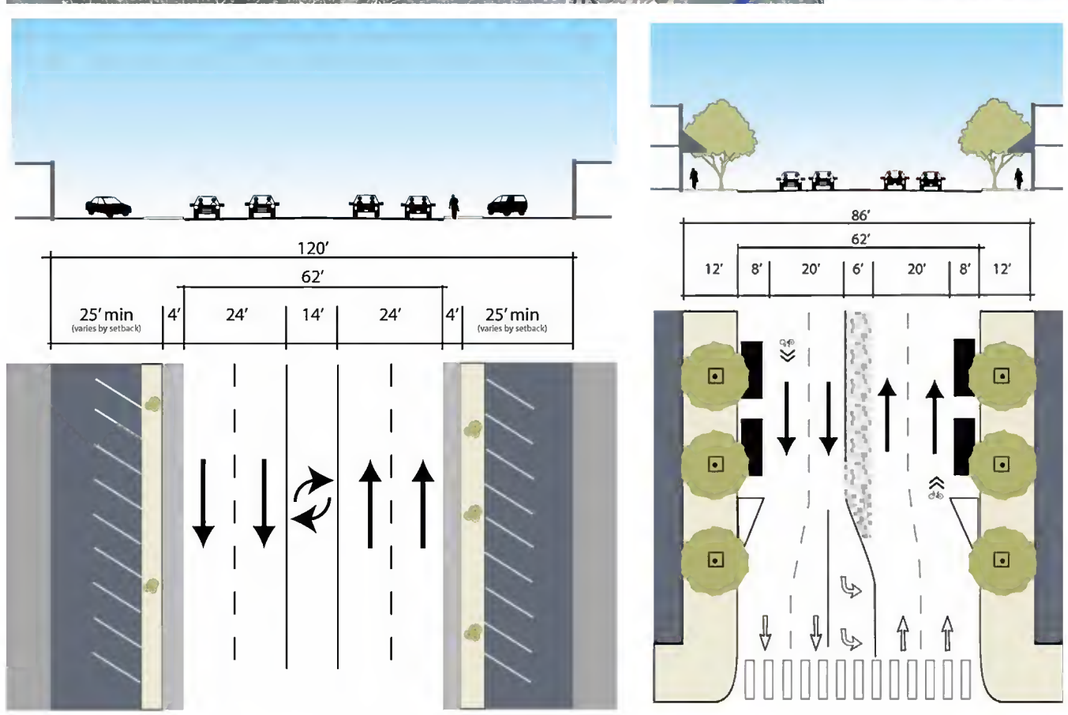


Figure 5.5 *Existing cross-section of Broad River Road in C5 thoroughfare section (left), Proposed cross-section of Broad River Road in C5 thoroughfare section(right).*

and bicycle features should be provided. Pedestrian benches, trash cans and bike racks should be provided. The proposed redesigns for Broad River Road's town center sections are consistent with the Avenue thoroughfare type identified in the recommended practice. The Avenue is a:

Walkable, low to medium speed (25 to 35 mph) urban arterial or collector thoroughfare generally shorter in length than boulevards, serving access to abutting land. Avenues serve as primary pedestrian and bicycle routes and may serve local transit routes. Avenues do not exceed 4 lanes, and access to land is a primary function. Goods movement is typically limited to local routes and deliveries. Some avenues feature a raised landscaped median. Avenues may serve commercial or mixed-use sectors and usually provide curb parking.

The following are design characteristics for the Urban Center/ C5 and General Urban/C4 Commercial Avenue, consistent with the design elements proposed for Broad River Road's town center sections:

- Buildings oriented to the front of the street with rear/side access to off-street parking
- Minimum sidewalk width of 8 feet (C4); 12 feet (C5)
- Pedestrian buffers using 6-foot tree wells
- Target speed of 25 to 30 mph
- Two to four through lanes
- Lane widths of 10-11 feet
- 7-8 feet wide parallel on-street parking
- Optional medians of 4-18 feet and
- Small curb radii that shorten the distance that pedestrians must cross at intersections.
- High quality paving
- High quality stone curbing
- Shade trees with a minimum of 50-foot spacing
- Seating area at mid-block and intersection locations
- Protective bollards at crosswalks
- Vehicular scale and Pedestrian scale lighting with common theme
- Signal master arms at intersections
- Themed street signage
- Themed informational and directional signage
- Themed and shaded bus shelters
- Uniform news racks
- Themed information kiosks at proper locations
- Pedestrian 'bulb-outs' and 'neck-downs' at intersection and mid-block pedestrian crossing locations
- Corner crossing design for handicapped accessibility
- Median safe zones where possible
- Family of themed site furnishings: benches, trash cans, planters, etc.
- Themed gateway pylons to mark the beginning of the core pedestrian zone
- Redesign of the area should minimize steep slope conditions, pedestrian obstacles, trip hazards, and accessibility barriers.

Suburban Sections

The sections of Broad River Road outside of the Town Centers will remain slightly more suburban in nature, maintaining the four-lane cross section with no on-street parking, a separate bike lane and a target speed of 30-35mph. The proposed cross section shown below, however, does begin to introduce more walkable elements, such as:

- narrowing of travel lane widths to 11'
- introduction of the safety strip/flush median and
- widened, tree-lined sidewalks.

The streetside features, such as widened sidewalks and planted buffers may require easements from property owners, who witness the redevelopment occurring along the rest of the corridor and see the added benefits to their business by an increase in pedestrian and transit traffic.

The design elements shown above are consistent with the ITE Practice's Suburban/C3 Commercial Avenue exhibiting the following characteristics:

- Buildings oriented to the front or side of the street with rear/side access to off-street parking
- Minimum sidewalk width of 6 feet
- Pedestrian buffers using 6-foot tree wells
- Target speed of 25 to 35 mph
- Two to four through lanes
- Lane widths of 10-11 feet
- Optional medians of 4-18 feet and
- Small curb radii that shorten the distance that pedestrians must cross at intersections
- Shade trees of different species from primary streetscape system with 50-foot spacing
- Vehicular and Pedestrian scale lighting with common theme
- Themed street signage
- Themed and shaded bus shelters

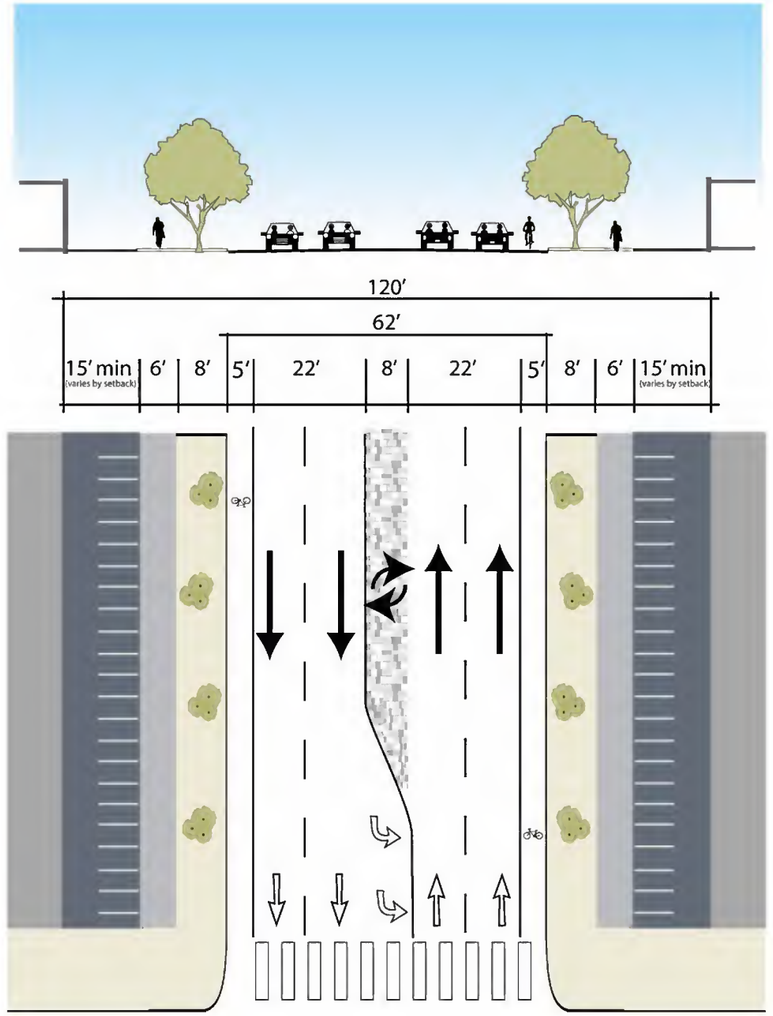


Figure 5.6 *Proposed Broad River Road Suburban/ C3 Thoroughfare Section*

New Redevelopment Nodes and Thoroughfares

New transit-oriented town centers are proposed at the intersections of Broad River Road with Greystone Boulevard and Bush River Road (shown in Figure 5.7). The Piney Grove node adds high-end streetscape improvements but to a lesser degree. Major existing streets within these nodes that tie into Broad River Road should be redesigned in a similar manner to Broad River Road, to accommodate the desired context and development scenario.

The Urban Design Plan proposes substantially more redevelopment for northbound Greystone Boulevard. The existing right of way pavement width yields a cross section that could accommodate four travel lanes (two in each direction), on-street parallel parking on the northbound side, shared bike route and a safety strip for improved access to parcels and motor vehicle speed management.

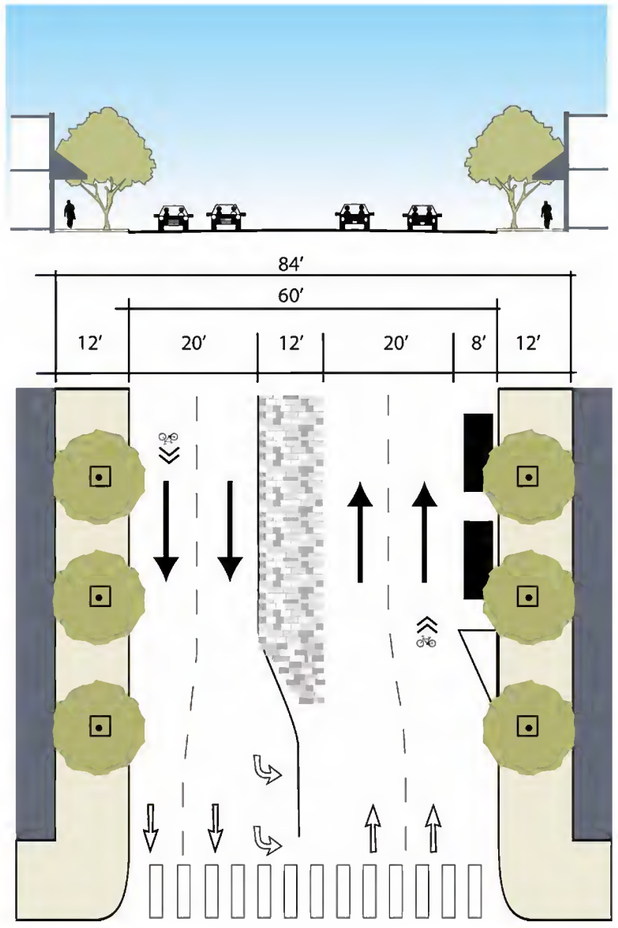


Figure 5.7 *Proposed Greystone Blvd./ C4 Thoroughfare Section*

Bush River Road carries over 30,000 vehicles per day, well over the threshold for a reduction in travel lanes. Its existing right of way pavement width is rather narrow, making on-street parking impractical. on-street parking will be beneficial to the adjacent buildings, it should be avoided if assuming the curbs can not be relocated to provide greater flexibility in right of way. Figure 5.8 illustrates improvements to the Town Center portions of Broad River Road that will help to manage vehicular speeds and enhance walkability. As shown in the illustration, Bush River Road's four travel lanes should be reduced to 10' wide each, separated by a safety strip. Target travel speeds of 30 mph will provide comfortable and safe travel for bicyclists sharing the lane with motor vehicles. Buildings are brought to the back of the sidewalk, further managing motor vehicle speeds.

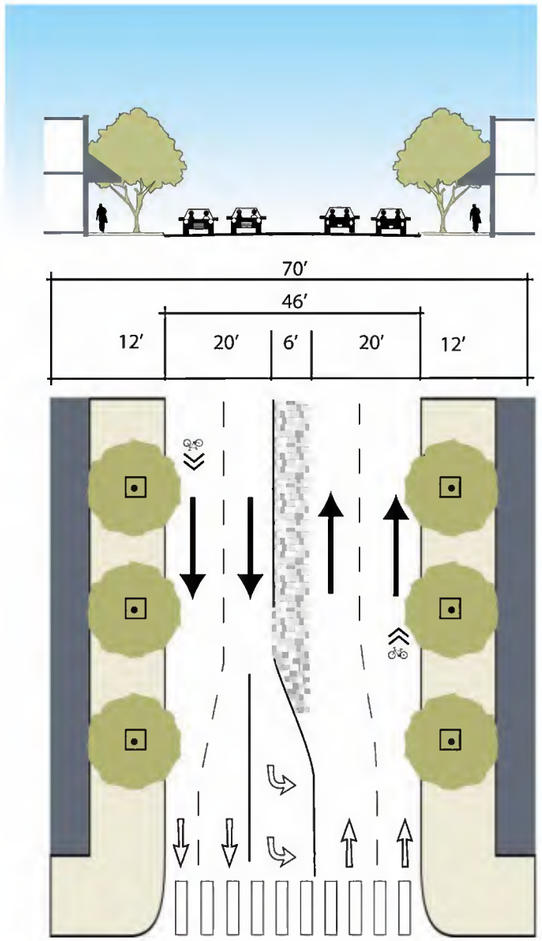


Figure 5.8 *Proposed Bush River Road./ C4 Thoroughfare Section*

St. Andrews Road, while remaining suburban in nature, could be redesigned in a more walkable manor, including a safety strips and separated bike lane (Figure 5.9).

New thoroughfares within these nodes should also be walkable and context

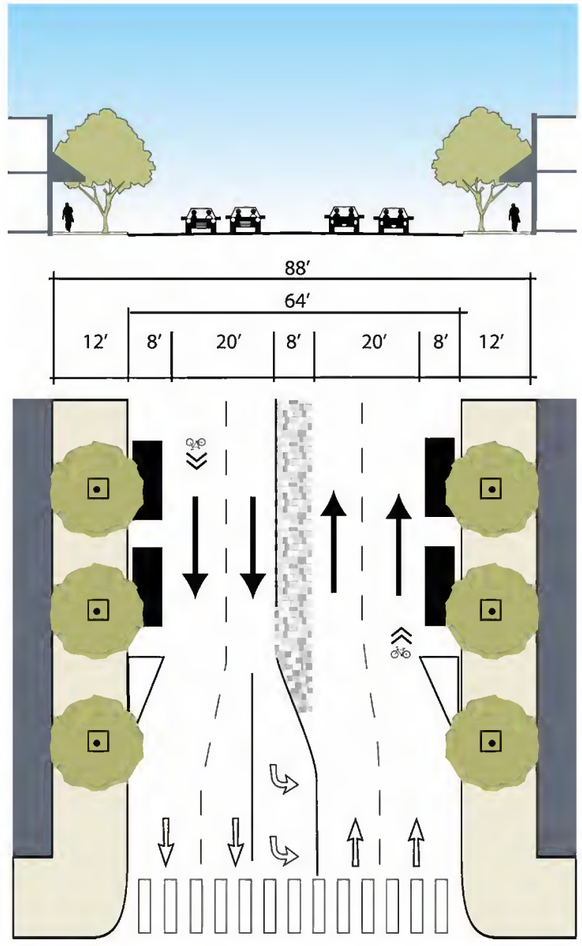


Figure 5.9 *Proposed St. Andrews Rd../ C4 Thoroughfare Section*

sensitive following the same principles described above for Broad River Road. These new thoroughfares will provide added network and vehicle capacity to the overall system, offsetting much of the projected and planned growth in the area, either naturally or as a result of the proposed redevelopment.

Street Design Changes Over Time

Broad River Road today reflects its recent use as an arterial with suburban strip development. The long term plan for the corridor includes conversion of land uses and design to an urban street, with smaller blocks and more intensive development in some locations. Transportation impacts, i.e., additional traffic, from more intensive development will be met in part by the shift in travel mode away from automobile-orientation to more walking, bicycling, and transit use. Indeed, the level of walking and bicycling that exists along the corridor today is a good indicator of the potential for really great walkability if the design of the street itself can become more walkable.

The Plan recommends a phased implementation of a more walkable street design that will occur over time as the land uses along the corridor become more walkable themselves. For example, a conventional shopping mall, set back from the street across a sea of parking spaces, is inherently un-walkable in terms of its approach from the street on foot. Over time the shopping mall can be redeveloped as a town center, with buildings brought up to the street and the lot broken into a series of smaller blocks with great walkability. The fabric of the redeveloped shopping mall would evolve into a town center fabric, similar to downtown Columbia today.

There are several advantages to this land use design. The small blocks and additional streets, built to “town street” standards, provide capacity for additional traffic, while also providing the ability to walk and bicycle safely due to the managed vehicle speeds on these smaller town streets. This shift to modes of travel other than automobile helps mitigate traffic impacts. Additional internal trip capture also becomes possible due to a greater mix of uses in the town center design. Typically, town centers will include residential, commercial, office, and institutional land uses in the same development. The walkable design permits residents and workers to walk or bicycle for many routine trips, such as to get a meal or run an errand, thereby reducing vehicle trip generation compared to conventional single-use designs.

The following figures illustrate a “typical” progression from the existing Broad River Road to a future design with mixed use, town center development.

In Figure 5.10, we see the existing condition of Broad River Road, with four lanes of traffic. A narrow sidewalk and no planting strip on each side of the street provide minimal separation between the boulevard and large parking lot, which itself serves conventional suburban land uses. Driveway cuts are frequent along the corridor, as each lot has its own driveway access to the corridor.

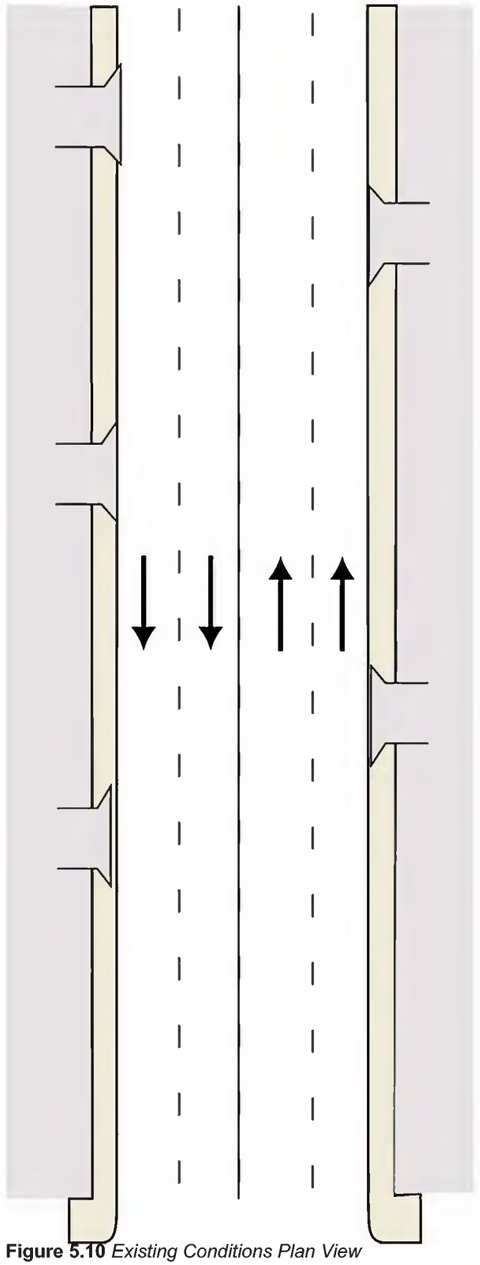


Figure 5.10 *Existing Conditions Plan View*

Over time land uses along the street will redevelopment, with buildings coming up to the street, wider sidewalks, planting strip and urban design that encourages and supports walking. This is illustrated in Figure 5.11. There is also a safety strip/flush median, described in greater detail in an earlier section of this report. The street design responds to this change by adding on-street parking. The on-street parking manages the travel speeds to walkable levels. Driveway cuts begin to be eliminated, as buildings are brought up to the street, which actually improves the access-management design of the corridor. Specifically, driveways should be eliminated when a substantial portion of the block (40 to 60 acres by a single or multiple owners) has prepared plans for redevelopment consistent with the intent of this plan. These plans should include development of a finer grid of streets, providing rear access to the buildings and one connection to Broad River Road. As these plans near the approval phase, the drives can be closed in concert with the redevelopment of those adjacent parcels.

Action: Phase implementation of street changes over time in concert with adjacent land redevelopment.

Action: Close driveways on a block by block basis as plans for 40-60 acres of redevelopment consistent with Broad River Road Plan.

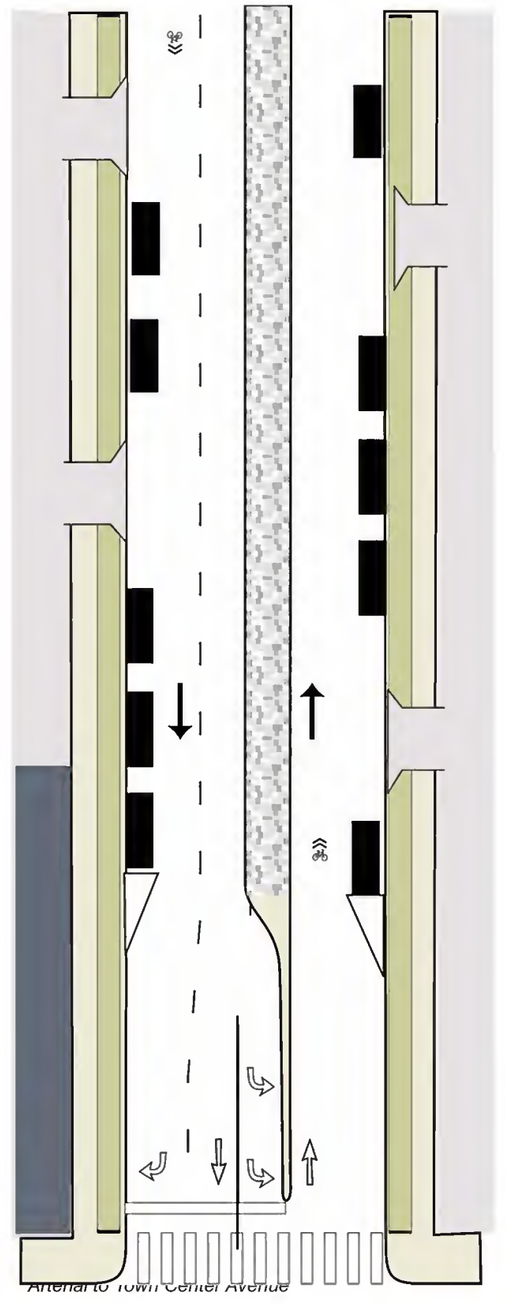


Figure 5.11 *Beginning of Transition from Suburban Arterial to Town Center Avenue*

The process continues in Figure 5.12 and Figure 5.13 shows a complete transition from suburban arterial to

urban town street design. The design speed is now a walkable 25 mph, versus 45 mph. Bicycles can share the lane with automobiles. This is indicated by the "sharrow" shared lane markings adjacent to the on-street parking. Driveway cuts have been eliminated and replaced with store fronts. A wide, inviting sidewalk encourages and supports walking, and further encourages access from the surrounding neighborhoods in creating a "park once" environment. The "park once" environment allows motorists to park and make several trips on-foot, rather than making each trip by car. This design reduces VMT as well as circulatory automobile traffic.

Neighborhood/Local Streets

Neighborhood streets provide local circulation for access to homes, school and community amenities. Specifically, there elementary and middle schools, a high school, a community center, recreational fields and small churches within the neighborhoods surrounding Broad River Road. Those facilities appear to be operating efficiently. Observations in the area indicated that circulation to community facilities and schools is operation efficiently. Road maintenance and repairs, lighting and drainage are common issues observed and raised during this planning study. Efforts should be taken to improve those elements, while continuing to monitor circulation in the area.

Figure 5.12 *Continued transition to Town Center -- fewer driveways, more on-street parking*

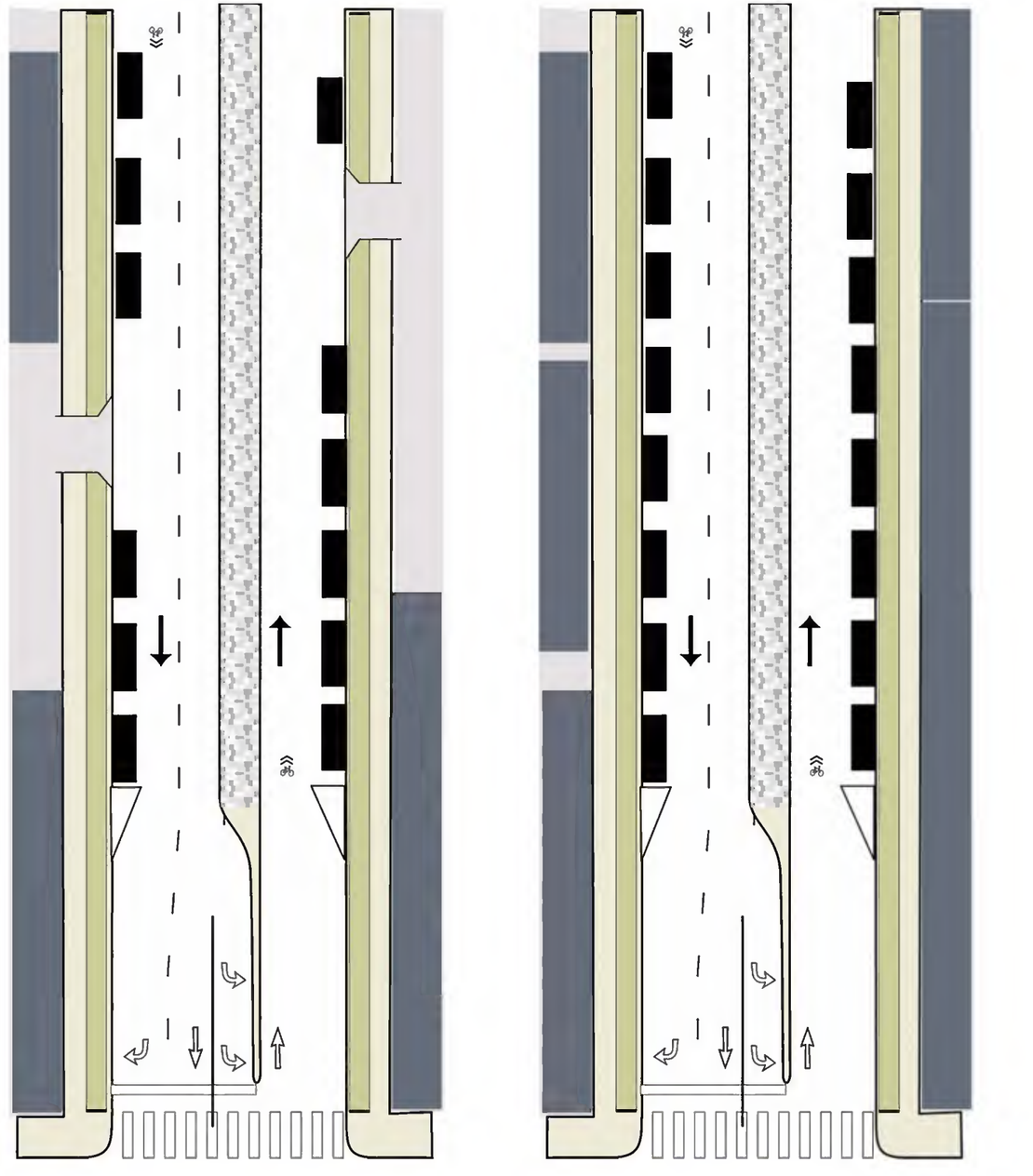


Figure 5.13 *Final transition to town center; on-street parking; no median; no driveways*

PEDESTRIAN FACILITIES AND AMENITIES

As stated in the previous section, separate pedestrian planning is not required, as all of the street sections and transportation planning presented in this report incorporate "pedestrian planning" features for walkability, such as wide sidewalks, street trees, and managed vehicle speeds as part of the overall plan.

Facilities such as pedestrian overpasses or bridges over Broad River Road were considered. These facilities are often reactive measures, providing safe crossings of very high speed, vehicle-dominated and dangerous roadways, such as highways. It was determined that the elements described above, if incorporated into the redevelopment of Broad River Road, will tame motorists to speeds comfortable enough for safe pedestrian crossings without the use of overpasses. In the Town Center nodes, where pedestrians will be frequently present, pedestrian crosswalks with push button signals (actuated) will be provided at all crossings of Broad River Road and at many crossings along the remainder of the corridor. The increased presence of pedestrians in itself will slow motorists even further, indicating that Broad River Road is a multi-modal facility accommodating motorists, pedestrians, cyclists and transit users.

The following Figure 5.14 illustrates where the planned improvements to the urban form and thoroughfare design will provide a pedestrian network. The degree to which walkability will be enhanced can be measured using the Walkability Index described earlier. Broad River Road's proposed design was measured according to the Walkability Index and given a new grade. This "proposed design" grade was then compared to the street's "existing condition" grade, discussed previously. This comparison was used to determine the degree to which the proposed design will improve the conditions for pedestrians, bicyclists and transit users. The proposed street design was broken into two phases of implementation, described below.

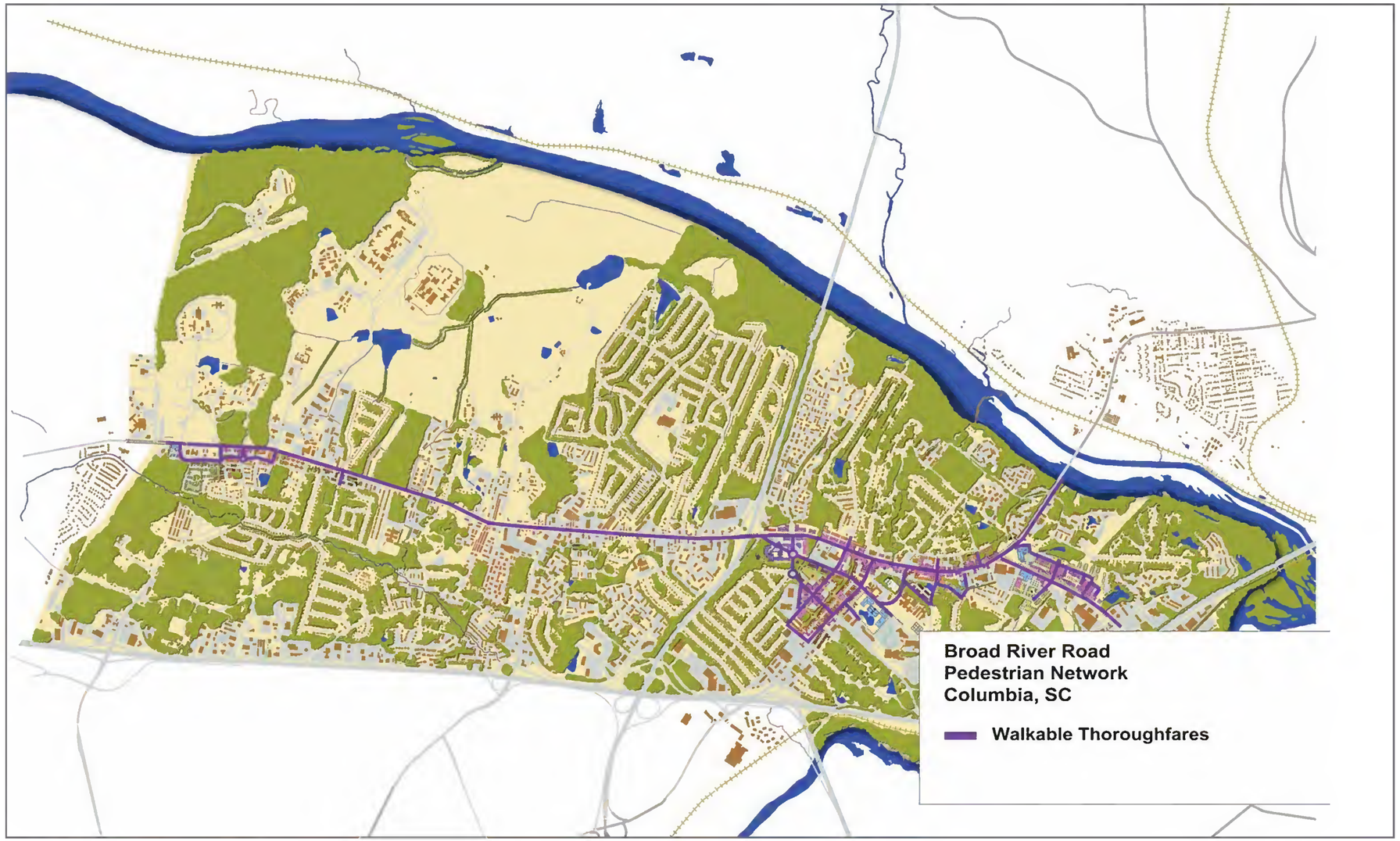


Figure 5.14 *Pedestrian Network Map*

Phase I: Streetscape Improvements

Phase I includes streetscape improvements only. The streetscape improvements to Broad River Road were used to recalculate the original "existing condition" grade. The recalculation was based on the assumption that the redevelopment of Broad River Road would transform in the nodal manner illustrated above, with some blocks designed for a more urban, compact context and some designed as more suburban, but with slower vehicular speeds. Phase I improvements include:

- Addition of vehicular and pedestrian lighting systems
- Lowering of vehicular travel speed to 25 mph
- Inclusion of on-street parking for all blocks in the redevelopment nodes around Greystone Boulevard, Bush River Road and St. Andrews Road
- Inclusion of street trees for all blocks
- Expansion of the sidewalk to 8' for all blocks
- Addition of pedestrian features such as benches, trash cans and ensured ADA compliance along all of Broad River Road
- Addition of bicycle racks along all of Broad River Road

After applying these streetscape improvements, Broad River Road's walkability score increased from a 29 to a 52.5 or "C" for moderate walkability (See Appendix B for full assessment).

Phase II: Long-Term Urban Design Changes/ Redevelopment

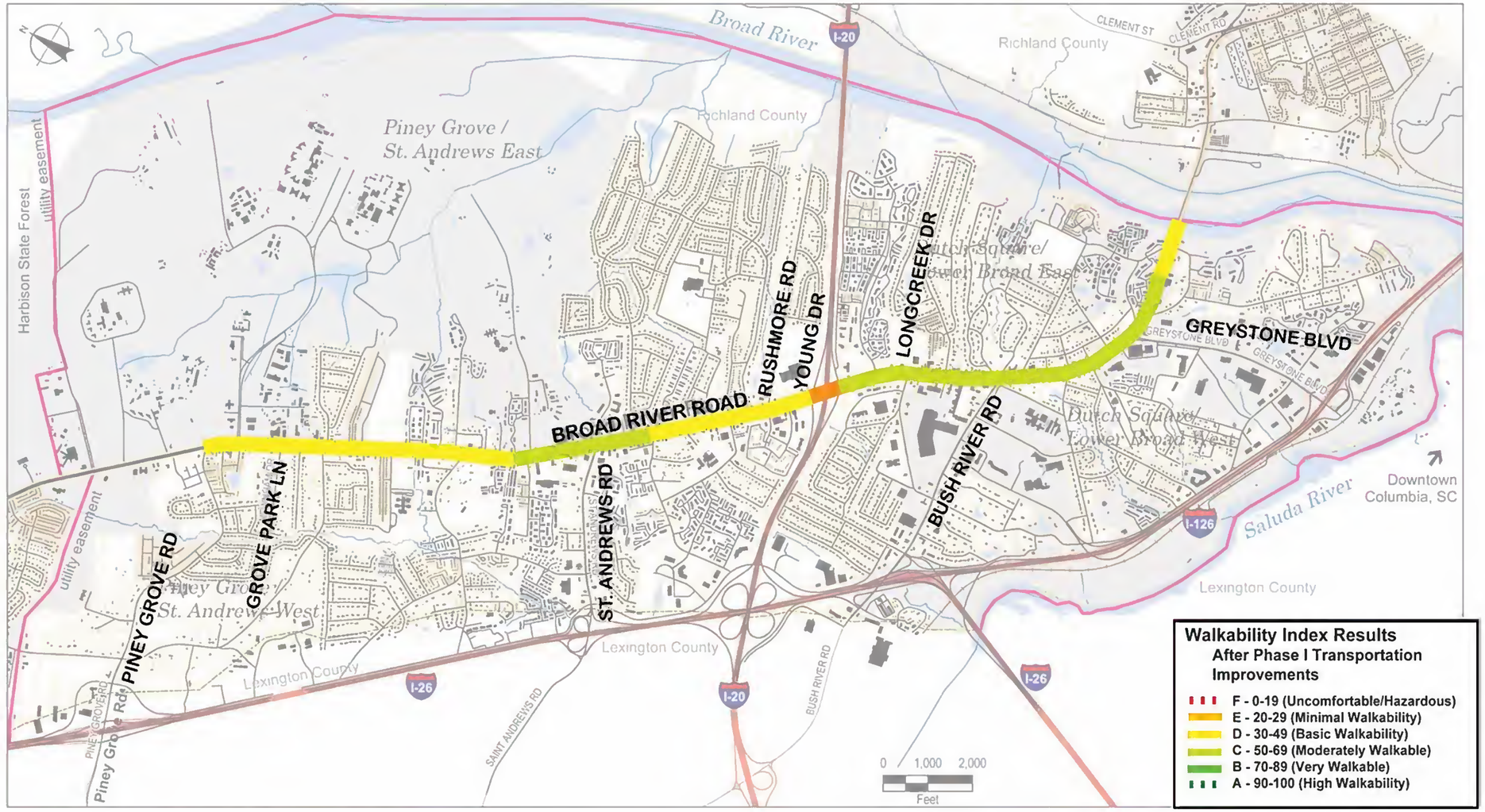


Figure 5.15 *Walkability Index Results Based on Phase I Streetscape Improvements*

Phase II was measured by including longer-term land-use and urban design changes, such as buildings set closer to the street, an increase in land uses and improvements to façade design. Assuming those changes, in addition to the streetscape improvements measured in Phase I, Broad River Road's walkability improves greatly to a grade of 69 or "C" for moderate walkability, very close to a "B" (very walkable) (See Appendix B for full assessment).

TRANSIT

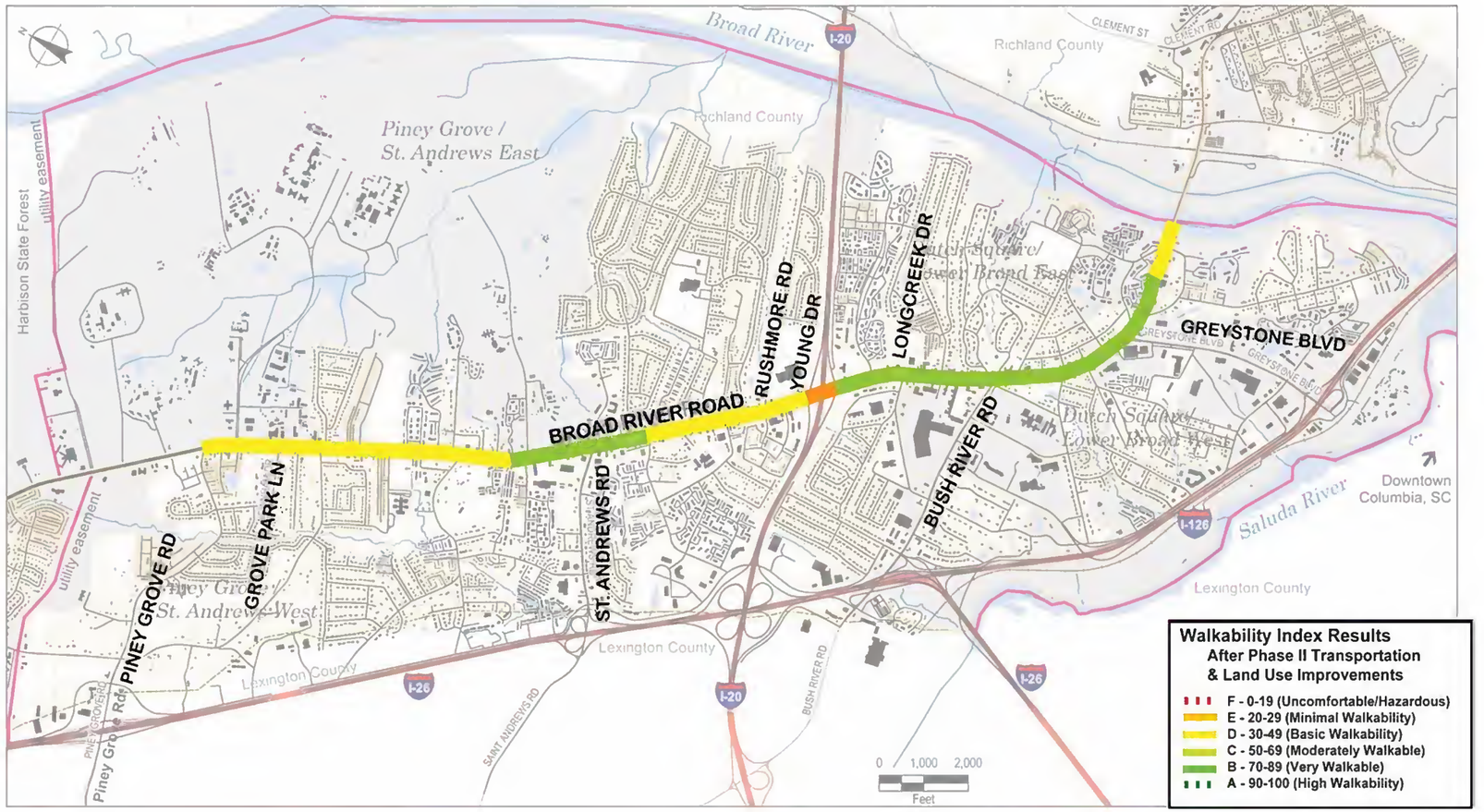


Figure 5.16 *Walkability Index Results Based on Phase II Streetscape Improvements and Long-term Urban Design Changes/ Redevelopment*

Segment		Existing		After Phase I Improvements		After Phase II Improvements	
To	From	Total	Grade	Total	Grade	Total	Grade
River	Greystone Blvd.	26	E	52	C	75	B
Greystone Blvd.	Arrowwood Rd.	33	D	59	C	75	B
Arrowwood Rd.	Bush River Rd.	33	D	59	C	75	B
Bush River Rd.	Omarest Dr.	33	D	59	C	75	B
Omarest Dr.	Bakersfield Rd.	33	D	59	C	75	B
Bakersfield Rd.	Longcreek Dr.	33	D	59	C	75	B
Longcreek Dr.	I-20 EB Offramp	29	E	55	C	75	B
I-20 EB Offramp	I-20 WB Onramp	12	F	28	E	28	E
I-20 WB Onramp	Marley Dr./Briargate Cr.	33	D	49	D	49	D
Marley Dr./Briargate Cr.	Young Dr./Seminole Rd.	33	D	49	D	49	D
Young Dr./Seminole Rd.	Rushmore Rd.	28	E	40	D	40	D
Rushmore Rd.	St. Andrews Pkwy.	33	D	49	D	49	D
St. Andrews Pkwy.	St. Andrews Rd.	33	D	59	C	75	B
St. Andrews Rd.	Huffstetler Dr.	33	D	59	C	75	B
Huffstetler Dr.	Grove Park Ln.	33	D	49	D	49	D
Grove Park Ln.	Piney Grove Rd.	26	E	42	D	42	D

BIKE LANES

The bike lane is a 4'-6' lane along the right side of the street for use of bicyclists. Intoroduced in the 1970's as a way to keep bicyclists out of the way of motorists (by keeping cyclists out of the regular travel lane), bicycle lanes have evolved from being quite treacherous (in terms of their design and implementation), to being a great benefit on high-speed urban arterials and rural roads, though still treacherous in urban street contexts. During the 1980's and 1990's, bicycle lanes received a great deal of attention from the newly-established Bicycle Pedestrian Coordinators in various state departments of transportation, including Florida, and serious thought and consideration has been given to the design and operation of bike lanes. For example, bike lane treatment at intersections, has been revised over the years to help train cyclists to ride safely, rather than reinforce unsafe riding habits (such as attempting to turn left from the right-most lane, a novice bicyclist mistake). For high-speed roads, then, bicycle lanes are the preferred way to encourage and permit safe bicycle usage of the street.

Nevertheless, even where bike lanes are provided, cyclists are commonly found on the sidewalk rather than in the bike lane. Perhaps these cyclists recognize that far from being a panacea for bicycle safety, bike lanes also create their own special set of safety concerns.

In most transportation networks, there are times when bicyclists should share the road safely with motor vehicles, such as in a walkable areas, and times when a bike lane is indicated. Therefore, the only part of this plan that contains specific "bicycle and pedestrian planning" relates to street sections where speeds are expected to be higher than 30 mph. In all other areas, walkable street designs are provided complete with built-in provisions for pedestrians as well as bicyclists.

Sharrows Show the Way (Bike Route)

As part of the "Land Use First/Transportation Second" paradigm, the design of a thoroughfare is expected to change to reflect the context of the area through which it passes. The same road might be a two-lane country highway in a rural area, transitioning into a Main Street as it passes through a village, and back to a rural high on the other side of the village. The design of a rural highway, with 12' lanes and a 55 mph design speed, is inappropriate for a Main Street; the design of a Main Street, with on-street parking, 10' travel lanes, enclosure with street trees and two-story buildings, and a 25 mph design speed, is inappropriate for the rural countryside. The road has to change its design to reflect the appropriate context.

Figure 5.17 *Bicycle Network*

This context-based change in design has presented problems in the past for the provision of bicycle facilities. As described above, bike lanes are appropriate, safe, and useful on country highways and arterial streets, but inappropriate when placed adjacent to parked cars or otherwise used on slower urban streets, where the design speed is 30 mph or less. Adding a 5' bike lane to the outside of even a narrow 9' travel lane essentially creates a 14' or pavement width, which in turn makes 30 mph operating speeds very difficult to achieve. Therefore, bike lanes are typically dropped when on-street parking is added, reflecting a change in context, and cyclists are expected to share the travel lane in the slower-speed urban context.

Simply dropping the bike lanes is a less than optimal solution, however, for the following reasons:

- Sending a message to cyclists that they are not welcome on the urban context street, because they formerly were on a "facility" dedicated to them, and now they are not
- Violation of driver expectations – one generally expects a lane to continue unless some alternative is provided
- Management of motorist expectations – bike lanes effectively remove the bicyclist from the motorists' consideration, so why are the cyclists suddenly appearing in front of the motorists in the urban context? It may appear to the motorists that the cyclists "came from nowhere"

The answer to these concerns is the shared lane marking, or "sharrow", a new traffic control device included in the updated Manual of Uniform Traffic Control Devices (MUTCD) and already in use in many cities in the United States. The sharrow, shown in Figure 5.17, is placed on a 35 mph or lower-speed street, where there is insufficient room to provide for a separate bicycle lane, or where a bike lane is contraindicated due to the need for on-street parking.

The sharrow indicates to bicyclists and motorists that cyclists are now expected to share the travel lane, rather than travel in separate travel lanes. For transition areas, the sharrow is accompanied by "Bike Lane Ends" and "Bicycles Sharing Roadway" signs, indicating to motorists and cyclists that the context is changing and therefore the street design is also changing.

Studies conducted in San Francisco, where the sharrow was invented, found that the sharrow decreased wrong-way bicycling, helped cyclists avoid "dooring" crashes adjacent to parked cars, and still allowed on-street parking to play its vital role in urban street function. CalTrans has already adopted the sharrow as a traffic control device for the State of California based on these findings.

This plan recommends using the sharrow wherever traffic speeds are to be maintained at 30 mph or less, rather than incorporating a bike lane. Where a transition from a bike lane street section to a sharrow street section is needed, the transition is accomplished per MUTCD guidance using appropriate merge distances and signing, based on roadway travel speeds.

Action: Provide a hierarchy of bicycle facilities appropriate to context and vehicle speed.

Shared Use Paths

The shared use path is completely separated from motor vehicle traffic, similar to a wide sidewalk but generally with greater separation from the travel lane. The AASHTO Guide to the Development of Bicycle Facilities (1999) (Guide) indicates a minimum of 5' separation between the path and any adjacent roadway, and the installation of a barrier if this separation is not possible. The Guide also lists nine problems associated with having the path too close to the adjacent roadway indicating that the alignment of a shared use path requires careful consideration to be done properly and safely.

Shared use paths are, as the name implies, shared by a variety of users. As compared to roads and streets, which are used exclusively by vehicles (either motorized or human-powered), shared use paths may be used by pedestrians who are strolling, running, or walking pets; children on scooters or tricycles; roller-bladers; or even pedestrians not moving at all but stopped to sight see or rest. Consequently, the level of mobility afforded to cyclists may be less than what is found on an adjacent street network. The Guide recommends a design speed of 30 mph for shared use paths, but this speed is very difficult to achieve or maintain on a heavily-used path.

Paths work best in a rural or suburban context, where intersections with other streets are infrequent. However, in urban areas where frequent intersections are required paths require more careful consideration. The Guide dedicates five pages to discussion of intersection safety and intersection design issues – 25% of the entire guidance on path design is devoted to intersections, because intersections are the most dangerous location on a path.

Expectations are unclear at the intersection of a path and a street. Cyclists, for instance, may be expecting to continue traveling at the 30 mph design speed (assuming they've been able to reach this speed) and may or may not be ready to stop every thousand feet or less and yield to a cross street. Motorists may be traveling in excess of 30 mph and may be unprepared for a cyclist emerging from a path intersection to cross the street.

Providing the appropriate bicycling facility will encourage greater bicycle use. Just as the Urban Design Plan for Broad River Road indicated a need for a variety of walkable thoroughfare sections, so too is there a need for a hierarchy of bicycle accommodations. A series of bike lanes and shared lanes (sharrows) should be utilized along the corridor as the context and vehicle speed changes.

Figure 5.18 *Sharrow Marking*

A sharrow is a specific pavement marking and is used in the town center thoroughfare recommendations above. Sharrows indicate preferred routing and location for bicyclists within a thoroughfare travel lane and also indicate to motorists that cyclists are sharing the thoroughfare. Greater visibility of cyclists yields increased safety, especially in the vulnerable intersection turns area.

Sharrows are the preferred facility type for bicyclists on thoroughfares with posted speeds between 20 mph and 30 mph, particularly for streets with on-street parking. Sharrows should be applied to the redesign of Broad River Road as the preferred facility type within the Town Center nodes. The sharrow pavement marking consists of a bicyclist or bicycle symbol with two chevrons on top, indicating the direction of travel (Figure 5.17). The sharrow should be located such that the center of the marking is along an imaginary line 5' away from the edge of the parking lane, if a parking lane is present, or 5' from the curb face if no parking lane is present. On multilane thoroughfares, the sharrow is located in the right most lane. The sharrow should be placed at the beginning and end of each block and at least once mid-block. If desired, a sign indicating "Share the Road" or "Bicyclists Sharing Road" may also be used in conjunction with the sharrow.

Bicycle parking is often overlooked but critical to encouraging bicycle usage. Ideally, bicycle parking should be provided in the front of a store or building, in plain sight and visible from inside the store or building.

Established in 2002, the Central Midlands Regional Transit Authority (CMRTA) provides bus transit in the Columbia area. Broad River Road and surrounding area is served by Routes 34-St. Andrews (shown in orange) and 36a/b – Crosstown (shown in light green), shown on Figure 5.19. Route 34 includes timed stops along Broad River Road at Bush River Road and St. Andrews Road with stops located in between. Route 36a/b has timed stops along Broad River Road at Bush River Road, St. Andrews Road and Piney Grove Road with stops in between.

CMRTA operates in a classic "hub and spoke" route system, focused on the downtown area. The system does have a dedicated transfer facility, however Route 36a/b does not always travel to the transfer facility, requiring users of that route to transfer along the street and the purchase of a Zone Pass. There are a number of bus stops along Broad River Road and the surrounding area. These bus stops provide minimal facilities and signage. Unfortunately only a few of those stops have benches and none are sheltered.

Completed in January 2010, the Comprehensive Operational Analysis (COA) indicated that CMRTA carries over 8,000 passengers each weekday, almost 4,000 every Saturday and almost 1,000 every Sunday. CMRTA had 2.4 million annual boardings, using a maximum of 36 standard buses. The COA noted a little over 500 weekday riders on Route 34 and 300 on Saturdays. Route 36a/b carries 400 weekday riders and about 260 Saturday riders.

The COA reviewed existing route service performance rankings for CMRTA's weekday, Saturday and Sunday service based on riders per bus-hour, riders per bus-mile and riders per bus trip. Route 34 ranked within the top quartile for all three service measures for weekday service. Route 36a/b ranked in the top quartile for only riders per bus trip for weekday and Saturday service.

The COA outlines recommendations for near-term, short-range and long-range service plans to increase usage among current riders, while attracting new riders. The near-term service plan focuses on improving reliability and is expected to increase ridership by 2%. Specific to the Broad River Road Study Area routes, a near-term recommendation is to realign Route 34 to provide direct service between the Downtown Transfer Center (DTC) and the Columbiana/Harbison area. The COA proposes that Route 34's realignment is modified beginning on Broad River Road as follows: Broad River Road, Bush River Road, Arrowwood Road, Dutch Square Boulevard, Broad River Road, St. Andrews Road, Piney Grove Road, Bower Parkway, Park Terrace, Harbison Boulevard and Broad River Road. This proposed alignment provides a one-seat ride from the DTC to the Harbison area, and puts passengers on Broad River Road on a radial route.

The COA also provides near term recommendations for Route 36a/b. First, it

Figure 5.19 *CMRTA Broad River Road Area Systems Map*

recommends renaming Route 36a/b to Route 36 and realigns the portions of the route in the Broad River Road Study Area. It is proposed that the new Route 36 follow Harbison Boulevard, St. Andrews Road, Bush River Road, Arrowwood Road, and Dutch Square Boulevard to the proposed new Dutch Square transit center. This route would then continue via Broad River Road, Sunset Drive and Beltline Drive to Rosewood Drive. This realignment would provide two direction service along Bush River Road and St. Andrews Road and the existing Route 36 service on Broad River Road (north of St. Andrews Road) is replaced with the proposed new Route 34 service described above.

Short-range service plan improvements include enhanced service connectivity, along with improved reliability, and are expected to increase ridership by 63% to 3.9 million annual boardings. The underlying concept of the short-range plan improvements is to envision a new transit plan that provides the level of service and connectivity that would make transit an attractive and dynamic option for existing and new riders. This effort will supplement the DTC with suburban connection points in high-density areas where transfers can occur and to which more direct service can be provided. The COA proposed a new non-downtown transfer center at the Dutch Square mall area, among others. These new transfer facility locations should consider bus and passenger amenity improvements such as bus pull-out lanes, passenger shelters and sidewalks.

Bus Service

Action: Implement planned improvements to bus service outlined in recent Comprehensive Operational Analysis prepared by CMRTA.

In a revitalized area, the Central Midlands Regional Transit Authority (CMRTA) could play a key role in providing affordable public transportation for employees and residents. As the Broad River Road area infills, parking will become a more valuable market good, and greater reliance must be placed on public transit. CMRTA's connection to the rest of the region will be a critical part of the multimodal transportation system. If the corridor's redevelopment is walkable, per this plan, it will also be transit-friendly and supportive of the route, frequencies and service upgrades provided by the Comprehensive Operational Analysis (COA).

As described in a previous section, the CMRTA completed a Comprehensive Operational Analysis (COA) in January 2010. This document, after extensive study, provided near-term, short-range and long-range service plan recommendations. Those recommendations should be implemented, as supported by the Broad River Road Corridor and Community Study. The recommendations that should be promoted are described below.

Near-term service plan:

- Realign Route 34 to provide direct service between the Downtown Transfer Center (DTC) and the Columbiana/Harbison area, as described in more detail in Appendix B (Inventory and Analysis);
- Rename Route 36a/b to Route 36;
- Realign the portions of Route 36 to follow Harbison Boulevard, St. Andrews Road, Bush River Road, Arrowwood Road, and Dutch Square Boulevard to the proposed new Dutch Square transit center; then continuing via Broad River Road, Sunset Drive and Beltline Drive to Rosewood Drive, providing two direction service on Bush River Road and St. Andrews Road; and
- Replace existing Route 36 service on Broad River Road north of St. Andrews Road with the rerouted Route 34.

Short-range service plan:

- Provide a new non-downtown transfer center at the Dutch Square Mall area;
- Rename Route 34 to local Route 19, providing a new brand imaging and radial service to/from the DTC with direct routing on 30-minute service frequencies for longer portions of the day;
- Rename Route 36 to Route 23, continuing to operate as a local crosstown route, but beginning at the proposed Harbison transit center;
- Continue the improvements of the short-range plan; and
- Increase Saturday frequencies on Route 19, from 60- to 30-minutes.

A transit center should be considered for the area given its many large employment areas, residential enclaves and shopping centers. These attractors provide a population large enough to support expanded transit use. Two facilities have been considered as part of this effort: one near Dutch Square Mall at Longcreek Drive and one near Greystone Boulevard, and each has its advantages and disadvantages. A facility near Dutch Square Mall would have easy access to I-20 and compliment future redevelopment efforts. It has also been proposed as a prime site by CMRTA in its COA. However, concerns have been raised over this location due to its proximity to existing residential neighborhoods.

A location near Greystone Boulevard has also been considered, given it's proximity to the downtown area, available large lot sites and easy access to I-26 via Greystone Boulevard. This site has the advantage of being located in a more industrial and commercial area, avoiding residential neighborhoods, but would not be in walking distance of the planned, more intense redevelopment proposed for the Dutch Square area.

Additional bus stop accommodations should be provided to protect riders waiting at stops and attract new users. As noted earlier in the report, very few stops along the corridor had minimal facilities such as benches and none were sheltered. Shelters are normally assigned by transit system policy to places where there is high ridership, or where routes may cross and offer transfer points.

In the Town Center nodes along Broad River Road, riders waiting for buses on improved sidewalks should be sheltered by nearby buildings and street trees, and, a bench and sign are all that is necessary. In the suburban portions of Broad River Road, bus shelters should be constructed, in addition to benches and sign blades. The shelters should have a big roof and permeable walls to allow air to circulate. At a minimum, each bus stop must have a 5'x8' hard pad for wheelchair and a sign blade.

Every so often, revitalized areas institute rubber-tired trolley replica vehicles to provide local circulator service. These vehicles are regular rubber-tired bus or truck chassis skinned to resemble classic streetcar trolleys. They have several advantages over actual steel-wheel street cars in that they are cheaper to purchase and operate and are more flexible in their routing. Routing flexibility, however, though it is convenient for planning purposes, also fails to leverage land use investment. Nonetheless, such a system, if operated with sufficiently short headways (5 minutes or so between buses) could be a valuable part of the downtown circulation system.

Other Forms of Transit

Bus Rapid Transit

Bus Rapid Transit (BRT) is an innovative, high capacity, lower cost public transit solution that can significantly improve urban mobility. This permanent, integrated system uses buses or specialized vehicles on roadways or dedicated lanes to quickly and efficiently transport passengers to their destinations, while offering the flexibility to meet transit demand. BRT systems can easily be customized to community needs and incorporate state-of-the-art, low-cost technologies that result in more passengers and less congestion .

Street Car

Action: Improve bus stops by adding shelters and other accommodations where appropriate.

Over the past twenty years, many U.S. cities have reintroduced light rail and electric streetcar systems, including Portland, Oregon; St. Louis, MO; Little Rock, Arkansas; Tampa, Florida; and Memphis, Tennessee. The reintroduction of streetcar lines is no longer a novel idea but is becoming a key feature for cities interested in restoring life to their downtown areas. The compact urban, traditional design principles underlying the Broad River Road concept plan are very supportive of public transportation in general, so the plan itself is a next step toward making an electric streetcar line feasible. Other feasibility factors include space/ROW and cost.

Due to its expense, the streetcar concept is sometimes dismissed as improbable. However, nothing could be further from the truth. In the general scheme of transportation funding, layout and operation of a streetcar system is really no more expensive than the acquisition of right-of-way and construction for a major road or street. In an industry where numbers are rounded to the nearest million, street car systems are not unreasonably expensive, the cost may seem excessive to the average citizen, who may be comparing the cost to a City budget or a personal bank account. Cost alone should not deter responsible agencies from pursuing a street car system.

The advantages of a streetcar system are compelling. In terms of walkability, the recommendations for narrower streets, more on-street parking, and slower traffic speeds will tend to increase local traffic congestion. As the city redevelops, this pressure will only increase. A steel-wheel trolley is an effective way to address congestion by providing access into and through the area.

The original streetcars were themselves land development tools, and modern streetcars often serve the same purpose. Experience in other cities has shown that streetcars have an ability to leverage investment and redevelopment that rubber-tired vehicles simply do not have. From this perspective, investment in a street car system is actually investment in economic development of the city, should the city decide to pursue this option.

The Broad River Road corridor could benefit from a Bus Rapid Transit or Street Car system in a fully redeveloped scenario. Depleting oil reserves and the national trend towards providing alternative modes of travel will make more progressive transit systems more feasible. The area will be well situated to receive and benefit from these systems given the redevelopment and design recommendations provided in this report.

Action: Consider alternative forms of transit in future redevelopment of corridor.

RETHINK THE WAY PARKING IS HANDLED

Parking has become the single greatest use of space in the urban landscape. The redesign of Broad River Road will affect parking in the following ways:

- Mitigate the demand for parking
- Reshape the way parking is used in the urban fabric
- Alter the way parking is provided and shared

Mitigate the Demand for Parking

The Broad River Road Master Plan assumes that the corridor will be highly successful and generate substantial investment, reinvestment, and demand for parking. The existing conventional pattern of each land use on its own parcel, surrounded by its own parking lot, requires enormous dedications of space to parking and hinders the effectiveness of public transportation and walkability. Transit patrons must cross large surface parking lots to reach a location, which reduces the attractiveness of transit and walkability. In this type of environment, driving from one location to another is the most logical choice for most shoppers. A “park once” approach, which allows access to multiple locations from a single parking space, is not viable under these conditions. Consequently, every customer requires a parking space at every single land use along the corridor.

Under the Master Plan’s Urban Design Plan, which is based on a more urban and traditional land use pattern of buildings at the back of sidewalks and on-street parking, the “park once” concept is a reality. A customer can park once and access several different locations. In addition, transit becomes a more attractive option, and transit riders do not need parking spaces at all. Consequently, the redesign of Broad River Road will help to mitigate parking demand compared to the existing conditions.

Reshape the Way Parking Is Used in the Urban Fabric

Under the existing conditions, as in most of post- WWII America, parking is massed in large parking lots where vehicles are stored by their owners in between trips. While some parking lots are landscaped and provided with shade trees, parking lots in general are single-purpose facilities that only serve automobile drivers.

The redesigned Broad River Road as shown in the Concept Plan recognizes the need for parking but also provides parking with an additional purpose – the shaping of the urban fabric. When parking is organized along a street as parallel or angle parking stalls, the automobiles actually provide structure and form to the street. Combined with shade trees, wide sidewalks, and attractive buildings built to the back of the sidewalk, on-street parking sends a message that an area is alive and well. Pedestrian are essentially told the place is safe and desirable, through the presence of the cars parked along the street. Rather than dividing urban space into seas of parking with islands of buildings, on-street parking unites urban space by bridging the street to the land uses. For this reason, on-street parking is a key component of walkability.

On-street parking will provide only a portion of the required parking spaces in a

redesigned Broad River Road and connecting arterials, but it provides much more than just vehicle storage. Additional vehicle storage must also be provided, as described below.

Alter the way parking is provided and shared between land uses

On-street parking will meet a portion of the demand for parking in the Study Area, but additional parking will be needed. How much additional parking will be mitigated by the ability to park once and use transit, but will also be mitigated by the ability to share parking between land uses. This concept is called "shared parking" and will be described further below. In addition, the City and County may choose to implement paid parking standards to manage parking demand, as described below.

Shared Parking

Shared parking recognizes that in urban locations, such as the redesigned portions of Broad River Road, with high levels of walkability and easy, attractive pedestrian access between land uses, large amounts of separate parking are not required for each land use. Instead, land uses may share parking. For example, an office building that is open during the day requires parking for its employees during business hours, but not during the evening when the office is closed. A dinner restaurant/club requires parking at night, but not during the day when the restaurant/club is closed. Under conventional parking demand, each land use would require its own parking supply, even if they were located adjacent to one another. Shared parking recognizes that the same parking lot can serve both uses with minimal amounts of overlap (there will probably be some demand for office parking at night and restaurant parking during the day, if only for maintenance staff and management.)

Paid Parking

Shared parking arrangements will help match parking supply to the demand for parking generated in an urban context, but on-street parking will still need to be supplemented by additional off-street parking. In a traditional urban context, off-street parking should be confined to the interior of a block and shielded from the street by liner buildings. Liner buildings are thin buildings that provide a store-front and street presence and are usually employed to block a view and provide an urban context along the street. Interior parking areas can be surface lots, or if demand requires, structured parking decks. In either case, paid parking may be used to help finance parking spaces and parking structures.

Parking management practices generally consider parking to be at capacity when 80% of available parking spaces are full. At this point (actually prior to this point), users of the parking spaces will complain about a lack of parking. If a parking survey indicates that parking is at 80% of capacity or higher, the recommended option is to implement paid parking. Under paid parking, users of the parking spaces pay a fee to park. The fee can be collected in a variety of ways, including meters, debit and credit cards, pass programs, smart cards, or parking attendants. The amount of the fee is adjusted to control the demand for parking and keep demand at about 80% of capacity.

Utilizing interior surface lots to supplement on-street parking, paid parking should be implemented with demand exceeds 80% of supply (or when this is projected to occur, for instance, if a block redevelops and several large land uses move it, such as a large corporation or retailer). At this point, structured parking becomes viable and may be provided for, either through negotiation with the developer, bonds, or other City or County financing mechanism.

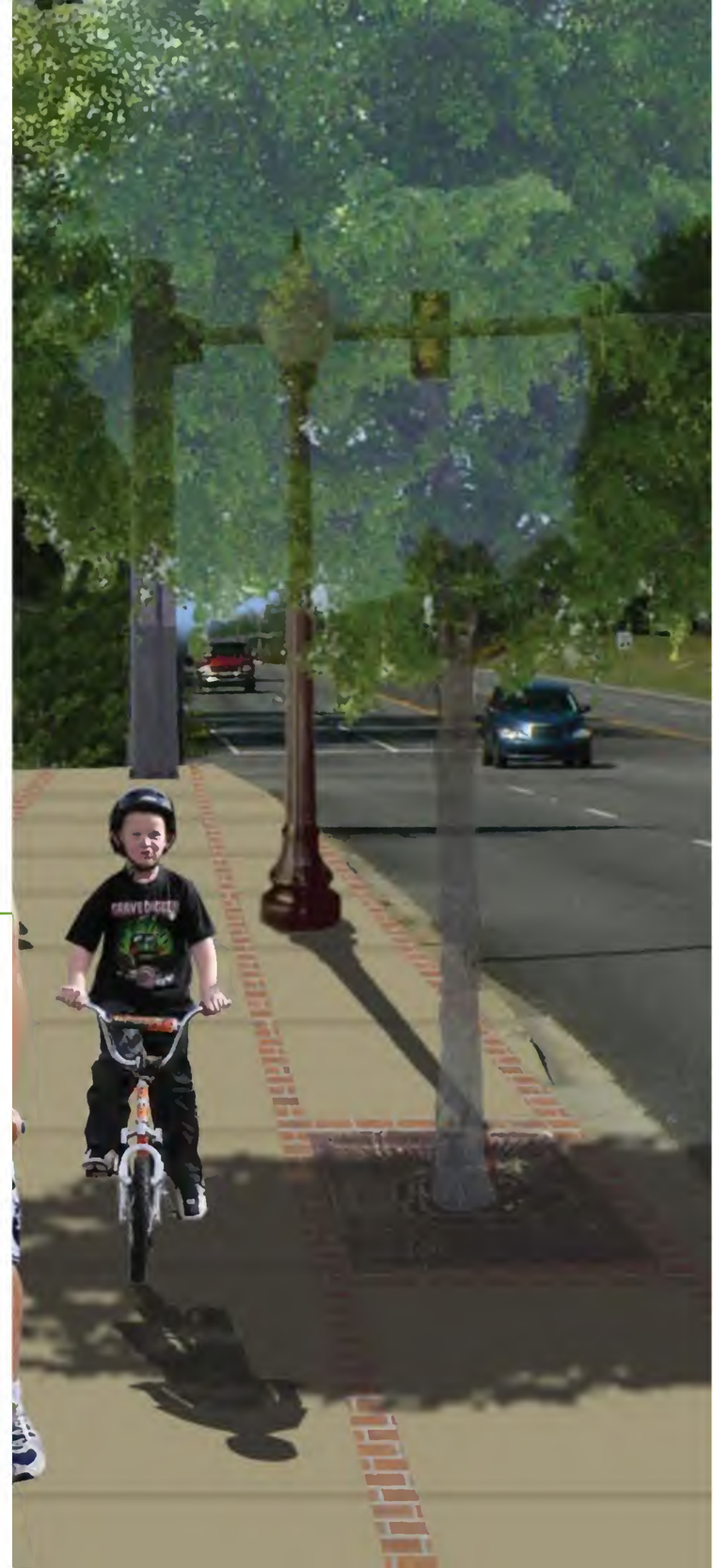
The critical parking concepts to remember, regarding the Broad River Road corridor, are to let the urban form, including a mix of uses, on-street parking, and buildings built up to the street, help mitigate the demand for parking. Then use shared parking to accommodate the demand. And when available shared parking and on-street parking reach 80% of capacity (in either actuality or projected development), implement paid parking strategies to keep demand in the 80% range. These strategies will ensure that adequate parking always exists in the corridor, but that parking lots will not define the corridor or be the major land use in the area.

The intent of the recommended Urban Design Guidelines is to establish a

ACTION STRATEGIES

- Provide a Streetscape Design Manual for the design of C5 – Urban Center Commercial Avenue, C4 - General Urban Commercial Avenue and C3 - Suburban Commercial Avenue that provides for phased implementation of streetscape changes over time in concert with adjacent land redevelopment including driveway closures as redevelopment progresses;
- Strategize implementation of C5 - Urban Center Commercial Avenue, C4 - General Urban Commercial Avenue and C3 - Suburban Commercial Avenue streetscape systems according to a redevelopment schedule facilitated through Financing Mechanisms described in the Master Plan;
- Provide a hierarchy of bicycle facilities according to the connectivity framework provided in the Master Plan;
- Implement planned improvements to bus service outlined in the recent Comprehensive Operational Analysis prepared by Central Midland Regional Transit Authority (CMRTA);
- Improve bus stops by adding bus shelters and other accommodations for transit users on Broad River Road and major thoroughfares in the Study Area;
- Provide flexibility in the Master Plan that considers alternative forms of transit for future redevelopment in the Study Area;
- Explore parking options including mitigating demand for parking by creating walkable urban environment, addition of on-street parking for traffic calming and promotion of shared parking as an alternative.

Chapter 6 Urban Design Guidelines



URBAN DESIGN

OVERVIEW

functional and aesthetic framework for future development to occur in a manner that establishes a pedestrian-oriented setting creating linkages between redevelopment nodes, natural assets, and surrounding residential neighborhoods. It is recommended that a set of more comprehensive. defensible and implementable Urban Design Guidelines and design specifications be established to ensure a more secure and effective future development of the Broad River Road Corridor. The proposed design guidelines presented in this section should not be construed as prescriptive standards and it is through the County's land development regulations that appropriate standards be established.

The guidelines may evolve into different forms- act as the foundation for initiating discussions with potential developers, updating internal design manuals by various County/ City departments or be included in the Land Development Regulations through the development of form-based codes or as an "add on" to existing zoning regulations.. While the guidelines are designed to support the overall development character defined in Chapter 4: Land Use and Development Characteristics, they are intended to offer developers a flexible tool for quality and innovation.

PURPOSE

The purpose of the Urban Design Guidelines is to:

- Illustrate visual examples of the proposed physical improvements
- Provide a basis for evaluating development and redevelopment proposals and serve as the foundation for developing a new form-based or a hybrid zoning code[1] for the Study Area.
- Act as a guide for making decisions in the interim about public and private improvements within the boundaries of the study.
- Provide the framework for redevelopment to gradually take place based on the community's vision for creating a compact urban core complemented by stabilized residential neighborhoods; and
- Ensure that new buildings or public space will ultimately create a unique identity for the Study Area.

1 A hybrid code is one that incorporates a form based code approach together with uses provisions, processes, and standards from the current code. Most local governments use conventional (Euclidean) zoning codes as a tool to regulate land use and development. In recent years, several communities have started adopting form-based codes as an alternative concept. Form-based codes are a relatively new concept that emphasizes site design and building form over land use patterns and densities. The code typically includes standards for the design and character of public streets and uses a combination of illustrations and text to provide information that is more user-friendly as compared to traditional zoning codes.

private realm contexts. The basic components of the pedestrian system are the users, the destinations and the travel ways. The public realm analysis is directly related to transportation improvements discussed in *Chapter 5: Circulation and Connectivity.*

In addition to the public realm guidelines, this section also presents general guidelines for development in the private realm and its relationship to the Study Area's overall pedestrian orientation. The intent of the private realm guidelines is to develop a system of planning criteria to guide the future development in the Study Area. The guidelines provide broad principles that will reinforce and enhance the relationship of each new building to the public street as well as the relationship of the new buildings to each other and to existing buildings.

Public capital investment in improvement projects throughout the corridor and its

KEY PRINCIPLES

- Create a compact mixed-use urban form that encourages active street life.
- Provide improved visual and physical connectivity between the different land uses.
- Develop a distinctive and attractive visual character that forms a part of the area's identity and perceived image.
- Establish an attractive, safe and efficient traffic circulation system that encourages pedestrian mobility within a compact urban form.
- Preservation, protection and conservation of natural resources.
- Provide direction for developing more detailed design standards and capital projects while allowing design flexibility in the development and redevelopment of the properties.
- Maximize the advantage of future transit service setting by pursuing strategic improvements to the public realm within the proposed redevelopment nodes-street network, public open space, heritage, culture and the arts.
- Promote economic opportunity for area residents, property owners, and businesses by promoting intense development, where appropriate within the Study Area core.

This section focuses on Study Area's urban design character within the public and

PUBLIC REALM GUIDELINES

surrounding residential areas, including; infrastructure upgrades, streetscape improvements, creation of gateways, continued extension of the pedestrian environment, along with the expansion of the park and open space network will help to achieve the community's desired vision for the corridor's overall growth. It is through such projects that the County will enhance the functional and aesthetic quality of the Study Area and provide the basis for leveraging future private investment within the Study Area.

The public realm guidelines that are proposed in this chapter will need to be incorporated by the various public agencies and departments responsible for in their internal design manuals. Proposed guidelines are supported by graphic examples and images of how these standards could be developed once the responsible agency begins the design process for the various elements. These are graphic examples only and are not meant to be specific designs to be directly implemented. The emphasis of this section of the plan is to show the importance of having a consistent design theme that is utilized throughout the Study Area.

Guideline: As Broad River Road evolves into a hub of diverse activities in Richland County, create an interconnected network of streets through street extensions and avoiding street grid interruptions in all new development and redevelopment.

Broad River Road will continue to function as an arterial road in the future, however, proposed improvements may become more pedestrian-friendly in the future as a result of reduced speed levels, improved access to transit, landscaping and other design improvements. Along Broad River Road and within the residential areas surrounding the corridor, the street grid is often interrupted by large-scale developments such as the mall sites, office parks, and churches and typical suburban residential developments. Overall, historic development patterns along the corridor and suburban neighborhoods have discouraged the formation of a clear street grid network, thereby creating an unfavorable pedestrian environment. The sidewalks in many locations are substandard and are in close proximity to the road, which carries a large volume of traffic at a high rate of speed. Future plans must consider access management techniques to relieve traffic pressure and improve the pedestrian environment. Improvements to rear alleyways or continuous service access roads running parallel to Broad River Road behind the businesses may provide a valuable means of creating alternative access.

Potential opportunities to create new local streets are identified on the Street Network Map (Fig. 6.1). These new streets should be required to be built by private developers in all new developments. Reduced speed limits, narrower lanes, and on-street parking are some of the mechanisms that could be employed to control traffic flow.

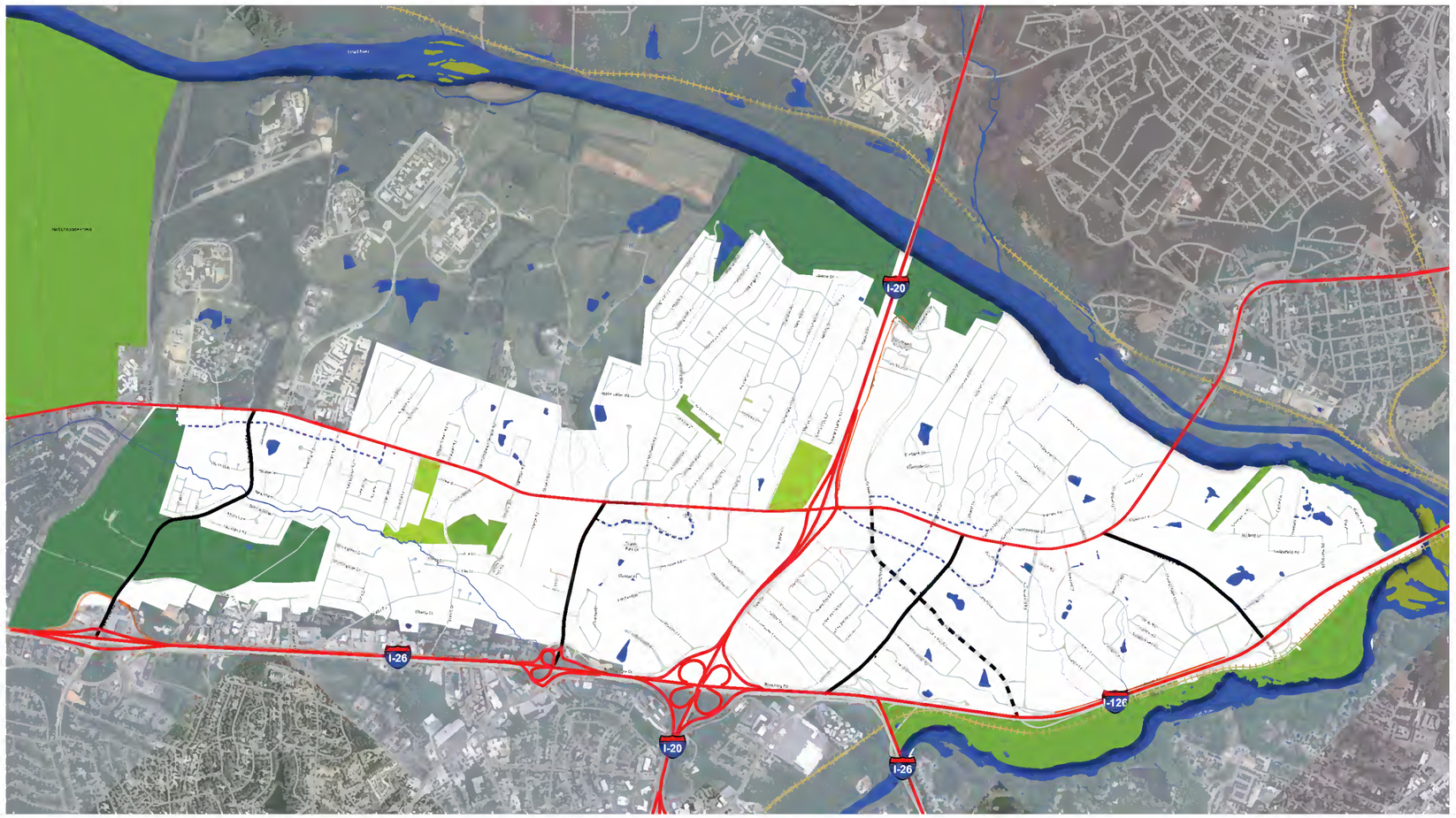


Figure 6.1 *Street Network Map*

Guideline: Enhance the appearance of the corridor while addressing issues related to the overall safety and pedestrian environment.

Future Improvements to the public right-of-way should focus on adopting policies that strive to create a pedestrian friendly environment and enhance the identity of the area, complementing the overall goals of this Plan. Adopting a long-term, coordinated strategy that includes improvements to both the public and private realm is essential in creating a unified urban design theme for the area. Given the significant impact transportation corridors have on the aesthetics, efficiency, and health of the local economy, streetscape improvements are a requirement along the major streets in the Study Area. Well-designed streetscape improvements will enhance the appearance of older physically declining areas and provide visual continuity and improved pedestrian connections between the various activity centers described in the Plan, most notably the redevelopment nodes, riverfront and area natural resources, civic uses, and the neighborhoods.

- **Open Space:** Whenever possible, the available pedestrian space including sidewalks, public plazas, and open spaces should be expanded to through easements and other means pedestrian connectivity.

- **Street:** The addition of medians not only decreases the crossing distance for pedestrians, but also helps to visually minimize the breadth of the roadway.

- **Sidewalk:** Expansion of sidewalks and public spaces will not only improve pedestrian connectivity, but will also provide public places for congregation. As the physical environment is improved, an increasing number of cafes and restaurants may use a portion of this space for exterior seating.

- **Landscaping:** Street trees, along the edges of the corridor as well as the center median, provide shade, create visual continuity, and also help separate the pedestrian environment from the automobile environment.

- **Streetscape Amenities:** Improvements such as lighting, street furniture, plantings, paving materials, and signage will help to provide continuity along the roadway. Such elements improve the aesthetics of the streetscape, increase the pedestrian safety, and create a local identity that can be used by local businesses in their marketing efforts.

The Plan recommends preparing a detailed Streetscape Design Manual in conjunction with the update of the Land Development Code. Refer Chapter 5: Circulation and Connectivity for illustrations depicting proposed streetscape improvements within each character district.

Street

- Narrowed traffic lanes;
- On-street parking; and
- Curb bulb-outs.

1

Bike Lanes

- Combined with drive land;
- Marked–between parking or curb and drive lane;
- Raised–between parking or curb and street zone of sidewalk; and
- Specific finishes.

2

Raised Median

- Plantings;
- High quality ground plane finishes; and
- Left turn lanes.

3

Intersections

- Raised;
- Decorative pedestrian crossings;
- High quality ground plane finishes; and
- Graphics.

above, Traffic Calming Measures:
Small curb radius, raised intersection, demarcated pedestrian crossing, curb bulb-outs and prioritized signalization.

Sidewalk

- Create three major sidewalk zones.

1

Building Zone

- Façade articulation;
- Entrances;
- Windows;
- Awnings;
- Window planters;
- Business signage;
- Small plazas;
- Dining areas; and
- Paving and vegetation.

2

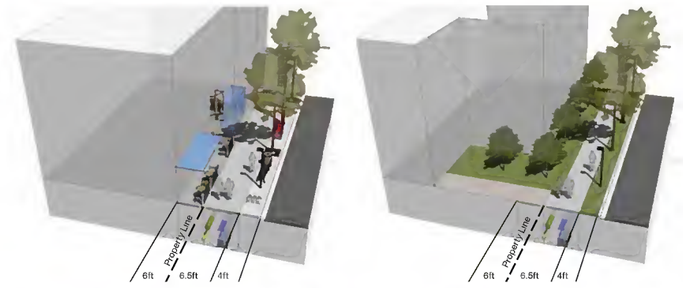
Travel Zone for Pedestrian Through-Traffic

- Must be wide enough to comfortably accommodate projected traffic volume;
- Avoid excessive width;
- Use high quality ground plane finishes, such as pavers and integrally-colored concrete; and
- Employ pattern and change of material and color to create interest.

3

Street Zone

- Landscaping:
  - Stormwater planters;
  - Planted boulevards; and
  - Street trees.
- Street furniture:
  - Bicycle stands;
  - Benches;
  - Dining furniture;
  - Mail boxes;
  - Newspaper dispensers;
  - Information kiosks; and
  - Bollards.
- Sidewalk and street lighting:
  - Banners; and
  - Flower baskets.
- Coordinate spacing of trees, lighting, bioswales, planters, etc. with on-street parking.



Streetscape design elements such as wider sidewalks, shade trees, on-street parking, signage, and generous storefronts are pivotal in creating a pedestrian friendly atmosphere.

Streetscape Elements: Design Examples

lighting

Pedestrian and street lighting play an important role in enhancing the pedestrian experience and greatly improves the quality and safety of streets and public spaces. Pedestrian scaled lighting design is pivotal in improving the visual character of retail oriented areas in the proposed redevelopment nodes. Pedestrian lighting consists of fixtures less than 12 feet high and should be based on these anticipated public uses on a street. Lighting is equally important in creating a safe environment. The Plan recommends conducting a Photometrics Study for Broad River Road and other major roadways to evaluate the lighting needs for the Study Area.

street furniture

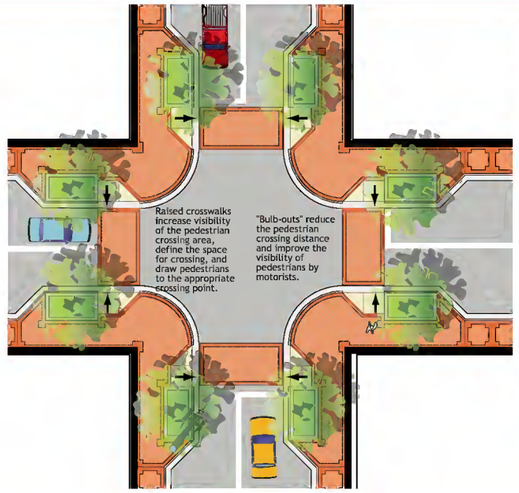
Street furniture is an important functional component of streetscape design. Street furnishings could include a combination of seating, trash receptacles, tree grates, bike racks, and newspaper stands. Maintenance, safety, cost, and comfort are primary considerations in the design and placement of street furniture. Street furniture may be provided when the public right-of-way allows for a clear pedestrian walking zone and separate seating areas. Furniture should also be incorporated in parking lots, public parks and plazas as part of mixed use developments.

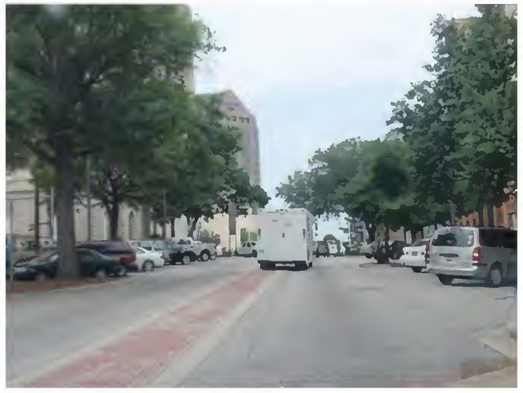
traffic calming

Adequate pedestrian crossings are also an integral component of creating a pleasant and safe pedestrian environment. Broad River Road has a number of actuated pedestrian crossings, which does minimally aid pedestrians in crossing the thoroughfare at key locations. Integrated land use and transportation planning is key to providing multimodal opportunities to communities.

Guidelines:

- Clear space to handle pedestrian capacities.
- Visibility to safely negotiate crossing.
- Legibility of all directional information.
- Accessibility and freedom from obstructions.
- Separation from traffic.





gateways

In addition to streetscapes, the Study Area contains several opportunities for the creation of gateways. These opportunities include the areas of transition into the redevelopment nodes as well as the entrances into specific neighborhoods. Gateways at these particular locations can be utilized to create a sense of arrival into the Study Area. They may be comprised of a grand formal structure or consist of a series of smaller elements that may include artwork or sculpture, lighting and landscaping, and signage. Whether used to identify entry into neighborhoods or serve as a focus within a district, gateways are an important element in establishing a successful streetscape system. There are three types of gateways that the Plan recommends introducing at key intersections to improve visibility as new development occurs in the area:

Primary Gateways

- Interchange of I-126 with Greystone Boulevard, Colonial Life Boulevard, and St. Andrews Road
- Intersection of Broad River Road with Piney Grove Road, St. Andrews Road, Bush River Road, and Greystone Boulevard
- Intersection of Broad River Road with I-20

Secondary Gateways

- Intersection of I-126 with Colonial Life Boulevard and Piney Grove Road

Neighborhood Gateways

- Interchange of Beatty Road with I-126 and Broad River Road
- Intersection of Piney Grove Road with Broad River Road
- Intersection of Arrowwood Road and Bush River Road
- Intersection of Atlantic Drive with Broad River Road
- Intersection of Nunamker Drive with Broad River Road

signage

Wayfinding signage strategies will provide a means for residents and visitors to easily find their way around the community and conveniently locate their respective destinations. There are two major aspects to the wayfinding system- the automobile orientation system and the pedestrian orientation system. Pedestrian directional signage is a crucial element, not only to ensure a well-navigated pedestrian experience, but also to create 'a sense of place'. A consistent, pedestrian-scaled and easy-to-read signage system is proposed for the Study Area. A system of directional signage for visitors entering the Study Area should be introduced to ensure easy navigation. This directional signage is proposed at major road intersections. The signage will also help the visitors to find their way to the major public parking facilities in the core area.

Guidelines:

- Signs should be visually interesting and informative. Lettering should be simple, legible and well proportioned.
- The number of signs should be limited to avoid visual clutter.
- The illumination from signs should not overpower other signs on the street, pedestrians, and the architectural character of adjacent buildings.
- Signs should complement the architectural character of the buildings and provide a unifying element along the streetscape.
- Signs should be located so that they do not interfere with pedestrian movement or block the visibility of drivers at street corners and/ or intersections.
- Consider using symbols as signs that correlates to products or services rendered.
- Integrate signs with architectural elements.
- Design lighting and mounting hardware as an integral part of the sign.
- Sign materials should be durable and long lasting.
- Coordinate style, size and color on multiple occupancy buildings.
- Avoid pole mounted signs.
- Wayfinding signage, directional signage to parking lots, and signage identifying the area destinations should be located near intersection entry points and should be designed in a consistent and easily identifiable manner.
- Develop a unified signage system that emphasizes a coherent theme for the entire Study Area.

public open space

The public open space design guidelines are intended to demonstrate how each plaza in the Study Area can be designed to address pedestrian needs, provide enjoyable outdoor activity centers, be incorporated into the area's overall circulation network, and enrich the pedestrian experience.

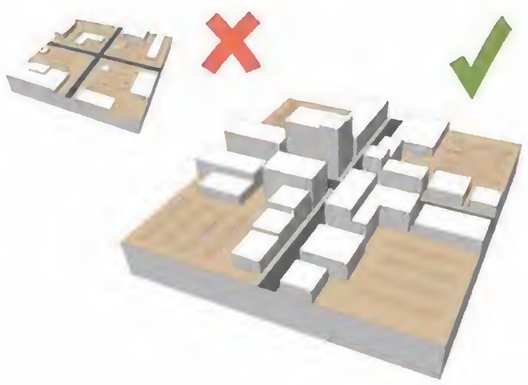
Guidelines:

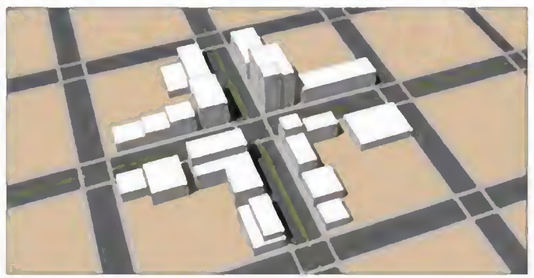
- Provide additional pedestrian areas to the major public streetscape adjacent to the property. Sidewalks should be provided, abutting the property frontage extending the length of the property whether or not on-street parking is required.
- When properties front on primary streets, they shall be designed to provide a continuity of streetscape elements. The frontage yard between the building and the property line shall be designed to accommodate pedestrian traffic, seating or other use deemed appropriate.
- Plaza should include key design elements including seating, shade trees, landscaping and planters, fountains and public art that attract people.
- Plaza design should emphasize street edges through use of elements such as paving material, landscaping, trees, lights, public art, directional signage, and pedestrian signage.

PRIVATE REALM GUIDELINES

A conceptual relationship for the street system, buildings and parking areas for future development along the corridor is discussed through general guidelines and illustrations in the following section. The concept, as illustrated, is to develop as much centralized parking, to the rear of buildings as possible.

All parking should be carefully designed to be safe, convenient and properly identified by adequate signage for the public. This allows more building frontage adjacent along retail streets, thus encouraging pedestrian activity. As part of this concept, pedestrian improvements must link the parking areas to each other creating a continuous service lane. As new buildings are added or existing buildings are remodeled along the primary streets, there should be small variations in the relationship of building facia to vehicular roadways to permit gathering areas for pedestrians.





Lanes, Bike Lanes, No Median, Sidewalks

Lanes, Bike Lanes, Median, Sidewalks

1 COMPACT DEVELOPMENT

To achieve the density and intensity of land uses needed to support transit and create sustainable and active urban neighborhoods, a Transit Oriented Development should be compact and designed to facilitate future intensification.

Buildings should be grouped together to allow for easy pedestrian access and to frame pedestrian spaces.

Key guidelines:

- Locate the highest densities in closest proximity to the transit station, decreasing towards the edge of the development.
- Locate buildings near the property edge to allow for future infill development and to screen parking

2 MIXED USE DEVELOPMENT

Station area planning should offer a mix of diverse and complimentary high-activity uses rather than keeping uses separate.

Mixed land uses can be organized horizontally or vertically, but the goal of active streetscapes require active uses such as retail to be located at ground level along primary pedestrian frontages.

Key guidelines:

- Compatible land uses should not be kept separate but instead integrated, sharing blocks and buildings in close proximity.
- Combining primary activities of living (residential) and working (office) is encouraged to support a greater variety of secondary activities (retail, entertainment).
- Uses that generate the highest pedestrian traffic should be located in the core of the Transit Oriented Development and along primary pedestrian corridors.

3 STREETS + BLOCKS

Blocks should be designed at the human scale with lengths that accommodate pedestrian travel.

A grid-based street network is the fundamental building block of a Transit Oriented Development and allows for a diversity of different street types and flexible lot patterns.

Key guidelines:

- Streets should be organized in an interconnected grid pattern, enabling multiple routes and short travel distances.
- Block sizes should be small enough to ensure buildings are able to front the street.
- A continuous network of pedestrian sidewalks and pathways should be provided throughout the Transit Oriented Development and connected to surrounding neighborhoods and open spaces.

4 STREETS + INTERSECTIONS

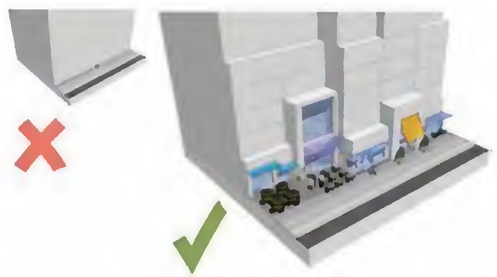
A hierarchy of street and intersection types should allow for consistent travel speeds and minimize conflicts between travel modes.

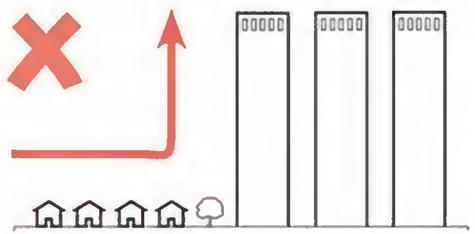
Streets in Transit Oriented Developments are multifunctional spaces, designed for the safe, convenient, and efficient mobility of all users: pedestrians, bicyclists, motorists, and transit riders.

Key guidelines:

- Design speeds should not exceed 30 miles per hour and street widths should be limited.
- Intersections should be designed to heighten driver's awareness of the presence of pedestrians (including curb bulb-outs, raised crossings, and proper lighting).

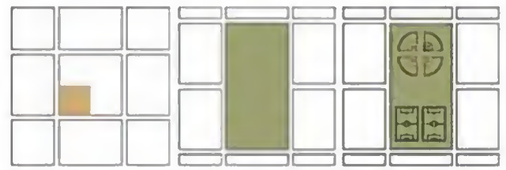
Traffic Calming Measures
Small curb radius, raised intersection, demarcated pedestrian crossing, curb bulb-outs, prioritized signalization.





Abrupt Change in Scale

Transition of Building Heights



Plaza Green Amenity

5 PEDESTRIAN FRIENDLINESS

To make an interconnected network of streets and sidewalks work in Transit Oriented Development, careful consideration is needed of the interface between the automobile and the pedestrian. In general, safe streets encourage the driver to use caution and ensure the driver and the pedestrians have clear sight of each other.

To make an interconnected system work, careful consideration of the transfers between different travel modes needs to be considered.

Key guidelines:

- Traffic calming measures are encouraged including horizontal (narrower lanes, curved roads, traffic circles, midblock crossings) and vertical (speed humps, raised crossings) methods.
- Design elements, such as curb build-outs, atgrade pedestrian crossings, and refuge islands, should be used to improve pedestrian safety by reducing automobile / pedestrian conflict.
- Street furniture, lighting, signage, and landscaping should be oriented towards the pedestrian.

6 BUILDING ORIENTATION + FRONTAGES

Buildings in a Station Area should address the street and pedestrian, with active uses located along the sidewalk and not located behind parking lots or blank walls.

Key guidelines:

- Buildings should be aligned with, and relate to, the sidewalk. Lobbies and entries should also be oriented toward the primary pedestrian frontage.
- Adjust building faces in width, height, and finishes to visually 'break down' larger frontages.
- Physically break up large retail tenant frontages by inserting smaller retail units into the face.
- Views in and out of buildings should be maintained and maximized.
- Views should not merely be into display windows, but actual building interiors.

7 SCALE + DENSITY

The densities needed in a Station Area to support transit use and an active and diverse street life can be accommodated through a variety of building types and scales.

Key guidelines:

- Encourage a variety of building types and scales at different locations throughout the Transit Oriented Development; tallest buildings near the core and lower buildings near the edge.
- Abrupt changes in building scale are to be avoided.
- Employ a variety of building massings to accommodate higher densities in order to avoid monolithic building masses.

8 OPEN SPACES + CIVIC USES

Transit Oriented Development is as much about building community as it is about supporting transportation choice and transit use.

A diversity of public places, including open spaces, passive recreational and civic uses, encourages social interaction and community participation, and fosters a sense of community pride and ownership.

Key guidelines:

- Public parks should be located throughout Transit Oriented Developments so that the majority of residents are within a 5-minute walking distance from open space.
- The design of open spaces should reflect the identity or character of the local neighborhood.
- Landmark civic buildings are encouraged to locate in highly visible locations and to anchor individual neighborhoods.

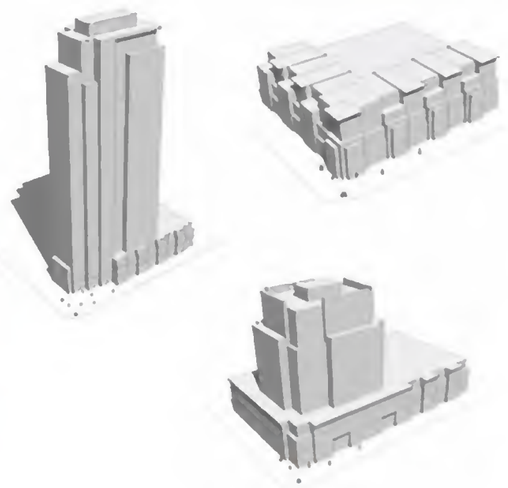
9 TRANSIT STATIONS + PLAZAS

Transit is at the heart of Transit Oriented Development and transit facilities should be well integrated into the surrounding neighborhood.

The transit station should be designed not only for its primary function of travel but as a community focal point.

Key guidelines:

- Stations should provide safe, clear and efficient pedestrian and cycling connections using paving, landscape and signage to accentuate linkages.
- Station areas should include public plazas with community amenities (such as gathering places, public information and art displays) and opportunities for small retail uses.
- Bicycle facilities should be included in all stations areas. Bicycle racks and storage should be highly visible and easily secured.
- Station areas should incorporate refuge areas for weather protection.



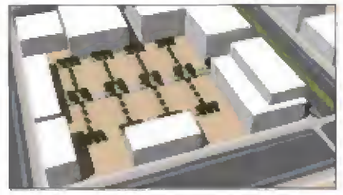
10 ARCHITECTURAL VARIETY

Individual architectural solutions are encouraged within the context of local character and compatible building form and placement.

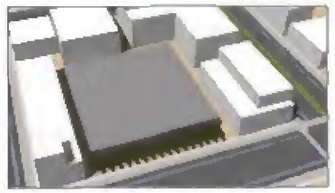
High-quality architectural design, carefully calibrated to reflect and respond to the local character of individual Station Areas is an important placemaking element of Transit Oriented Development.

Key guidelines:

- The form of buildings as a group, should take precedence over the form of single buildings, by considering the overall composition of the group.
- The relationship of building size to the site area and configuration should be considered to avoid a building overwhelming its site.
- Building scale should be adjusted and broken down through the careful use of stepping, setbacks, projections, canopies, trellises, changes in scale, fenestration patterns, materials, and finishes.
- Buildings should be orientated to minimize shadow impacts.



Orchard Style Surface Parking



Free Standing Structured Parking

11 PARKING

Where parking is provided, it should be incorporated into the design of buildings and not allowed to dominate the streetscape or separate pedestrians and the streetfront.

As Station Areas are designed to reduce reliance on automobiles, parking requirements should be less in number than conventional development standards.

Key guidelines:

- Parking is not allowed in the street frontage of primary pedestrian corridors and should be located in the rear of the buildings, in the interior of blocks, or in underground structures.
- Parking lots should be located to minimize the use of curb cuts. Curb cuts near intersections of retail streets should be avoided.
- Shared parking should be strategically located to encourage users to walk past storefronts.
- Surface parking should be screened from view and well lit.

ACTION STRATEGIES

- Ensure that the vision defined for Downtown is incorporated into the ongoing Comprehensive Plan and Land Development Regulations update process.
- Develop a comprehensive set of Urban Design and Architectural Standards.
- Consider adopting a hybrid code that integrates conventional zoning and form-based codes in the Redevelopment Nodes as a pilot project.
- Allow vertical mixed-uses (retail on ground floor and office/ residential on upper floors).
- Modify the Land Development Regulations to convert the existing zoning designations to Urban Mixed-Use designation. When the redevelopment program matures and the area sees considerable investment, different sub-districts or overlay districts that are based on areas of similar character and varying densities could also be introduced.
- Encourage liner building infill development on larger institutionally owned parcels located in the area.
- Develop a phased strategy to undertake a detailed study to evaluate the feasibility of adopting a Right-of-Way Preservation Program along Broad River Road to preserve it for future pedestrian and transportation improvements.
- Work with Richland County and City of Columbia to create and adopt a Right-of-Way Preservation Ordinance to support right-of-way preservation through their development review process.
- Ensure that street grids are re-established in future redevelopment of all new developments in the Study Area including the redevelopment nodes.
- Identify key destinations and make them obviously visible to pedestrians via architectural design, building placement, establishment of view corridors or axis, careful selection and placement of street trees so as not to obscure important views, and appropriate design and placement of directional signage.

Chapter 7 Public Facilities and Amenities

PUBLIC FACILITIES AND AMENITIES

The Broad River Road Corridor and Community Master Plan sets a vision for the area's future growth and its potential to develop as a vibrant, pedestrian-oriented, mixed use corridor. In order to support the envisioned development patterns and related increase residential and employment related population, it is critical that the development of the public facilities and services is in place for the private sector investment to materialize.

The public facilities and amenities includes: utility infrastructure (water, sewer, stormwater, transportation); civic amenities and services (parks and open space, area institutions, cultural facilities); public safety and health (fire and rescue, community policing, health services)

This chapter discusses strategies related to the physical and programmatic aspects of public infrastructure and facilities. In particular, the chapter focuses on utility infrastructure, civic amenities, and public safety and health. Additional public facilities including roadways, streetscape design, transit, and other transportation related issues are addressed in Chapter 4: Land Use and Development Characteristics; Chapter 5: Circulation and Connectivity; and Chapter 6- Urban Design.

Access to civic facilities and the provision of adequate infrastructure that effectively meets the needs of current and future residents will play a key role in ensuring a high quality of life for the community. During the planning process, several residents expressed their desire to locate essential public facilities- a community library, a neighborhood family center, a health care center, a community meeting space, a grocery store, neighborhood retail, and restaurants as key anchors that will support the residential uses in the Study Area. The intent of this Plan is to ensure that the infrastructure and community needs are fulfilled in order to attract residents, businesses and visitors in the area.

Utilities

Water Service

Richland County does not currently own a water system. Water service for the entire study area is provided by the City of Columbia which maintains an extensive water distribution system that extends along Broad River Road from one end of the corridor to the other. Because this infrastructure is part of a larger, centralized, municipal system, it is unlikely that future development as envisioned in this plan (i.e., increased residential and commercial densities) will require significant water infrastructure upgrades, however, all proposed projects will need to be closely coordinated with the City of Columbia Utilities Department in order to ensure compatibility with their engineering standards.

Sewer Service

Several utility companies provide sanitary sewer service within the corridor. Most of the area north of Broad River Road is served by the City of Columbia, which operates the largest centralized sanitary sewer system and wastewater treatment plant in the Columbia metropolitan area. The commercial properties around Dutch Square, inclusive of the mall, are served by Development Services, Inc., a small private utility company that owns and operates a limited collection system and a small wastewater treatment plant (WWTP) that discharges into the Lower Saluda River. While the Development Services, Inc., WWTP is currently limited in its treatment capacity, some estimates indicate that it may be able to accommodate as much as 300 additional households in the Dutch Square area. More significant increases in residential and commercial densities, however, would require additional investment in sewer infrastructure that might entail either the expansion of the Development Services, Inc. WWTP or the pumping of wastewater to the City of Columbia system or the nearby Alpine Utilities WWTP, both of which have additional capacity for treatment. It is important to note, however, that the Central Midland Regional 208 Water Quality Management Plan designates the Development Services and Alpine Utility plants as "temporary" facilities as a part of the plan's consolidation and elimination of dischargers policy, which aims to reduce the number of small waste water treatment facilities discharging into the regions waterways. The Lower Saluda River in particular has been targeted for the removal of all domestic dischargers because of its importance as a scenic and recreational waterway. Therefore, strong coordination between these public and private sewer providers will be required to determine the best course of action for meeting future infrastructure needs that are consistent with regional water quality goals and objectives.

Storm Water

As with most other governmental services, storm water management within the study area is the responsibility of multiple jurisdictions including Richland County, the City of Columbia, and the South Carolina Department of Transportation (SCDOT). Each of these entities is required by federal and state regulations to produce and maintain a storm water management plan that outlines goals, objectives, and best management practices (BMP) for mitigating against storm water related issues such as flooding, soil erosion, and non-point source pollution. In order to meet the development objectives set forth in this plan, it is critical for the City, the County and SCDOT to ensure compatibility and coordination between their individual plans, ordinances, and BMPs. One recommendation for achieving this goal, would be for these entities to work together to create a coordinated area-wide storm water action plan that might include the development of a network of regional inter-jurisdictional storm water detention facilities. Such a coordinated infrastructure plan would help to attract private sector investment by streamlining the development process and eliminating the need for individual on-site permitting and facility construction. Non-traditional, green infrastructure techniques for managing storm water could also be coordinated through this process and should be included in all long range utility and infrastructure planning efforts for the study area.

Another sewer issue within the study relates to the large number of residential properties that still rely on septic systems for the collection, treatment, and disposal of waste water. Many of these properties lie within the drainage basin served by the City of Columbia and can potentially be tied into the City of Columbia collection system at some point in the future. The elimination of septic tanks is a regional water quality goal supported by the City and County alike, however, the provision of centralized sewer service by the City is in most cases contingent upon municipal annexation and accompanying tap fees which may or may not be the desired outcome for area residents. Solutions to this issue therefore, need to be closely coordinated between the City and County to ensure all parties are in agreement on the best method of sewer service delivery.

ACTION STRATEGIES: UTILITIES

- Invite stakeholders from both public and private utility providers to be a part of the Broad River Road Master Plan Steering Committee
- Work with stakeholders from the public and private utility providers to identify specific infrastructure deficiencies based on the different development scenarios presented in the plan such as inadequately sized water and sewer lines, WWTP capacity limitations, and areas with repetitive flood losses
- Work with the City of Columbia to execute a sewer service agreement or memorandum of understanding to provide centralized sewer service to residential property owners still reliant on septic systems
- Work with the City of Columbia and SCDOT engineers to develop an inter-jurisdictional area-wide storm water action plan that would evaluate the feasibility of projects such as creating regional storm water detention facilities, implementing a master storm water permit, and constructing green infrastructure projects
- Work with regulatory and private entities to develop a phasing plan for the burial of overhead utility lines in conjunction with planned roadways and streetscape improvement projects
- Support capital improvements, when feasible, through supplemental budgets for infrastructure located within the redevelopment notes

Civic Amenities and Services

The Civic Amenities and Services relate to the physical and programmatic aspects of community facilities within the Study Area boundaries. Access to community facilities and the provision of adequate public services that effectively meets the needs of the Broad River Road community will play a key role in ensuring a high quality of life for area residents. Walkability in a community is greatly enhanced when an efficient and equitable allocation of neighborhood amenities is developed in close proximity to residential uses. The intent of the Plan is to strategically market the area's existing facilities and to ensure that the location of new facilities and resources are maximized through coordination among various County agencies, non-profit organizations, faith based institutions, private sector, Richland County School Board, and the City of Columbia. The recommended strategies include exploring opportunities to initiate partnerships with the area's service providers both from a programmatic perspective and also encouraging joint use of facilities.

Figure 7.1 *Saluda Riverwalk Conceptual Plan (Source: The River Alliance)*

Parks and Open Space

The National Recreation and Park Association (NRPA), a national, non-profit service organization dedicated to advancing parks and recreation as part of quality of life recommends between 6.25-10.5 acres per 1,000 residents. Currently, the County is below national standards with a standard of 3.66 acres per 1,000 residents. Using 2009 population estimates provide by Claritas, Inc., the Study Area consists of 24,602 residents. This translates to 88.5 acres needed in the Study Area to meet County's existing standards and a minimum of 153.7 acres to meet national standards. St. Andrews Park (19.7 acres), Pine Grove Community Center and Columbia High School are the existing facilities within the Study Area boundaries. Harbison State Forest and Riverbanks Zoo and Gardens are the two major regional recreational facilities located partially inside or just outside the Study Area boundaries. The service area for neighborhood parks is ¼ to ½ mile radius and 1-2 miles for community parks per NRPA standards. Open Space and Recreation Map illustrates that the Study Area has insufficient facilities currently dedicated for open space and recreation and identifies potential sites for various types of open spaces such as plazas, trails, parks, and street boulevards. Providing an array of recreational opportunities- different types at varying scales- is essential for creating a balanced and successful open space system that is accessible to all area residents. The Plan identifies below a multitude of strategies to provide adequate access to recreational facilities preferably within a ½ mile walking radius of the area neighborhoods.

Increase open space and recreational opportunities through redevelopment of undeveloped riverfront properties along Broad River as a consolidated network of public parks, trail system and eco-tourism facilities

The Broad and Saluda Rivers, located at the eastern and western extents of the Study Area, are viewed by many to be the greatest natural assets of the Columbia area. The River Alliance has completed the plan for the proposed Lower Saluda River Greenway as part of a 10.5 mile multi-use trail system. The project traverses through the southern section of the Study Area between I-20 and I-26 and will greatly expand public access for neighborhoods to the Saluda River.

Broad River's potential to serve as a regional and neighborhoods recreation resource within the Study Area is currently highly underutilized. As new development occurs in the Study Area, natural areas including the floodplain near the Broad River edge should be also preserved as open space. The vision for the proposed Broad River Greenway and Eco-Tourism Center is to enable the Broad River waterfront achieve its full potential as a public amenity by maximizing the waterfront's significant ecological and aesthetic resources. By combining the proposed Broad River multi-use trail network with Broad and Saluda river open space systems, the recreational quality of the neighborhoods within the Study Area will be greatly enhanced. The Plan identifies over 100 acres of additional open space and recreational facilities along the waterfront. The current pristine conditions along these riverfront properties present an opportunity to introduce a range of activities and venues which once developed will be a major regional tourist attraction. Future linkages to Harbison State Forest and Riverbanks Zoo will ultimately create a completely interconnected network of open spaces.

Eco-tourism activities such as kayaking, rowing, fishing, and other low-impact uses combined with educational and cultural venues such as a nature interpretation center and open-air amphitheater will create a unique experience-based destination that will be linked with the neighborhoods together by a continuous trail amenity. The County should pursue a land acquisition program of properties adjoining the public owned properties along the waterfront.

ACTION STRATEGIES

- Initiate the design phase for the linear parks and trail network along the riverfront. Phase I would include conceptual design and preliminary cost estimates.
- Emphasize the importance of view corridors from neighborhoods during the design phase for the waterfront parks and trail system.
- Seek to eliminate pollutant discharges and stormwater runoff into the river.
- Promote community awareness initiatives educating individuals about riverfront clean-up activities.
- Use environmental restoration and ecological diversity as a theme for tourist marketing strategy.
- Accelerate cooperative efforts with The River Alliance and City of Columbia to create a dedicated task force for implementing proposed improvements including maintenance and clean-up efforts of County owned undeveloped land as a pilot project.
- Continue to secure additional funding and grants for the waterfront parks and trails system through local, county, state and federal sources.
- Pursue land acquisition efforts of strategic riverfront properties through a dedicated “Riverfront Acquisition Program”.
- Establish a Riverfront Acquisition Trust Fund to receive contributions as part of a performance incentive or part of a transfer of development rights program for height increases at redevelopment nodes or to receive donations from private and corporate benefactors.
- Provide incentives for new development that preserve existing view corridors and build on opportunities to create new vistas on the riverfront.

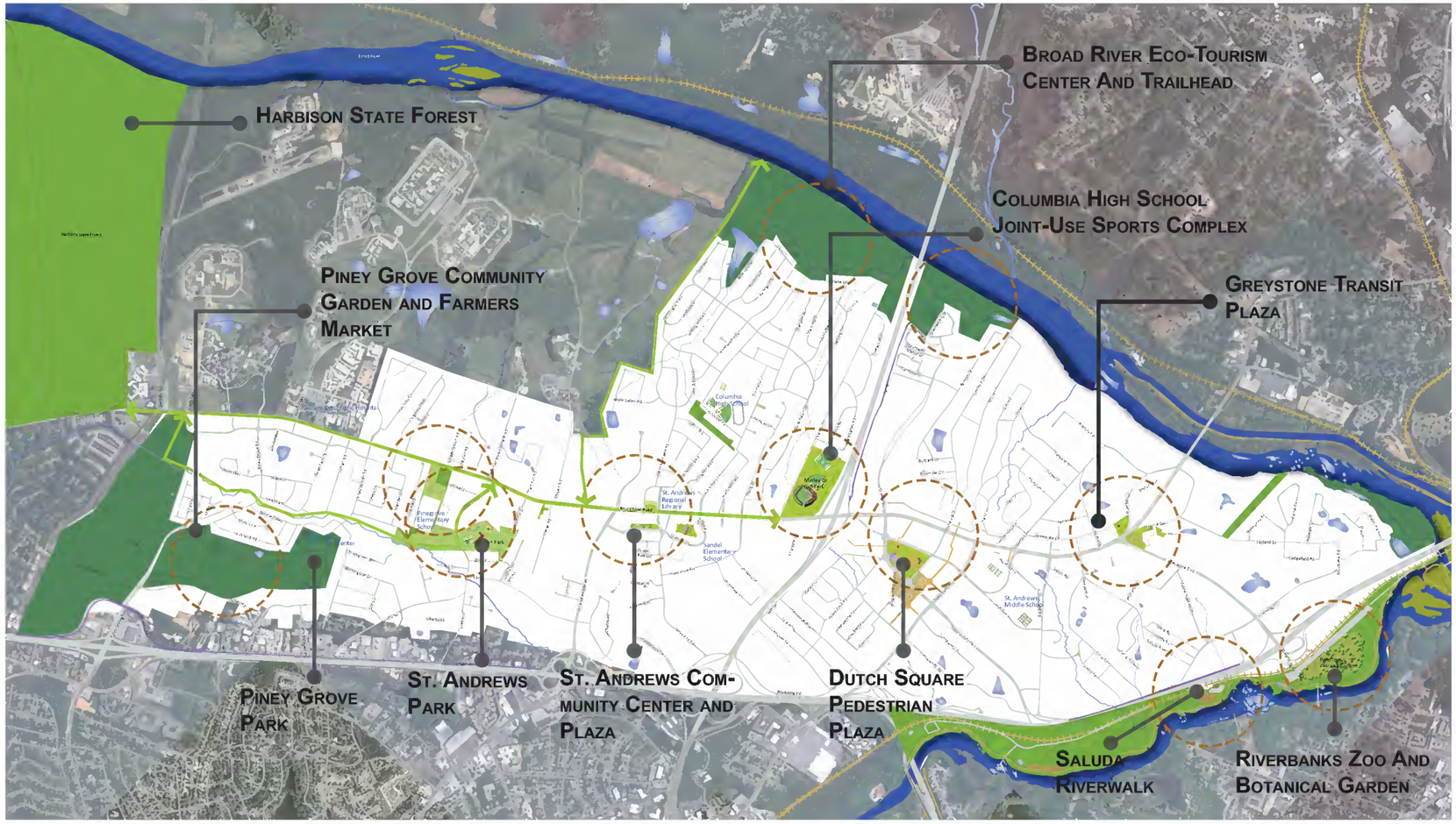


Figure 7.2 *Parks and Open Space Network Map*

Locate a variety of open spaces such as plazas, green spaces, community gardens, playgrounds, parks within the redevelopment nodes so that the majority of future residents are within a 5-minute or 400 feet walking radius.

In a majority of the existing residential development in the Study Area, open space and/or recreational facilities are not included in the overall development plan. Future development in the Study Area, specifically properties within a ½- mile of the redevelopment nodes, should be required dedicate a minimum of 5 percent of the site area as on-site common open space. Conceptual designs for the four redevelopment nodes presented in this plan include some form of open space as a focal point for community gathering and activity. The open spaces/ recreational facility proposed within the redevelopment nodes include; the Greystone Pedestrian Plaza, Dutch Square Mall Transit Plaza, St. Andrews Community Center, and the Piney Grove Community Garden and Farmers Market. When combined with on-going trail, streetscape and alley way improvements and a system of directional signage, these proposed projects will provide for a well integrated park system that is easily accessible from all neighborhoods.

Explore opportunities to convert vacant properties and underutilized institutional properties into recreational facilities at varying levels- pocket parks, neighborhood parks, community parks.

Richland County should examine opportunities to develop vacant lands for small passive neighborhood parks to complete the system, where possible. Another alternative to ensure the provision of adequate neighborhood parks in proximity to residential neighborhoods is to work with the School Board and faith-based institutions to provide joint use park sites and programs. The Richland County Recreation Commission (RCRC) has established Memoranda of Agreement with Richland County School District for the joint use of Columbia High School during off seasons in order to benefit all residents. As part of this agreement, the RCRC must maintain lights and assist with upkeep of the facilities. The County should consider including other schools in the Study Area- St. Andrews Middle School and Pine Grove Elementary School- as part of the joint use agreement with Richland County.

As discussed previously in the discussion of neighborhood planning areas (Chapter 4: Land Use and Development), the County should initiate discussions with the School Board to redevelop the sites currently accommodating the Marley Drive Park and vacant Palmetto GBA building as a sports complex with a fitness center, running track, and baseball fields. Redeveloping this site as a joint-use facility would provide the community with needed recreation amenities and give Columbia High School more flexibility to expand in the future.

Develop an interconnected multi-use pedestrian and bicycle trail system that enhances the area's circulation pattern and environmental character while providing increased public access to area destinations.

The Saluda River Greenway and Harbison State Forest provide a distinctive opportunity to create a continuous trail network system connecting the area's recreation destinations. The proposed Broad River Multi-use Trail system will accommodate varied uses and activities through its entire course, including a well-designed series of linear parks and passive uses that reinforces the recreational assets available to the community. The system will also serve as an attractive pedestrian connector linking the area's redevelopment nodes, including parks, waterfront, community facilities, and shopping destinations. The system will be constructed either as part of redevelopment efforts within the proposed nodes, land assembled by the County, or on private property through obtained easements.

The multi-use trail should be a minimum of 10' wide in rural sections and 8' wide in urban sections. Where adjacent to roadways, trails can replace sidewalks. Trails should be paved, with the exception of those in environmentally sensitive areas, where pervious services are recommended, and should adhere to the same lighting standards as pedestrian sidewalks. The trails should also be clearly marked and easily accessible to pedestrian and bicycle traffic. The multi-use trail network and parks system combined with proposed streetscape improvements will provide an integrated recreation and open space system easily accessible to the community. To implement such a system, the County should start to assemble land, work with private property owners to obtain easements, and to engage the community to designate the system route and adopt a Right-of-Way Preservation Ordinance as part of its revised Land Development Regulations Code to ensure collaboration from the private sector.

ACTION STRATEGIES

- Conduct neighborhood planning workshops on an ongoing basis to develop a detailed programming and master plan study. The study should determine the recreational needs of area residents, provide detail cost estimates. This will ensure that the facilities when constructed match with community needs.
- Undertake a detailed design master plan of the district to fully integrate the appropriate phasing of all proposed elements of design for the Broad River waterfront parks system. Encourage ancillary uses and activities that support eco-tourism along the waterfront.
- Build strategic partnerships with the City of Columbia and The River Alliance to ensure regional connectivity for the trail system taking advantage of a larger pool of funding and programmatic resources available from different sources.
- Create a unified theme and brand identity for the proposed Broad River Multi-Use Trail. Link trail to the regional system of parks (Harbison State Forest, Riverbanks Zoo) and trails (Saluda Greenway).
- Seek grants that support the continuous construction and enhancement of the trail system.
- Pursue park, recreation, and beautification efforts to preserve and enhance the character of the Corridor as a pleasant, appealing atmosphere for working, shopping and residing.
- Develop neighborhood parks in residential areas as amenities to stimulate private investment.
- Provide safe connections with adequate lighting and CPTED (Crime Prevention through Environmental Design) design considerations from the neighborhoods to primary activity centers including the redevelopment nodes, waterfront and schools.
- Wherever possible, maintain the integrity of the natural environment when developing property, especially when significant tree canopies or natural habitats can be integrated into the site design.
- Identify potential revenues including tax increment financing, grants, impact fees and other assessments to provide adequate funding for proposed improvements and maintenance of public facilities.
- Identify locations for introducing public art within the redevelopment nodes.
- Initiate discussions with School Board and faith-based institutions to promote shared use of recreation and civic facilities such as playgrounds and community meeting spaces.

Area Institutions

Maintaining a stable core of employment generating businesses and availability of a skilled and educated workforce is pivotal in creating a sustainable community that ensures economic opportunity for all residents. Schools, colleges and universities, and faith-based organizations are the "backbone" of a community's future. Access to quality educational facilities is intrinsically linked to community redevelopment and real estate development. There are four schools located in the Study Area- Pine Grove Elementary, Sandel Elementary School, Columbia High School, and St. Andrews Middle School. School districts are typically not an integral part of the community redevelopment process and community stakeholders are often disconnected from a school's strategic planning process. Schools also serve as large employment generating centers and are key partners in the redevelopment process. The Plan recommends that the County should work proactively with the Richland County School Board to assess the need for better school facilities, and to provide quality educational facilities to attract residential population in the area. As mentioned previously, the School Board's recent investment in upgrading the high school facility was identified as an asset by the community. One of the key projects that could be implemented as a joint-use project is the redevelopment of the Palmetto GBA and Marley Park Drive sites as a sports complex for area residents and students. The County should initiate discussions with the School Board to gauge their interest in supporting this concept as a public investment in the area.

As it relates to access to higher education institutions for future residents in the Broad River Road Study Area, available facilities in the area include the Strayer University Columbia Campus, located off the frontage road near the intersection of I-20 and I-26. Undergraduate and graduate programs in fields such as accounting, business, health services administration, information systems, and public administration are available at this campus. Other educational and institutional facilities include the Remington College- Columbia Campus (behind the Dutch Square Shopping Center).

The County, working with the Greater Columbia Chamber of Commerce, should develop a detailed strategy on working with regional educational institutions including University of South Carolina, Benedict College, and Remington College to expand their presence in the area. There exists a great potential for attracting higher learning establishments in the area, as satellite campuses for the regional institutions or technical centers related to the criminal justice and prison campus (public administration, law, or social work), riverfront and community garden (environmental sustainability, urban agriculture), other fields including arts and cultural development. Students, faculty, staff, and other employees will serve as the residential base and have the opportunity to live within walking distance from their respective work places or the transit station in the future.

The area's faith-based institutions will also play a pivotal role in the redevelopment of the Study Area. Community and faith based organizations working as partners in the implementation of this program could help in the community development process through a myriad of activities such as developing community pride and identity (clean-up activities, crime mitigation), providing essential community services (such as education, day-care centers, after school programs), and youth development.

ACTION STRATEGIES

- Monitor and revise projections annually to provide updated school yield analysis based on new developments;
- Initiate discussions with the School Board to evaluate land acquisition opportunities in the vicinity of the existing high school for future expansion;
- Conduct a county employee survey to assess current and future housing preferences;
- Attract higher learning facilities from the region into the area such as satellites campuses of regional institutions, university extension facilities for legal, nursing or arts related training programs; and
- Initiate discussions with School Board to promote shared use of recreation and civic facilities such as playgrounds and community meeting spaces.

Community Development Programs

The State of South Carolina, Richland County and the City of Columbia offer numerous community development programs to assist in the revitalization of neighborhoods and communities. Most of the community development programs within Richland County and the City of Columbia are pass-through Federal Programs; the largest of which are from the US Department of Commerce and Department of Housing and Urban Development. The single largest program is the area's Community Development Block Grant programs.

Key Non Profit Organizations

Non-profit organization are playing an increasing role in revitalizing communities; especially Community Development Organizations (CDO). Richland County and the City of Columbia have numerous community development organizations. Some CDOs operate within specific geographic boundaries or neighborhoods while others operate at a larger scale.

- Affordable Housing Coalition of SC
- Ames Road Richland County Housing Development Organization
- American Dream, LLC
- Benedict Allen CDC
- Chief Cornerstone World Vision
- Columbia Housing Development Corporation
- Community Assistance Provider
- Eau Claire Development Corporation
- Glory International CDC
- Grace Christian Ministries
- Loveline Outreach Ministry, Inc.
- Midlands Community Development Corporation
- SC Commission for Minority Affairs
- Palmetto Progressive Community Development Organization
- Southeastern Association of Financial Empowerment
- The Cooperative Ministry

It does not appear that The Local Initiatives Support Corporation (LISC) has a presence in South Carolina. LISC is the nation's leading community revitalization organization. It is dedicated to helping community residents transform distressed neighborhoods into healthy and sustainable communities of choice and opportunity — good places to work, do business and raise children. LISC mobilizes corporate, government and philanthropic support to provide local community development organizations with:

- loans, grants and equity investments
- local, statewide and national policy support
- technical and management assistance

LISC is a national organization with a community focus. Its program staff are based in every city and many of the rural areas where LISC-supported community development takes shape. In collaboration with local community development groups, LISC staff help identify priorities and challenges, delivering the most appropriate support to meet local needs.
LISC is *Building Sustainable Communities* by achieving five goals:

- Expanding Investment in Housing and Other Real Estate
- Increasing Family Income and Wealth
- Stimulating Economic Development
- Improving Access to Quality Education
- Supporting Healthy Environments and Lifestyles

As the Corridor Plan is being implemented, the Plan recommends that efforts be made to invite LISC to gauge its interest in providing assistance both short and long term.

Community and Cultural Facilities

The Piney Grove Community Center and the St. Andrews Public Library are the two major civic facilities located within the Study Area. Development of new cultural resources will be vital in supporting a growing population within the county, while at the same time act as potential catalysts for economic development activities in the area. During the public workshops, the residents and community representatives expressed their desire to locate an upgraded Public Library and Neighborhood Community Center in the Study Area.

Public libraries are a prime example of pivotal community facilities that serve as a destination for residents of different age groups while providing important education and local economic development opportunities. It is imperative to ensure that the location of new services and resources are maximized through coordination among various entities including the County, City agencies, non-profit organizations, faith-based institutions, educational establishments, and the private sector.

In light of limited resources and budget constraints facing local governments in current economic conditions, a key strategy recommended in this Plan is to explore new avenues to initiate partnerships with existing and prospective service providers both from a programmatic perspective and also joint use of actual facilities. Some of the key projects recommended in this Plan that would require strengthening existing and forging new partnerships to develop additional cultural resources include:

St. Andrews Community/ Business Assistance Center: The development objectives for the proposed community center should include essential community services to the area residents, including but not limited to: After-school programs, Literacy Programs, Computer Skills, Health Education and Services, Peer Counseling, Financial Management Programs, and day-care facilities. Key partners include non-profit organizations, Chamber of Commerce, area merchants, and School Board.

Piney Grove Community Garden and Education Center- Key partners include University of South Carolina, Benedict College, non-profit organizations, South Carolina Department of Agriculture, Harbison State Forest, existing community gardening organizations including Edisto Court Community Garden and Rosewood Community Garden.

Columbia High School-Richland County Sports Complex- Key partners include School Board, local educational and faith-based organizations.

Broad River Riverfront Eco-Tourism Center- Key partners include the River Alliance, City of Columbia, neighborhood associations, and other funding organizations such as Trust for Public Land.

Public Safety and Health

With respect to public health and safety, the efficient provision of police and fire services are of critical importance to maintain a safe environment within the redevelopment area. The anticipated growth in population within the Study Area will increase the demand related to police and fire facilities. The Plan recommends that the County continue working with Richland County and City of Columbia fire and public safety departments to anticipate construction and expansion of fire, police and emergency facilities in conjunction with new development. Crime and a lack of street lighting was a recurring concern during the community workshops. The County should work with the Sheriff's department to increase presence in the area and expand public safety programmatic efforts in the neighborhood to provide a safe and secure environment for the residents.

Creating a safe environment that strategically builds upon the relationship between crime prevention, built environment design, and well-defined programming is a critical element in attracting new residents and commerce as well as improving the overall quality of life for existing residents. In addition to providing the fundamental requirements of efficient community policing and other services such as fire and health, it is important to effectively incorporate crime prevention planning strategies in all city building projects and also to effectively communicate the related principles to the community. Some communities such as Tempe, Arizona and Sarasota, Florida have adopted Crime Prevention through Environmental Design (CPTED) principles into their zoning code and site review procedures. Other communities have employed a range of techniques from neighborhood watch and community policing programs to traffic calming and streetscape improvements reinforcing the "eyes on the street" concept

ACTION STRATEGIES

- Continue to work with the Sheriff's Department, the Fire Department, and the neighborhood associations to address crime and fire emergency issues in the Study Area and also strengthen the police and community partnership;
- Work with the Public Works Department to maintain and provide adequate street lighting;
- Organize neighborhood outreach drives to inform and educate the residents about emergency preparedness, reporting of illegal activities in the area, and other housekeeping issues to prevent code violations and fire accidents in the commercial and residential areas;
- Continue to work with the community based organizations and area schools to enhance programs designed to reduce and prevent substance abuse;
- Continue to support the Sheriff's Department and Fire Department in establishing stronger relationships with area schools and faith-based institutions to increase community involvement, through mentorship programs and safety awareness;
- Initiate community based activities involving the youth and the public safety staff to generate support and participation in local anti-crime programs, and to improve public relations with the County's Sheriff Department;
- Conduct a joint effort involving the Sheriff Department, the Fire Department, and the Parks and Recreation staff to prepare a crime generating and fire hazard physical conditions inventory for area residents. Involve these agencies while designing public improvements incorporating CPTED principles;
- Increase landlord communication with neighborhood associations and tenants to promote landowner participation in maintaining the integrity of the neighborhoods; and
- Collaborate with area non-profit and faith-based organizations to implement youth training and other job assistance strategies to reduce unemployment in the Study Area.

Chapter 8 Economic Development

ECONOMIC DEVELOPMENT

A basic premise of the recommendations presented in this Plan is that redevelopment efforts should not serve as the a basis for attracting new investment into the community, but these should also increase the level of public realm amenities and improve the overall quality of life for citizens. During the community workshops, residents and stakeholders identified economic development as a fundamental component of community development. In general terms, the community's response focused on emphasizing economic development as the foundation and measure of success of all community revitalization efforts.

The Market Analysis presented in the Appendix of this document, highlights some salient market trends. The following is a summary of the area's key socio-economic characteristics:

- Location Advantage: Access to regional transportation corridors;
- Employment- Housing Balance: Strong ratio of jobs to residential population (28,287 jobs to 24,602 residents);
- High Percentage of low/moderate income population;
- Low educational attainment levels than the County and City;
- High minority population;
- Community-wide commitment and leadership support for improving the area;
- Aging housing stock and infrastructure system;
- Largely built out and future growth will be focused on infill redevelopment;
- Decline in school grades;
- Perception issues related to crime and safety; and
- Negative absorption period for office and retail uses with high vacancy rates.

Nationwide, suburbs built in the post World War II boom are struggling. These "first suburbs" are going from relatively homogeneous population and relatively new infrastructure to aging population and deteriorating infrastructure. In order to have a strong impact, it is essential that a strategy be developed that collectively address these economic development principles at the neighborhood, county, and regional levels. Economic development and the resulting sense of community well-being do not happen overnight. In fact, many of these expectations will take more than a generation for meaningful success. Therefore it will be important for the County and the residents to set realistic benchmarks for different aspects of the program that will relate to appropriate timelines. The community should not lose sight of the fact that ultimately the real measure of success is when the private sector assumes the lead in economic development and the government's role is diminished over time.

The following fundamental economic development principles serve as a basis for the objectives and action strategies discussed later in this chapter:

- Organization and Financing
- Marketing and Promotion
- Economic Restructuring
- Improved Investment Image

Organization and Financing

The Broad River Road Corridor Master Plan and Community Study Area spans over 5 miles with areas that are within multiple jurisdictions and includes over 7 neighborhood associations necessitating a well-designed organizational structure. The implementation of the recommendations outlined in this Master Plan depends on the ability to establish appropriate channels of communication between the community's stakeholders and agencies. It is important to ensure that the goals, priorities, and budgets of the County departments are aligned with the strategies identified for the Study Area, when possible. The County should also consider establishing measurable indicators to track progress of implementation activities in the area.

The support of civic and neighborhood leaders is imperative for successful program implementation, as they will act as ambassadors of the Broad River Road Corridor and Community Master Plan and increase awareness about the program within the larger community. The County, working in close collaboration with the City of Columbia, should continue to expand capital improvements for the area including infrastructure upgrades, transportation improvements, neighborhood planning activities, and community development services and constructing essential facilities. The County should also consider establishing a formal volunteer recruitment and recognition program in order to attract more volunteers that are interested in offering their skills to the community.

Establishment of a management process that will oversee the redevelopment process will be a critical component of the implementation program for this master plan. It is recommended that the County establish a Broad River Road Steering Committee comprised of representatives from the neighborhoods, businesses, educational institutions, faith-based organizations, Richland County, and the City of Columbia to assure continuity of current and future efforts in the Study Area.

The Plan recommends that the County (as prime agent) work with the City to form a joint Community Redevelopment Agency for the Study Area with a dedicated manager to oversee the implementation of the various projects identified in this plan. The City of Columbia (North Main TIF district) has used tax increment financing as a mechanism to manage the redevelopment process. The manager, working for the CRA Board (County Council), would be responsible for the implementation of the Redevelopment Plan, and coordinating with other governmental and civic organizations charged with parts of its implementation. This would include working with the School Board in improving community schools. This would assure continuity of current efforts in the various districts while also aligning the goals of the County with regional economic growth opportunities. Chapter 9- Implementation Strategies discusses the administration and organizational framework in detail.

The success of any redevelopment program ultimately relies on the coordinated efforts of the leadership and the management staff with the residents, the private sector, governmental entities, and other institutions. Continuing partnerships with key organizations will ensure that all responsible agencies will work collaboratively with the various players to maximize existing resources, as well as avoiding efforts. Some of the key partners that will have a role to play in the implementation of the redevelopment program include: Richland County School Board, City of Columbia, Central Midlands Council of Governments, University of South Carolina, Benedict College, Greater Columbia Chamber of Commerce, neighborhood associations, non-profit agencies, and other organizations.

Marketing and Promotion

In order to attract potential customers from the region and to encourage existing customers to continue shopping at businesses within the Study Area, the County should consider establishing a cohesive brand identity for the various neighborhoods and commercial districts within the Study Area boundaries. Most of the Study Area falls within an area referred to by the United States Department of Commerce as the St. Andrews Designated Census Area. The rebranding of this area as "St. Andrews" received positive feedback from the community residents in the written survey and during the community workshops. As a long-term strategy, the County should continue working with the Greater Columbia Chamber of Commerce to prepare a Marketing and Promotion plan as a long-term strategy. The Marketing and Promotions plan will help identify a brand identity for the Study Area that separates it from regional competitors, capitalizing upon the area's strengths.

Marketing activities encompass a range of tactics from signage and façade improvements to public relations and brochures. A marketing plan/program should continue to evolve as the County implements the revitalization strategies discussed in the plan. In the short term, the Study Area's image should be viewed as integrally linked to the community's identity as a whole. Recommendations include:

- Creating a newsletter
- Communicate progress with meetings
- Continue to gather community input
- Hold multi-party events
- Hold invitational events to include citizen advisory committees, focus groups and events geared for more targeted public involvement opportunities.

Economic Restructuring

At a regional level 70% to 80% of economic growth is attributed to the growth of existing companies. Maintaining a stable core of employment generating businesses and availability of a skilled workforce will be pivotal in creating a sustainable community that ensures economic opportunity for all residents. This Plan seeks to maximize opportunities by devising strategies and incentives to retain and attract businesses to the area and developing job training and mentorship opportunities. Many business owners base their impressions of a community on how existing businesses are treated and the attitude they convey. Youth training and development initiatives including the expansion of mentorship programs and apprenticeship opportunities initiated in collaboration with area schools and businesses will be critical to ensure that the skills of the current and future labor force match the demands of the area employers.

The County should work with area businesses and local realtors to create a Broad River Road Merchants Association to increase private sector participation in the redevelopment of the area. In most cases, especially when oriented toward retail, two separate groups might be needed: (1) property owners and (2) merchants.

There has been a national shift from attracting independent businesses to attracting "interdependent" businesses. Small enterprises are an integral part of the area's economic base and developing strategies to increase local entrepreneurship. These small enterprises will be pivotal in ensuring the provision of neighborhood amenities and instilling a sense of community pride. The County should initiate regular meetings with existing business and property owners to assess their needs, concerns, and assistance that they may need to enhance their business experience in the area. In order to help businesses assess their expansion goals and respond to market trends in advance, the County should make available to all business owners a summary of the market analysis report and Broad River Road Corridor Master Plan.

The County working with the proposed Steering Committee and Merchants Association should also engage the preparation a comprehensive business recruitment program in conjunction with the proposed physical improvements and ongoing events programming. While incremental progress through public realm improvements will strengthen the overall investment environment, ultimately the private sector is anticipated to take the lead in future economic growth with continued support from the County and the City. The Plan recommends developing an incentives matrix which would streamline the redevelopment process for interested developers and reduce their risk with uncertainties associated with plan approvals.

Green Jobs: The Strategic Plan seeks to maximize opportunities through economic diversification by presenting strategies and recommendations to retain existing and attract new commercial and industrial uses to the area. Particularly, it is recommended that there be an aggressive pursuit of new businesses in the "green industry" and training for "green collar" jobs. In December 2007, President Bush signed the Green Jobs Act to train workers for green collar jobs, while the Obama Administration places green industry and energy-clean economy on an ever higher priority.

Eco-Tourism: With focused efforts and strategic partnerships, a relatively stable tourist base could potentially be created capitalizing upon the area's access to the Riverbanks Zoo and Garden, Harbison State Forest; and developing kayaking, canoeing facilities along Broad River. The area's rich heritage could also be integrated as part of the overall tourism promotion strategy.

Investment Image

The investment image of a community essentially relates to the overall business climate offered to support economic development. The attributes that are key factors in gauging the investment image of a local economy include: physical infrastructure, aesthetics, regulatory framework, quality of life, access to financing and capital, and incentives. Ensuring the allocation of an adequate supply of land that is appropriately zoned with the essential infrastructure services in place to accommodate the needs of businesses and industry will be an integral component of any economic development program initiated in the Study Area. Provision of public facilities by the County instead of the developer would demonstrate to prospective high-quality employers that Richland County is committed to quality of life, image, and desirable economic development.

During the community workshops, some participants identified the complex and time-consuming regulatory process as an obstacle to barrier to attracting the type of development that the community desires. An efficient regulatory environment includes ensuring that local government actions are in place in order to develop the optimal business and investment climate to retain existing businesses and attract new development. These strategies are geared towards promoting a pro-business and pro-development philosophy and may include activities such as revising the zoning code, streamlining the development review process, and providing assistance to prospective investors in navigating through the local regulatory process. The County should ensure that design standards for new commercial and industrial uses are in place to avoid future land use conflicts between incompatible uses. The Plan also recommends establishing mixed-use overlay zoning in the Study Area with appropriate overlay districts, where feasible. In order to encourage vertical mixed-use development and upper floor residential development, the County may have to consider adopting financial assistance and incentive programs. Other regulatory strategies include density bonuses, impact fee reduction or waiver, evaluating reduction in parking requirements for new developments, shared parking provisions, and fast track building permits.

Attracting real estate developers interested in constructing "green" housing products is one such strategy that could be promoted to further the goal to diversify the economy and make use of available funds and tax incentives for promotion of green industries.

While incremental progress through public realm improvements will strengthen the overall investment environment, ultimately the private sector is anticipated to assume the lead in future economic growth with continued support from the County. Developing an incentive matrix streamlining the redevelopment process for interested developers and reduce risks associated with plan approvals is recommended. Providing tax incentives to attract the desired investment and a variety of financing source to establish programs for existing businesses that make improvements consistent with the vision of this Master Plan should be formulated.

ACTION STRATEGIES

Organization and Financing:

- Establish a Broad River Road Steering Committee and Merchants Association to continue building community support for the redevelopment program.
- Establish a Tax Increment Financing district for the proposed area to take advantage of the tools and resources available for improvements through the South Carolina legislation.
- Create Public/Private Partnerships (P3) and link the P3s with local government agencies, non profits and the community's businesses and residents.
- Develop a grant stacking strategy to seek funding from national, state, and regional governmental, quasi- governmental, and private entities.
- Review opportunities to implement various economic development programs such as New Market Credits, Neighborhood Stabilization Grants, Façade Improvement Grants, Front Porch Program, Enterprise Zone, Weed and Seed, CDBG funds as additional grant and technical assistance source to provide incentives for future development.
- Collaborate with regional universities and colleges, Greater Columbia Chamber of Commerce, School Board, area faith-based institutions, non-profit organizations, residents, and local employers to provide quality education, employment training, small business start-up training, mentoring, apprenticeship and technical assistance programs.
- Work with the School Board, Sheriff's Office, area residents, and faith-based organizations to increase awareness about crime prevention and drug prevention programs such as the DARE program (Drug Abuse Resistance Education), provide assistance to the elderly through Project HOPE (Helping Our Precious Elderly).
- Establish annual benchmarks and associated budgets set to ensure that a marketing program is implemented. It should be organized with consideration for resources, schedule or timing and responsible parties (including staff and volunteers/committees).
- Consider development and property rehabilitation programs using financial or other economic incentives to facilitate new investment in the strategic planning area, thereby increasing the tax base.
- Continue working with Lexington County and City of Columbia to address issues related to economic development efforts, public safety, land use compatibility, infrastructure provision, transportation improvements, and traffic concerns.

Marketing and Promotion

- Create a professionally designed business recruitment package that is updated regularly with a listing of available properties, maps, building profiles, information for current and planned events.
- Encourage a cooperative business marketing effort to attract customers to the Broad River Road Study Area or to encourage residents to shop locally. Initiatives should include extending business hours (weeknights, weekends and special events), improving the appearance of businesses through façade improvements/general cleanup and advertising/promoting local buying.
- Consider implementing a dedicated shuttle between the redevelopment nodes and the offices located along Fernandina Road/ Greystone Boulevard during lunch hours.
- Initiate a pilot project to provide a limited stop express bus service between downtown Columbia/ USC to serve those who are making the reverse commute to the work in the corridor from downtown Columbia.

Investment Image

- Create and strengthen activity centers through implementation of integrated land use and transportation planning principles.
- Create a checklist of incentives or a "development toolkit" for potential developers which would encourage infill development and redevelopment in the Study Area.
- Evaluate the feasibility and fiscal impacts of implementing incentives such as reduction in impact fees and master stormwater permit to attract developers and finance future public infrastructure improvements.
- Pursue beautification efforts, streetscape improvements, and infrastructure upgrade projects to enhance the Study Area's investment image.
- Develop a façade improvement program to assist private property owners in improving the aesthetic character of their buildings.
- Prevent the future occurrence of slum and blight through active code enforcement policies such as developing a minimum maintenance ordinance to ensure adequate care and maintenance of properties located in the strategic planning area.
- Work collaboratively with property owners to encourage the consolidation of small parcels of land into parcels of adequate size to accommodate new construction encouraging stable growth in those areas as deemed appropriate.
- Develop detailed design standards to establish a higher standard of quality in future development within the area's corridors and neighborhoods.
- Provide improvements to the area's major corridors and gateways to improve the overall perception of the area in order to attract potential visitors, commuters, and investors into the area.

Economic Restructuring

- Promote green industries and training programs for green-collar jobs; and seek grants for green-collar job training.
- Work with area schools to provide financial literacy and life management training programs for the community's youth.
- Continue working with the Greater Columbia Chamber of Commerce to examine opportunities and to support existing and attract new commercial/ industry clusters such as "green" industries, eco-tourism, and agritourism.
- Create a business-to-business marketing program that encourages businesses to become well acquainted with local products/services and to support each other through cross marketing and selling and 'buying locally' from each other.
- Start a local business appreciation program recognizing the positive contributions and investments of area businesses to the larger community.
- Develop financial, incentives including grants (façade improvements), revolving loans, etc, to help existing commercial businesses expand and/or make improvements. Establish criteria to qualify, such as: years in operation, potential of filling identified market void, inventory expansion, etc
- Direct mail campaign to businesses and developers from within and beyond St. Andrews, including the entire Central Midlands region.

Part III: Implementation

Chapter 9 Implementation Program

IMPLEMENTATION PROGRAM

The success of the Broad River Road Corridor and Community Master Plan ultimately rests on the coordinated efforts of the various agencies and stakeholders serving the community. Through this master planning process, the Central Midlands Council of Government (CMCOG) and Richland County have initiated dialogue and established pivotal relationships between key players that will have a significant impact on the revitalization of this area. The County intends to utilize the synergies created by this master planning effort to strengthen its role in providing a higher standard of living for its citizens. This chapter outlines the anticipated organizational framework and recommended implemented functions intended to serve as a guideline for the various stakeholders involved in turning this vision into reality.

Implementation of the Strategic Master Plan will require the coordinated efforts of CMCOG, Richland County, other government agencies, local business organizations, property owners, private sector, area institutions and residents. These efforts will be coupled with the employment of various organizational, legal, funding and promotional techniques to successfully implement the program.

Organizational Roles and Relationships

Richland County Council support and management of the programs activities will provide the system to carry out the recommendations presented in this plan. It is necessary to establish lines of communication between all sectors of the community to positively affect change in the Broad River Road Corridor and Community Study Area. Developers and entrepreneurs will be key contributors. Strong public-private partnerships will be crucial to the long-term success of the redevelopment effort.

Leadership

Successful implementation hinges upon close cooperation and coordination between private and public groups and agencies requiring strong and determined leadership.

Richland County Council and Staff

The County Council and the staff should establish policies that support the principles described in this Plan and initially concentrate on the following actions throughout the implementation process:

- Formulate public policy and identify resources for the redevelopment effort;
- Support the communitys vision and insure implementation of scheduled projects;
- Commit to making the necessary public improvements identified in the Plan;
- Provide necessary staffing and administrative support to properly implement the Master Plan;
- Prioritize and develop detailed programs for projects to implement major strategies illustrated in the Master Plan including- phasing, project financing, land acquisition, land disposition, funding sources and financing.
- Contact affected property owners to determine their level of interest in participating in proposed redevelopment activities.
- Solicit the services of a realtor and/or utilize the County's Economic Development team to devise a land acquisition strategy for potential purchases of property in the neighborhood.
- Support residential renovation and rehabilitation programs through the use of grant funding such as SHIP, CDBG, HOME. (See Appendix H for additional funding sources).
- Increase awareness of funding resources and program initiatives available to residents interested in improving their property as means to increasing home ownership and property values.
- Conduct traffic analysis and market feasibility studies to assess the impact of proposed projects in surrounding areas.
- Initiate discussions with Richland County School Board and City of Columbia to coordinate joint improvement projects planned for proposed corridor improvements within the Study Area.
- Provide leadership and support for administrating public development controls and incentives to promote high-quality private development, including:
  - update the comprehensive plan and the zoning code to streamline the development review process;
  - establish a Steering Committee to monitor the implementation of the recommendations contained in this plan
  - minimize the time involved in the approval process due to land use and zoning conflicts;
  - conduct additional corridor planning and traffic impact studies, when appropriate;
  - develop site and architectural design guidelines;
  - provide additional public facilities and utilities;
  - devise a coordinated capital improvement program; and
  - develop a grant stacking strategy to take advantage of the funding opportunities available through the American Recovery and Reinvestment Act of 2009.

Broad River Road Master Plan Steering Committee

As part of the implementation strategy, the Plan recommends that the County consider establishing a Broad River Road Community Steering Committee. The primary goal of this Steering Committee will be to act as stewards of the program and to monitor the progress and timely development of the projects proposed in this Master Plan. In addition, the role of this Steering Committee may include generating community interest in the projects through increased public involvement activities and initiating awareness campaigns to instill a sense of pride in the community. The Committee could also serve as the proposed Community Redevelopment Agency and help in formulating redevelopment incentives to help existing businesses invest in the community and to attract new developers and businesses into the area.

Partnerships

City of Columbia, Richland County School Board and Richland County Recreation Commission

The County should continue working with City of Columbia, the School Board and Richland County Recreation Commission to highlight common goals between the strategic planning efforts of these agencies and the County Councils redevelopment efforts.

Central Midlands Regional Transit Authority

The County should maintain its relationship with CMRTA in order to improve transit ridership, marketing the concept of transit-oriented development and implementing a coordinated transportation and land use planning strategy.

Private Sector

Private property owners, developers and tenants are the principle basis for new development and any related financial investment in all redevelopment projects. The private sector ultimately carries the burden of funding the redevelopment program; therefore a positive development environment must be established to capture private investment in an increasingly competitive market. Essential private sector leadership will come from entities such as local banks, real estate developers, entrepreneurs, and property owners from within the community.

Collaboration with key corporations will be critical in forming strategic alliances with representatives at the state and federal levels and in providing private sector support to promote economic development in the area. The local banks also have an important role in developing innovative financing packaging for potential investors, developers, and first-time home buyers. The area businesses and industries should be encouraged to assist in creating a business incubator and to develop mentoring and apprenticeship programs in order to develop a trained workforce that lives and works in the community.

Some of the recommendations contained in this plan may include public-private partnership in land development activities such as site assembly, clearance and relocation and policy-making. In the case of the Broad River Road Corridor and Community Study Area, the principal opportunity for change lies in promoting economic development through the redevelopment of the Dutch Square Mall Transit Node and the St. Andrews Neighborhood Activity Center, in coordination with major infrastructure improvements, public facilities and streetscape improvements. The County should continue working with landowners within the proposed redevelopment nodes to assess their interest in supporting the redevelopment program and proposed improvements.

Area Institutions and Social Service Agencies

Through partnering with area institutions and social service agencies the County can leverage more commitment for projects and create a cumulative impact in the area. Churches and other faith-based institutions also have a role in the successful implementation of the Master Plan. The County should work in close collaboration with these faith-based organizations to develop community development programs that capitalize on the strengths and outreach capacity of the religious institutions. The participation from faith-based organizations can aid in obtaining community-wide support, addressing the social service needs such as instituting day care centers, organizing neighborhood clean-up drives and crime prevention campaigns, and encouraging youth participation in community development programs such as mentorship and job training programs to enhance their sense of responsibility.

Continued Stakeholder Involvement Program

The County and the proposed Steering Committee should work with area residents, property owners, and businesses to establish channels of communication that foster support for the redevelopment effort and facilitate program implementation. Staff should provide public information concerning all aspects of the redevelopment program throughout the process using venues such as newsletters, radio, television, newspapers and the Internet as well as presentations to neighborhood and civic organization meetings to generate public support.

Implementation Summary Matrix

A matrix presented on the following pages illustrates how the vision and recommendations presented in the Broad River Road Corridor and Community Master Plan translate to a phased series of implementation strategies. The matrix identifies key opportunities, assigns responsibilities, delineates anticipated timing, and highlights key funding sources in three main areas:

- **Key Programming and Policy Initiatives**
- **Cataytic Projects**
- **Capital Improvements**

The Broad River Road Corridor and Community Master Plan contains several projects consisting of public, private and joint public/private efforts, as described in previous sections of this document that will take at least twenty years for completion. Therefore, it is critical that the County incorporates a sound project implementation strategy when identifying priorities.

Key Programming and Policy Initiatives

Implementation of the Master Plan will be accomplished through actions and policies that will help attract desired development and improve the overall quality of life for its residents. These programming and policy initiatives will have a broad impact on defining future development in the Study Area, and include studies, plans, and other operational initiatives that are imperative to the success of any redevelopment effort.

Catalytic Projects

The Master Plan identifies several projects that would catalyze activity and investment, and create synergies between uses that would help spur additional development in their surrounding neighborhoods and the entire area.

Capital Improvements

These can include major infrastructure items including street improvement and upgrading utilities. Also, capital improvements can include a variety of revitalization items such as facade improvements, landscaping, streetscaping, etc. as well as new parking development. Proposed capital improvements with order of magnitude costs, funding and phasing are contained in the Capital Improvements section of this Plan. It is recommended that the County staff devise policies for the construction and maintenance of proposed capital improvements.

The community should understand that the County, working with other government entities, will be pursuing multiple elements of the Plan at all times. It is important to note that the following capital improvement plan is flexible in nature. It is the best estimate of project costs based on a measure of the order of magnitude for projects in relation to anticipated revenues. As a matter of practice the County will continue to prepare annual budgets as well as establishing one, three and five-year work programs for budgetary and administrative purposes. Ultimately project costs will be refined during the design and construction phase of any given project.

The Capital Improvement Strategies are used for short-term and long-term planning purposes. The Capital Improvement Strategies are not a guarantee of expenditure of funds on a given project in a given year. Actual funding allocations will be determined annually through the County's budgeting process. As priorities change, the capital improvement strategies are amended. Managed correctly, funds from the County should be leveraged through grants to accomplish a number of capital improvements and planning activities. When successful, the County should see a substantial increase in the tax base and realize a healthy return on its investment through increased ad valorem revenues, sales tax receipts and other formulated revenue sharing programs.

IMPLEMENTATION SUMMARY MATRIX: KEY PROGRAMMING AND POLICY INITIATIVES

PAGE NO.	ACTION STRATEGY	DESCRIPTION	KEY PLAYERS	TIMELINE
	ADMINISTRATIVE AND REGULATORY			
98	**Establish Broad River Road Master Plan Steering Committee**	• Provide leadership and serve as an umbrella organization that includes representatives from the various neighborhood associations, area merchants, governmental agencies, and other stakeholders with an interest in the area • Generate community interest in the planning area and serve as advocates of public and private projects to gather support for area improvements at various governmental levels • Develop detailed work program with action strategies within a 1,3, and 5 year horizons to guide implementation of the plan identifying the time frame, roles and responsibilities, and benchmarks to measure accomplishments • Monitor the progress and timely completion of projects and programs identified in the Master Plan	Richland County, City of Columbia, CMCOG, CMRTA, Private Sector, Neighborhood Associations, Community Organizations	Immediately
109/ Appendix D	**Prepare Grant Stacking Strategy**	• Designate staff to identify and track funding opportunities including coordinating efforts with state and federal legislators • Establish core group of public, private, nonprofit groups for targeting grants in a coordinated manner with regional partners • Capitalize upon funding opportunities created by federal stimulus programs • Coordinate with state and federal DOTs to identify dedicated transportation funding sources; and • Seek to designate Broad River Road Study Area as a Recovery Zone in order to access available stimulus programs	Richland County, CMCOG	Immediately
46	**Develop Multi-Agency Joint Planning Agreement/ Memorandum of Understanding**	• Designate the Broad River Road Corridor as a joint planning area and establish procedures for joint action in the implementation of planning and capital improvements in the area • Delineate responsibilities of the various agencies related to the continued planning and implementation of the improvements.	Richland County, City of Columbia, CMCOG, CMRTA, SCDOT	Short- Term (1-3 Years)
46	**Designate Study Area as Redevelopment Project Area to utilize Tax Increment Financing**	• Conduct Finding of Necessity Study per the South Carolina Code of Laws (Title 31, Chapter 7 to delineate boundaries for the Community Redevelopment Agency district • Amend and adopt the Broad River Road Corridor and Community Master Plan to establish the Redevelopment Project Area, the CRA Board, and the Redevelopment Trust Fund • Utilize increase in TIF funds over time to generate additional revenues for pursuing public realm improvements	Richland County, City of Columbia	Short- Term (1-3 Years)
107	**Promote the SC Retail Facilities Revitalization Act to encourage revitalization of abandoned retail facility sites**	• Create a list of vacant retail buildings in the study area and contact property owners to familiarize them with the tax credits available to renovate, improve, or redevelop abandoned retail facilities	Richland County, Private Sector	Short- Term (1-3 Years)
99	**Create Public Involvement Program**	• Work with the residents, proposed Broad River Road Master Plan Steering Committee to develop an ongoing community involvement program in order to gather citizen support for the proposed improvements and also to develop a sense of pride in area residents and merchants	Richland County	On-going
46	**Establish Broad River Road Corridor TOD Mixed-Use Overlay District**	• Establish a TOD- Mixed-Use Zoning Overlay District for properties within a ¼ -mile radius of the proposed redevelopment nodes at Dutch Square Mall/ Bush River Road and St. Andrews Road • Evaluate alternatives to administer the development review process for properties that are within the jurisdictions of Richland County and City of Columbia • Incorporate urban design recommendations presented in this plan as a guiding document to the TOD Mixed-Use Overlay District	Richland County, City of Columbia	Short- Term (1-3 Years)
77	**Conduct audit of existing Land Development Code**	• Prepare a regulatory audit of existing land development code to identify barriers in the existing regulations that discourage mixed-use compact development patterns in the Study Area	Richland County	Short- Term (1-3 Years)

IMPLEMENTATION SUMMARY MATRIX: KEY PROGRAMMING AND POLICY INITIATIVES

PAGE NO.	ACTION STRATEGY	DESCRIPTION	KEY PLAYERS	TIMELINE
	PLANNING STUDIES			
77	**Update Land Development Code**	• Include phased and interim zoning provisions and designation for the redevelopment nodes timed appropriately with implementation of transit service in the study area; • Develop a Form-Based or Hybrid Code; • Develop Administrative Procedures for review of development proposals in accordance with the Form Based Codes; • Create expedited development approval process; and • Assess staff resources to review new developments based on modified land development regulations or retain the services of an architect/ planner on record to assist property owners.	Richland County	Mid- Term (4-10 Years)
75	**Multi-Modal Transportation Study**	• Conduct study to determine alternative scenarios and transit routing studies for promoting integration of modes at proposed transit stations; and • Develop a connectivity element that links the various transportation modes (Bus transit/ pedestrian and bicycle/ trails/ trolley/ vehicular circulation)	Richland County, CMCOG	Mid- Term (4-10 Years)
75	**Streetscape Design Specifications Manual**	• Develop details for sidewalks, landscaping and street furniture (lighting, bike racks, trash receptacles, benches, etc.); • Design and install wayfinding and signage specifications; • Design and provide gateway signage at primary and secondary intersections; and • Prepare requirements for developers to install streetscape design specifications as part of new development.	Richland County, City of Columbia, SCDOT	Mid- Term (4-10 Years)
74	**Bus Transit Feasibility Study and Implementation Plan**	• Work with CMRTA to conduct a bus transit and dedicated trolley feasibility study along the Broad River Road corridor; • Inventory and analyze existing traffic patterns, bus option ridership forecasts, transit ridership potential; • Develop financial plan associated with future service options including proposed fare structure and possible funding sources; and • Develop phasing strategy and implementation plan.	CMRTA, CMCOG, SCDOT	Mid- Term (4-10 Years)
87	**Integrated Utilities Master Plan**	• Develop an inter-jurisdictional area-wide stormwater action plan that would evaluate the feasibility of projects such as creating regional stormwater detention facilities, implementing a master stormwater permit, and constructing green infrastructure projects; • Work with stakeholders from the public and private utility providers to identify specific infrastructure deficiencies based on the different development scenarios presented in the plan such as inadequately sized water and sewer lines, WWTP capacity limitations, and areas with repetitive flood losses; • Evaluate the alternative of executing a sewer service agreement or memorandum of understanding with the City of Columbia to provide centralized sewer service to residential property owners still reliant on septic systems; and • Include a phasing plan for the burial of overhead utility lines in conjunction with planned roadways and streetscape improvement projects.	Richland County, City of Columbia, SCDOT, Private utility service providers	Mid- Term (4-10 Years)
85	**TOD Station Area Planning Studies**	• Prepare detailed station area plans in collaboration with key property owners and developers for the identified redevelopment nodes; • Conduct infrastructure study to assess the future demands to support transit service; and • Conduct retail market analysis at transit stations to develop a clear, realistic station retail program	Richland County, City of Columbia, Private Sector	Mid- Term (4-10 Years)
88	**Parks, Trails and Open Space Master Plan and Design Manual**	• Prepare a open space master plan that delineates design standards for upgraded public parks, trails, and recreational amenities in new private developments.	Richland County	Mid- Term (4-10 Years)

IMPLEMENTATION SUMMARY MATRIX: CATALYTIC PROJECTS

PAGE NO.	PROJECT	DESCRIPTION	KEY PLAYERS	TIMELINE	COSTS*	FUNDING SOURCES

39	**Dutch Square Pedestrian Plaza**
	Public Park
	Urban Plaza
	Amphitheater
	Streetscape Improvements
		• Contact property owners to determine their level of interest in supporting the reconfiguration of the mall parking area as a pedestrian plaza
		• Initiate discussions with all affected property owners to determine their future plans for redevelopment of vacant retail sites
		• Undertake a detailed design development study of the plaza to fully integrate the appropriate phasing of all proposed elements of design including, but not limited to the following:
		  • Determine land acquisition costs including obtaining necessary easements
		  • Issue an RFP/ RFQ to develop alternative concepts for the plaza design
		  • Complete design development phase and detailed specifications
			Richland County, City of Columbia, Private Sector	Programming and Design:
				Mid- Term (4-10 Years)
				
				Construction:
				Long-Term (10+ Years)
					Programming and Design: $250,000
					
					Construction: $1,250,000
						Richland County Regional Transportation Tax
						City of Columbia
						TIF Funds
						Public-Private Partnerships

39	**Dutch Square Transit Center**
	Primary Transit Building including parking garage
	Secondary Transit Building
	Mixed-Use Development
	Service Area and Surface Parking
		• Continue working with CMRTA to develop a land acquisition strategy for locating a transit hub at the Dutch Square Mall redevelopment node
		• Contact property owners and mixed-use developers nationally to determine their interest in redeveloping the Dutch Square Mall as a transit oriented mixed-use center
		• Initiate design phase for the development of a mixed-use transit facility as a public-private development venture. Transit facility would link bus service, structure parking garage within a walkable, mixed-use village concept.
		  • Determine land acquisition costs including obtaining necessary easements
		  • Issue an RFP/ RFQ to design and construct the transit center
		  • Complete design development phase and detailed specifications
			CMRTA, Richland County, CMCOG, Private Sector	Programming and Design:
				Mid- Term (4-10 Years)
				
				Construction:
				Long-Term (10+ Years)
					Programming and Design: $500,000
					
					Construction: $7,300,000
						HUD Community Challenge Grant (Federal)
						TIGER II Discretionary Grant
						Public-Private Partnerships
						TIF Funds
						Richland County
						City of Columbia
						DOT Transportation Enhancement Program (State)
						FTA New Starts (Federal)
						SAFETEA-LU (Federal)

41	**St. Andrews Neighborhood Activity Center** *Business Assistance Center* *Community Center* *Library Improvements*	• Complete preliminary studies of alternatives to upgrade or relocate the St. Andrews library within a consolidated facility that include a Business Assistance Center and Community Center • Retain an architect to determine the space and programmatic needs for proposed facilities • Seek potential grant opportunities to fund proposed improvements; • Initiate design and construction phase	Richland County, Neighborhood Associations, Non-Profit Organizations	Mid- Term (4-10 Years)	Programming and Design: $150,000 Construction: $1,500,000	Economic Development Set-Aside Program (State) Small Business Administration Grants (Federal) Richland County Discretionary Grant Program CDBG
41	**Upgrade St. Andrews Park**	• Conduct community planning sessions to determine the programmatic needs for the upgrade of the park • Develop joint-use agreement with School Board to promote shared use and maintenance of park facilities • Provide increased connections with surrounding neighborhoods	Richland County	Mid- Term (4-10 Years)	Programming and Design: $75,000 Construction: $1,500,000	Federal Lands to Parks (Federal) Parks and Recreation Development Grant (State)
40	**St. Andrews Transit Stop**	Improve existing bus stop facilities with upgraded shelters, seating, signage, and landscaping Continue working with CMRTA to construct a well-designed transit stop at the St. Andrews Redevelopment Node Initiate design development and construction phase for the facility	Richland County, CMRTA, SCDOT	Short- Term (1-3 Years)	Programming and Design: $50,000 Construction: $500,000	HUD Community Challenge Grant (Federal) TIGER II Discretionary Grant SAFETEA-LU (Federal)

* The costs shown are estimates based on a measure of the order of magnitude costs and should be used for planning and budgeting purposes only. Detailed cost estimates should be prepared during design phase of each project.

IMPLEMENTATION SUMMARY MATRIX: CATALYTIC PROJECTS (Contd.)

PAGE NO.	PROJECT	DESCRIPTION	KEY PLAYERS	TIMELINE	COSTS	FUNDING SOURCES
41	**University/ College Extension Campus**	Initiate discussions with area institutions- USC, Benedict College, Remington College- to attract a satellite campus in the area Identify alternative sites in the study area to accommodate the proposed campus	Richland County, Greater Columbia Chamber of Commerce, area institutions	Long- Term (10+ Years)	TBD	Education Grants Richland County TIF Funds Public-Private Partnerships
41	**Columbia High School- Richland County Sports Complex**	Initiate discussion with School Board to determine their interest in constructing a joint-use sports complex Evaluate potential for assemblage of properties near Marley Park Drive and Columbia High School	Richland County	Mid- Term (4-10 Years)	TBD	Richland County School Board Richland County Parks and Recreation Development Grant (State)
44	**Piney Grove Community Garden and Farmers Market**	Initiate discussions with property owners to promote the concept of developing a community garden and farmers market Evaluate the implementation mechanism for pursuing the farmers market concept as a public-private venture	Richland County, Residents, Private Sector	Mid- Term (4-10 Years)	Programming and Design: $50,000 Construction: TBD	Richland County Discretionary Grant Program CDBG Funding Public-Private Partnerships Parks and Recreation Development (PARD)
68	**Piney Grove- Harbison Trailhead**	Collaborate with Harbison State Forest to develop formal connections to the Harbison trail and Piney Grove neighborhood	Richland County, Harbison State Forest	Mid-Term (4-10 Years)	Programming and Design: $125,000 Construction: $1,250,000	LWCF Grant (Federal) Recreational Trails Program (State) Destination Specific Tourism Marketing Grant (State)
90	**Saluda Riverwalk Improvements/ Riverbanks Zoo**	Continue working with The River Alliance to complete implementation of the planned improvements Forge connections between the Saluda Riverwalk and surrounding neighborhoods in the study area	Richland County, The River Alliance, Riverbanks Zoo, City of Columbia	Short-Term (1-3 Years)	TBD	LWCF Grant (Federal) Recreational Trails Program (State) Destination Specific Tourism Marketing Grant (State)
43	**Visitor/ Employee Trolley**	Collaborate with CMRTA to institute trolley vehicles providing local circulator service connecting area employers with restaurants and visitors with Riverbanks Zoo and Harbison State Forest	Richland County, CMRTA, Riverbanks Zoo, Harbison State Forest, area employers	Mid- Term (4-10 Years)	TBD	Richland County Regional Transportation Tax City of Columbia
43	**Greystone Transit Stop**	Improve existing bus stop facilities with upgraded shelters, seating, signage, and landscaping Continue working with CMRTA to improve bus service, frequency, and to construct a well-designed transit stop at the intersection of Greystone Boulevard and Broad River Road Pursue grant opportunities to design and construct the facility Initiate design development and construction phase	Richland County, CMRTA	Short- Term (1-3 Years)	Programming and Design: $50,000 Construction: $200,000	HUD Community Challenge Grant (Federal) TIGER II Discretionary Grant SAFETEA-LU (Federal)
51,90	**Broad River Riverfront Eco-Tourism Center**	Pursue land acquisition efforts of strategic riverfront properties through a dedicated Riverfront Acquisition Program Initiate the design phase for the linear parks and trail network along the riverfront. Accelerate cooperative efforts with The River Alliance and City of Columbia to create a dedicated task force for implementing proposed improvements including maintenance and clean-up efforts of County owned undeveloped land as a pilot project	Richland County, The River Alliance, City of Columbia, Private Sector	Long- Term (10+ Years)	Programming and Design: $375,000 Construction: $3,750,000	Land and Water Conservation Fund (Federal) Recreational Trails Program (State) Destination Specific Tourism Marketing Grant (State) Parks and Recreation Development (State) Tourism Infrastructure Development Grant (State)

* The costs shown are estimates based on a measure of the order of magnitude costs and should be used for planning and budgeting purposes only. Detailed cost estimates should be prepared during design phase of each project.

IMPLEMENTATION SUMMARY MATRIX: CAPITAL IMPROVEMENTS (1-10 YEARS)

PAGE NO.	PROJECT	DESCRIPTION	KEY PLAYERS	TIMELINE	COSTS	FUNDING SOURCES
81	**Gateways Construction**	Design and construction of gateways at following locations: Interchange of I-126 with Greystone Boulevard, Colonial Life Boulevard, and St. Andrews Road Intersection of Broad River Road with Piney Grove Road, St. Andrews Road, Bush River Road, and Greystone Boulevard Intersection of Broad River Road with I-20	Richland County, SCDOT, Private Sector	Short- Term (4-10 Years)	$475,000	Keep America Beautiful SBA Grants (Federal) Private Sector TIF Funds Richland County City of Columbia
62,63	**Broad River Road Design Development and Construction (Phase 1)** **Roadway Town Center Context Zone** *Broad River Road - Interstate 20 north to Atlantic Drive*	Complete roadway re-construction from R.O.W. to R.O.W. and streetscape easements where applicable. Improvements include demolition & grading, traffic control during construction, curb & gutter, storm drainage improvements, 6 center decorative paved median, asphalt paving & sub-grade, mast arm traffic signalization, 8' wide concrete pedestrian walk, 4' streetscape zone with decorative paving, 12 hgt. pedestrian lighting (40 - 50 o.c.) , 25 hgt. roadway lighting (alternating 90 - 100 o.c.), movable concrete planters, irrigation system, tree grates, movable planters, concrete bollards at intersections, benches, trash receptacles, bicycle racks, canopy trees, seating walls (mid-block & plaza areas), bus shelters (two ea. side per block), signage & wayfinding	Richland County, City of Columbia, CMCOG, SCDOT	Programming and Design: Short- Term (1-3 Years) Construction Mid- Term (4-10 Years)	$16,875,000	TIGER II Discretionary Grant FTA New Starts (Federal) SAFETEA-LU (Federal) DOT Transportation Enhancement Program (State) Private Sector TIF Funds Richland County City of Columbia
62,63	**Bush River Road Design Development and Construction (Phase 1)** *Bush River Road - Broad River Road west to Arrowood Road*	Complete roadway re-construction from R.O.W. to R.O.W. and streetscape easements where applicable. Improvements include demolition & grading, traffic control during construction, curb & gutter, storm drainage improvements, 6 center decorative paved median, asphalt paving & sub-grade, mast arm traffic signalization, 8 multi-use trail, 2 decorative brick verge, 5 wide concrete pedestrian walk, 3'-6"' streetscape zone with decorative paving, 12 hgt. pedestrian lighting (40 - 50 o.c.) , 25 hgt. roadway lighting (alternating 90 - 100 o.c.), movable concrete planters, irrigation system, tree grates, movable planters, concrete bollards at intersections, benches, trash receptacles, bicycle racks, canopy trees, seating walls (mid-block & plaza areas), bus shelters (two ea. side per block), signage & wayfinding	Richland County, City of Columbia, CMCOG, SCDOT	Programming and Design: Short- Term (1-3 Years) Construction Mid- Term (4-10 Years)	$7,395,000	TIGER II Discretionary Grant FTA New Starts (Federal) SAFETEA-LU (Federal) DOT Transportation Enhancement Program (State) Private Sector TIF Funds Richland County City of Columbia
63	**St. Andrews Road Design Development and Construction (Phase 1)** *St. Andrews Road - Broad River Road west to 1150 Block*	Complete roadway re-construction from R.O.W. to R.O.W. and streetscape easements where applicable. Improvements include demolition & grading, traffic control during construction, curb & gutter, storm drainage improvements, 6 center decorative paved median, asphalt paving & sub-grade, mast arm traffic signalization, 8 multi-use trail, 2 decorative brick verge, 5 wide concrete pedestrian walk, 3'-6"' streetscape zone with decorative paving, 12 hgt. pedestrian lighting (40 - 50 o.c.) , 25 hgt. roadway lighting (alternating 90 - 100 o.c.), movable concrete planters, irrigation system, tree grates, movable planters, concrete bollards at intersections, benches, trash receptacles, bicycle racks, canopy trees, seating walls (mid-block & plaza areas), bus shelters (two ea. side per block), signage & wayfinding	Richland County, City of Columbia, CMCOG, SCDOT	Programming and Design: Short- Term (1-3 Years) Construction Mid- Term (4-10 Years)	$1,500,000	TIGER II Discretionary Grant FTA New Starts (Federal) SAFETEA-LU (Federal) DOT Transportation Enhancement Program (State) Public-Private Partnerships TIF Funds Richland County City of Columbia

* The costs shown are estimates based on a measure of the order of magnitude costs and should be used for planning and budgeting purposes only. Detailed cost estimates should be prepared during design phase of each project.

IMPLEMENTATION SUMMARY MATRIX: CAPITAL IMPROVEMENTS (10+ YEARS)

PAGE NO.	PROJECT	DESCRIPTION	KEY PLAYERS	TIMELINE	COSTS	FUNDING SOURCES
81	**Gateways Construction**	Design and construction of gateways at following locations: *Piney Grove Neighborhood Secondary Gateways (2 Total)* *St. Andrews West Secondary Gateway* **Secondary Gateways** *Intersection of I-126 with Colonial Life Boulevard and Piney Grove Road* **Neighborhood Gateways** *Interchange of Beatty Road with I-126 and Broad River Road* *Intersection of Piney Grove Road with Broad River Road* *Intersection of Arrowwood Road and Bush River Road* *Intersection of Atlantic Drive with Broad River Road* *Intersection of Nunamker Drive with Broad River Road*	Richland County, City of Columbia, SCDOT, Private Sector	Long- Term (10+ Years)	$250,000	Keep America Beautiful SBA Grants (Federal) Private Sector TIF Funds Richland County City of Columbia
62-64	**Broad River Road Design Development and Construction (Phase 2)** *Broad River Road - Atlantic Drive south to Riverhill Circle* *Broad River Road - Metze south to Inland Drive* *Broad River Road - Inland Drive south to Interstate 20* *Broad River Road - 4900 Block Broad River Road south to Village Green* *Broad River Road - Village Green south to Metze Road* *Broad River Road - Riverhill Circle south to Broad River Bridge* *Broad River Road - Geology Road north to 4900 Block*	Complete roadway re-construction from R.O.W. to R.O.W. and streetscape easements where applicable. Improvements include demolition & grading, traffic control during construction, curb & gutter, storm drainage improvements, 6□ center decorative paved median, asphalt paving & sub-grade, mast arm traffic signalization, 8□ multi-use trail, 2□ decorative brick verge, 5□ wide concrete pedestrian walk, 3'-6"' streetscape zone with decorative paving, 12□ hgt. pedestrian lighting (40 - 50□ o.c.) , 25□ hgt. roadway lighting (alternating 90□ - 100□ o.c.), movable concrete planters, irrigation system, tree grates, movable planters, concrete bollards at intersections, benches, trash receptacles, bicycle racks, canopy trees, seating walls (mid-block & plaza areas), bus shelters (two ea. side per block), signage & wayfinding	Richland County, City of Columbia, CMCOG, SCDOT	Long- Term (10+ Years)	$44,785,000	TIGER II Discretionary Grant FTA New Starts (Federal) SAFETEA-LU (Federal) DOT Transportation Enhancement Program (State) Private Sector TIF Funds Richland County City of Columbia
62-64	**Bush River Road Design Development and Construction (Phase 2)** *Bush River Road - Arrowood Road west to Morninghill*	Complete roadway re-construction from R.O.W. to R.O.W. and streetscape easements where applicable. Improvements include demolition & grading, traffic control during construction, curb & gutter, storm drainage improvements, 6□ center decorative paved median, asphalt paving & sub-grade, mast arm traffic signalization, 8□ multi-use trail, 2□ decorative brick verge, 5□ wide concrete pedestrian walk, 3'-6"' streetscape zone with decorative paving, 12□ hgt. pedestrian lighting (40 - 50□ o.c.) , 25□ hgt. roadway lighting (alternating 90□ - 100□ o.c.), movable concrete planters, irrigation system, tree grates, movable planters, concrete bollards at intersections, benches, trash receptacles, bicycle racks, canopy trees, seating walls (mid-block & plaza areas), bus shelters (two ea. side per block), signage & wayfinding	Richland County, City of Columbia, CMCOG, SCDOT	Long- Term (10+ Years)	$1,750,000	TIGER II Discretionary Grant FTA New Starts (Federal) SAFETEA-LU (Federal) DOT Transportation Enhancement Program (State) Private Sector TIF Funds Richland County City of Columbia

* The costs shown are estimates based on a measure of the order of magnitude costs and should be used for planning and budgeting purposes only. Detailed cost estimates should be prepared during design phase of each project.

IMPLEMENTATION SUMMARY MATRIX: CAPITAL IMPROVEMENTS (10+ YEARS)

PAGE NO.	ACTION STRATEGY	DESCRIPTION	KEY PLAYERS	TIMELINE	COSTS	FUNDING SOURCES
64	**St. Andrews Road Design Development and Construction (Phase 2)** *St. Andrews Road - Broad River Road west to 1150 Block*	Complete roadway re-construction from R.O.W. to R.O.W. and streetscape easements where applicable. Improvements include demolition & grading, traffic control during construction, curb & gutter, storm drainage improvements, 6 center decorative paved median, asphalt paving & sub-grade, mast arm traffic signalization, 8 multi-use trail, 2 decorative brick verge, 5 wide concrete pedestrian walk, 3'-6"' streetscape zone with decorative paving, 12 hgt. pedestrian lighting (40 - 50 o.c.) , 25 hgt. roadway lighting (alternating 90 - 100 o.c.), movable concrete planters, irrigation system, tree grates, movable planters, concrete bollards at intersections, benches, trash receptacles, bicycle racks, canopy trees, seating walls (mid-block & plaza areas), bus shelters (two ea. side per block), signage & wayfinding	Richland County, City of Columbia, CMCOG, SCDOT	Long- Term (10+ Years)	$1,500,000	TIGER II Discretionary Grant FTA New Starts (Federal) SAFETEA-LU (Federal) DOT Transportation Enhancement Program (State) Private Sector TIF Funds Richland County City of Columbia
64	**Greystone Boulevard Design Development and Construction** *Greystone Blvd - Broad River Road west to Stoneridge*	Complete roadway re-construction from R.O.W. to R.O.W. and streetscape easements where applicable. Improvements include demolition & grading, traffic control during construction, curb & gutter, storm drainage improvements, 6 center decorative paved median, asphalt paving & sub-grade, mast arm traffic signalization, 8 multi-use trail, 2 decorative brick verge, 5 wide concrete pedestrian walk, 3'-6"' streetscape zone with decorative paving, 12 hgt. pedestrian lighting (40 - 50 o.c.) , 25 hgt. roadway lighting (alternating 90 - 100 o.c.), movable concrete planters, irrigation system, tree grates, movable planters, concrete bollards at intersections, benches, trash receptacles, bicycle racks, canopy trees, seating walls (mid-block & plaza areas), bus shelters (two ea. side per block), signage & wayfinding	Richland County, City of Columbia, CMCOG, SCDOT	Long- Term (10+ Years)	$11,700,000	TIGER II Discretionary Grant FTA New Starts (Federal) SAFETEA-LU (Federal) DOT Transportation Enhancement Program (State) Private Sector TIF Funds Richland County
38	**Dutch Square Mall Node Internal Street Network Construction**	New Connecting Roadway with Traffic Circles Broad River Road to Dutch Square (80 R.O.W.) Connecting Greenway to Neighborhood NW Roadway Improvements to Colonial Life Blvd. New Connecting Roadway & Traffic Circle Dutch Square Blvd to Bush River Road	Richland County, Private Sector	Long- Term (10+ Years)	$17,900,000	Private Sector TIF Funds Richland County City of Columbia
40	**St. Andrews Node Redevelopment Internal Street Network Construction**	New Connecting Roadway with Traffic Circles Broad River Road to Dutch Square (80 R.O.W.)	Richland County, Private Sector	Long- Term (10+ Years)	$8,800,000	Private Sector TIF Funds Richland County City of Columbia
42	**Greystone Boulevard Node Redevelopment Internal Street Network Construction**	New Connecting Roadway connecting Plaza with adjoining neighborhoods	Richland County, City of Columbia	Long- Term (10+ Years)	$850,000	Private Sector TIF Funds Richland County
44	**Piney Grove Village Center Node Internal Street Network Construction**	Connecting Neighborhood Roadway West	Richland County	Long- Term (10+ Years)	$14,500,000	

Implementation Functions

Financial and non-financial considerations are equally important to the effective implementation of the Broad River Road Corridor and Community Master Plan. Non-financing considerations deal with defining the roles and responsibilities for various stakeholders involved in the redevelopment effort. Financing mechanisms are perhaps more easily defined, but not to be focused on until organizational elements are put into effect.

NON-FINANCING FUNCTIONS

Site Assembly

The redevelopment of an urban area requires assemblage of multiple parcels of land to maximize the development potential of constrained properties. Site assembly efforts are vital in pursuing land trades and creating development partnerships to ensure controlled growth in the neighborhood. In the case of the Broad River Road Corridor and Community Study Area, the primary opportunity for significant change lies in the redevelopment of the four Redevelopment Nodes and developing a system of parks along the Broad River waterfront.

Standards and Controls

Standards and controls are beneficial to assure developers and tenants that quality development will occur. Additional Rural Design Standards and guidelines should be incorporated into the Land Development Code in order to improve the quality of new development in the Strategic Planning Area.

Facility Design and Construction

This includes the actual construction of new civic facilities and rehabilitation of older facilities. Several public facility construction opportunities have been identified in the Plan that could serve as catalytic projects in revitalizing the area. These include: joint sports complex facility, upgrading St. Andrews Park, proposed St. Andrews Community Center, transit station, and possibly a government administrative complex in one of the four nodes.

Density Transfers

This option is often referred to as Transferable Development Rights (TDR). Under this approach, density can be transferred or purchased from private property owners, in addition to being purchased or bonused from the County or City. The density transfer approach works well where the planning goal is to shift development from a sending area to a receiving area (for example, from a protected environmental/natural area to an area where it is in close proximity to a transit station). Land availability must be managed to maintain market demand for receiving areas, otherwise sending areas will not be adequately compensated. Density transfers are proven techniques to protect heritage amenities, environmental resources and to capitalize on public investments such as transit stations.

Development Incentives

To further stimulate private investment the County, working with the City of Columbia, can provide development incentives through various means, including: facade, landscape, signage or property improvement grants; payment of impact fees; provision of site specific infrastructure improvements to address any deficiencies; participation in environmental clean-up of contaminated sites; flexibility in the application of use restrictions and increasing intensity of site use; flexible parking regulations; grants or low interest loans for life safety improvements; joint business support ventures such as district business identification signage or centralized marketing strategies.

Most of the public sector economic development incentives are pass-through allotments of Community Development Block Grants, road funding from the Coordinating Council for Economic Development, and EDA grants. The following are some of the economic development incentives used within the State:

Discretionary Job Development Credit (JDC): A discretionary incentive that rebates a portion of new employees withholding taxes that can be used to address the specific needs of individual companies. JDCs are approved on a case-by-case basis by the S.C. Coordinating Council for Economic Development (CCED). To qualify, a company must meet certain business requirements.

Statutory Job Tax Credit (JTC): A statutory incentive offered to companies, both existing and new, that create new jobs in the state. The credit is available to companies that establish or expand manufacturing facilities, distribution and processing facilities, corporate headquarters, research and development facilities and qualified service-related facilities.

Impact Zone Investment Credit: South Carolina allows manufacturers locating in Economic Impact Zone (EIZ) counties a one-time credit against a company's corporate income tax of up to 5 percent of a company's investment in new production equipment. The actual value of the credit depends on the applicable recovery period for property under the Internal Revenue Code.

Corporate Headquarters Credit: In an effort to offset the cost associated with relocating or expanding a corporate headquarters facility, South Carolina provides a generous 20 percent credit based on the cost of the actual portion of the facility dedicated to the headquarters operation or direct lease costs for the first five years of operation. The credit can be applied against either corporate income tax or the license fee. These credits are not limited in their ability to eliminate corporate income taxes and can potentially eliminate corporate income taxes for as long as 10 years from the year earned. Eligibility for this credit is determined by meeting a number of specific criteria.

Research and Development Tax Credit: In order to reward companies for increasing research and development activities in a taxable year, South Carolina offers a credit equal to 5 percent of the taxpayer's qualified research expenses in the state. The term "qualified research expenses" is defined in Section 41 of the Internal Revenue Code. The credit taken in any one taxable year may not exceed 50 percent of the company's remaining tax liability after all other credits have been applied. Any unused portion of the credit can be carried forward for 10 years from the date of the qualified expenditure.

SC Retail Facilities Revitalization Act: The South Carolina Retail Facilities Revitalization Act" provides for property or income tax incentives for the renovation, improvements, and redevelopment of abandoned retail facility sites.

FINANCING MECHANISMS

Establish Redevelopment Project Area and Authorize a Tax Increment Financing Plan

The Richland County Council should consider designating portions of the Broad River Road Study Area as a Redevelopment Project Area, in accordance with the provisions of South Carolina Code of Laws (Title 31, Chapter 7) for the management of the program. To designate a Redevelopment Project Area, the Legislation requires that a Finding of Necessity establishing blight conditions be conducted to establish the boundaries of the redevelopment project area. Based upon the results of the Finding of Necessity study, the established Agency should prepare a redevelopment plan in accordance with the provisions of the Tax Increment Financing Act for Counties. This would enable the County to use Tax Increment Financing as a tool for redevelopment. Tax increment financing uses increased revenues generated by taxes gained from growth in property values resulting from successful redevelopment activities. Tax Increment funds can be used for development in a designated redevelopment project area only and act as an additional source of funding for continuation of improvements. These actions present the best opportunity to accomplish many long-range goals that will benefit the community.

The next steps are to finalize the redevelopment project boundaries; prepare a redevelopment plan; hold public hearings; and adopt or approve the redevelopment plan through the approval of an ordinance. Section 31-7-10, Code of Laws of South Carolina contains a detailed description of the required contents of the Redevelopment Plan. This Master Plan also contains many of the elements required by SC legislation for preparing redevelopment plans including preliminary redevelopment project costs. The Broad River Road Corridor and Community Master Plan contains many of the elements required by the South Carolina Code of Laws to be included in a Redevelopment Plan, and therefore should be revised and adopted to streamline the process.

The formulation of a redevelopment plan, using the tools made available in the South Carolina Code of Laws, is the most appropriate means of overcoming the obstacles to economic development cited in this study. The redevelopment plan can provide focus and oversight for the land development process while improving the appearance and marketability of the area. While not required by the State Legislation, the County should consider establishing a joint Richland County- City of Columbia Broad River Road Community Redevelopment Board. This Board will be responsible for assisting in the preparation of the Redevelopment Plan. Columbia's Vista District is an example where this financing toll has been utilized to pursue beautification and roadway improvements.

In the current tough economic times with constrained municipal budgets and resources, community redevelopment efforts need to take advantage of funding available through tax increment financing. Therefore, the ultimate goal of the redevelopment program will be to increase the areas tax base to generate additional revenue for capital improvements and services through implementation of projects and programs, as described in this Plan. Managed effectively, tax increment resources can be leveraged to enable the undertaking of substantial public and private sector improvements. Subsequent to establishing a finding of necessity study, the County should consider commissioning a Tax Increment Financing Economic Impact Study to determine the anticipated tax base increase for properties in the designated Redevelopment Project Area.

Traditional Financing Mechanisms

The County should further evaluate alternative financing methods to fund the planned improvements that have been utilized in other communities across the nation. These alternatives are intended to represent examples of initiatives carried out by other communities and the Plan does not recommend pursuing any of these tools without further research. Some of these financing methods that are potential revenue sources for funding redevelopment at the local level include, but are not limited to:

- ***General Fund Revenue Sources***

- ***Development Agreements*** are allowed between municipalities and counties with developers for subdivisions over 25 acres. The agreements may include provisions to improve existing public facilities or construct new facilities (including roads, water and sewer and drainage). Intersection improvements and additional turn lanes could be required to be built by developers.

- ***Development Impact Fees*** are levied on new developments. State law requires that fees reflect impact of the development to local infrastructure. This fee is paid indirectly by new homeowners and not by local taxpayers, since they increase the price of new housing.

- ***Density Bonuses:*** A typical density bonus program sets a base density that a development may achieve by right and a maximum density that can be achieved by conformance to higher standards or through the provision of qualifying amenities / benefits. Examples of qualifying bonus items include public realm improvements, construction or contribution to a public facility, affordable housing provision, childcare spaces, sustainable design elements or increased environmental protection.

- ***Business License Fees*** are levied by local governments on gross income of persons or businesses. Local taxpayers do not see this fee as an increase in taxation. Richland County imposes this fee already. Local governments have already dedicated this revenue to other programs or projects.

- ***Local Hospitality Tax*** is levied on prepared food and beverages with a maximum rate of 2%. The intention of this tax is for tourism related activities. Highways which increase access to tourism destinations are eligible for this funding. Roads to local and state parks (Harbison State Forest), local museums, Lake Murray and the Congaree National Park would meet this requirement. Transit could not use these funds except to operate tourism related transit such as the Five Points and Vista shuttle service.

- ***Local Accommodation Tax*** is levied on hotel/motel rooms with a maximum rate of 3%. Persons visiting for conventions, Fort Jackson and USC are the largest payers of this tax. Most local taxpayers do not pay this tax. Like the local hospitality tax, tourism related activities are the only recipients of these funds. Tourism destinations proposed as part of this Master Plan once constructed may help fund roadway improvement projects in the future. Several local governments use funds from this tax for other tourism related activities. The unincorporated areas of Lexington and Richland counties and the City of Columbia have a 3% tax.

- ***The Local Sales Tax*** was created to reduce property tax. This county-wide tax is shared by county and its municipalities. It must be passed by voters in a general election year. This one (1) cent tax generates funds which lower the millage rate. This tax does not apply to transportation funding. Capital Project Sales Tax pays for capital projects, including roads and bridges in part or all of a county. This one (1) cent tax has a sunset provision of seven years or when bonds are repaid, whichever comes sooner. Projects must be listed on the ballot. It must be voted on in a general election. Capital projects for transit can be funded with this tax. Local Sales Tax for Transportation Facilities generates funds to be spent on transportation projects, including transit. This tax can be any portion up to one (1) cent. Projects must be listed on the ballot in a general election. The sunset provision on this tax is any length up to 25 years or when bonds are repaid.

- ***User Fees*** can be levied by counties for road maintenance and public transportation. Automobile owners pay these fees with their annual registration fees and property tax. Richland County has a $20 fee for road maintenance.

- ***Special Assessment Districts*** are created to provide additional services to special district such as paving roads, sewer service or transportation. They can be created by three methods. A petition containing the signature of 15% of voters would initiate a special election with a majority approval needed. Method two would be a petition that has 75% of voters with at least 75% of assessed property value with no election. The third method of creating a special assessment districts would be for county council to declare all unincorporated land in the county as one special assessment district.

Other Supplemental Funding Sources: These sources are currently not available for transportation and transit projects. The South Carolina Legislature would need to approve the following options for SCDOT or local governments. Any of these fees or taxes could support transit operations and capital needs.

- ***Transit Revitalization Investment District (TRID)***: Enacted in 2005 by the Pennsylvania legislature, the Transit Revitalization Investment District Act encourages city officials, transit agencies and the development community to plan for and implement transit-oriented development. Like TIF districts, TRIDs leverage future real-estate tax revenues to support transit-related capital projects, site development and maintenance within the defined district.
- ***Value Pricing (Congestion or Parking Tax)*** would increase parking fees or fees for peak usage of roadways. Locally, parking lots would charge an additional dollar or two each space daily, weekly or monthly. Some preference could be giver to carpoolers. Congestion fees could include usage of HOV lanes or fees for peak time usage.
- ***Environmental Levies*** are based on the amount of greenhouse gases emitted by automobiles and trucks. This charge could be based on emissions data collected at annual inspections stations and could help with local air quality problems.
- ***Local User Fuel Fee*** would allow counties to levy either a sales tax on fuels of 1¢ to 5¢ (allowed in Georgia) or fuel user fee of 1¢ to 5¢ per gallon (Florida counties impose between 10¢ and 18¢). Depending on the restrictions put on from the General Assembly and if C funds are still re - bated to counties, this fee could be an excellent revenue source for local major and minor road improvements (including paving of dirt roads) and could even assist local transit authorities.

Grants
Federal grants have long been a source of funding for development projects, especially as it relates to pursuing public improvements. Sources such as the Community Development Block Grants (CDBG), Section 108 Grants, Weed and Seed Grant, and Urban Development Action Grants are available, the extent of their use is diminishing as the volume of the total grant monies decrease. Grants have the advantage of directly affecting development costs and their benefits are predictable and easily understood. The County, as part of its grant stacking strategy, should prepare a feasibility study for public projects including: roads, utilities, streetscapes, parks, and law enforcement, particularly targeting potential projects to receive funding through programs available through the American Recovery and Reinvestment 2009 Act. Appendix D includes a list of potential funding sources.

Private Investment
This is the single most important source of redevelopment funding. The general rule for successful revitalization is that private investment usually must exceed public funding by three to four fold. Such funding takes the form of equity investment and conventional real estate loans.

Leasing
Public-owned land, buildings, equipment, etc. can be leased to developers for projects. For the developer, this reduces the need for capital investment in land, buildings, etc. or debt service on money borrowed to finance the purchase of such things as land, building, and equipment. The governmental entity receives lease payments which are deductible from the developers income tax. The lease may also include a purchase option.

Joint Ventures
In real estate syndication ventures, the implementation and/or governing body can contribute equity capital to a project. This has the effect of reducing equity requirements from the developer and/or reducing the amount of debt service. Through equity syndication, tax subsidy benefits can be passed on to investors in the form of depreciation, investment tax credits, deferral of taxes and capital gains.

Mortgage Write-Downs
Mortgage write downs is a mechanism typically used to encourage residential development and home ownership in the redevelopment area. Funds from the TIF trust funds are offered to qualified potential home buyers (low-moderate income, first time buyers, etc.) to increase their down payment, thereby decreasing mortgage payments. The County usually takes an ownership interest, such as a soft second mortgage, in the dwelling for a predetermined period of time to guarantee against misuse of the funds.

Appendix A

Existing Land Use and Development

In order to develop a sustainable, cost-effective, and realistic implementation program, it is essential to document and analyze the area's existing conditions, available resources, and planned improvements. The information for this chapter was gathered through a review of previous planning studies conducted in the City and County, interviews with staff and key stakeholders, Richland County Property Appraiser GIS database, City of Columbia GIS database, and CMCOG publications. The data gathering process also included field observations and site reconnaissance conducted by the IBI Group planning staff.

The purpose of this chapter is to evaluate and summarize the conditions of the Study Area, and present this information as an educational segment to area residents and stakeholders in order to reach informed decisions based on existing conditions. The elements evaluated in this chapter include:

- **DEVELOPMENT CHARACTERISTICS**- existing and future land use patterns, existing land development regulations, ownership patterns, parcel sizes, property values.
- **OPEN SPACE, RECREATION, AND ENVIRONMENTAL CHARACTERISTICS**- recreational facilities, environmental issues, topographic and natural features
- **CIRCULATION CHARACTERISTICS**- Transportation networks, traffic data, transit service, and pedestrian environment, planned transportation and roadway improvements.
- **URBAN DESIGN CHARACTERISTICS**- Street Hierarchy, Pedestrian Environment and Walkability Analysis, Streetscape Conditions and Investment Image, Massing Studies, and Architectural Character
- **SOCIO-ECONOMIC CHARACTERISTICS**- current demographics, future demographic trends, proposed developments, economic development tools, neighborhood revitalizations programs.

DEVELOPMENT CHARACTERISTICS

Existing Land Use

The Broad River Road Corridor and Community Study Area contains over 6,600 properties, encompassing nearly 7,000 acres of land area, including right-of-ways. Based on the existing land use codes provided by Richland County Property Appraiser's Office, there are over fifty land use types found within the Study Area. For analysis purposes, this report classifies these types into six major existing land use categories:

- Residential
- Vacant Lands
- Institutional
- Commercial
- Industrial
- Parking Lots

Figure 3.1 illustrates the distribution of existing land uses in the Broad River Corridor and Community Study Area. Residential uses are the predominant land use type, in terms of land coverage, accounting for over 30% of the total land area, vacant properties (24%) and commercial uses (15%). In terms of parcel count, residential uses contain the largest number of properties with 2,161 parcels, representing majority of the Study Area's total parcel count (78.7%). Vacant lands at 13% and commercial properties at 6% account for most of the remaining properties. While institutional uses encompass a total of 2,380 acres, the Criminal Justice and Prisons Campus accounts for 2,263 acres of this total.

The southern third of the Study Area (South of I-20) can be divided into three distinct districts. The western part is predominately residential both older single family and a large number of multi-family family. The southwest district is bisected by Greystone Boulevard which is anchored by back office type employment (Wachovia and SC Baptist Convention) and automotive dealerships in between, and the zoo. The northwest district is bisected by Bush River Road, the older regional retail hub and to a lesser extent by Colonial Life Boulevard (which was built to service the Colonial Life Insurance campus). This area contains some of the larger redevelopment opportunities including:

- Dutch Square Center
- Boozer Shopping Center
- Intersection Center (Service Merchandise)

The second major area lies between I-20 (forming the southern boundary) and St. Andrews Road to the north. This district contains mostly residential uses to the north of Broad River Road (and Columbia High School), while the west part is heavily residential (single and multi-family with major employment centers facing I- 26.

The third area lying north of St. Andrews and south of Piney Woods Road is still largely rural suburban. This portion of the Study Area is dominated by South Carolina Correctional Facilities which lie to the north/east of Broad River Road, while the area west of Board River Road is largely residential (except for the immediate St. Andrews corridor and the employment centers facing I-26, along Fernandina Road).

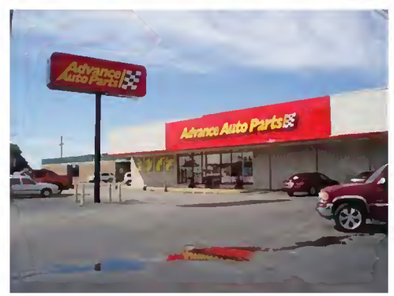
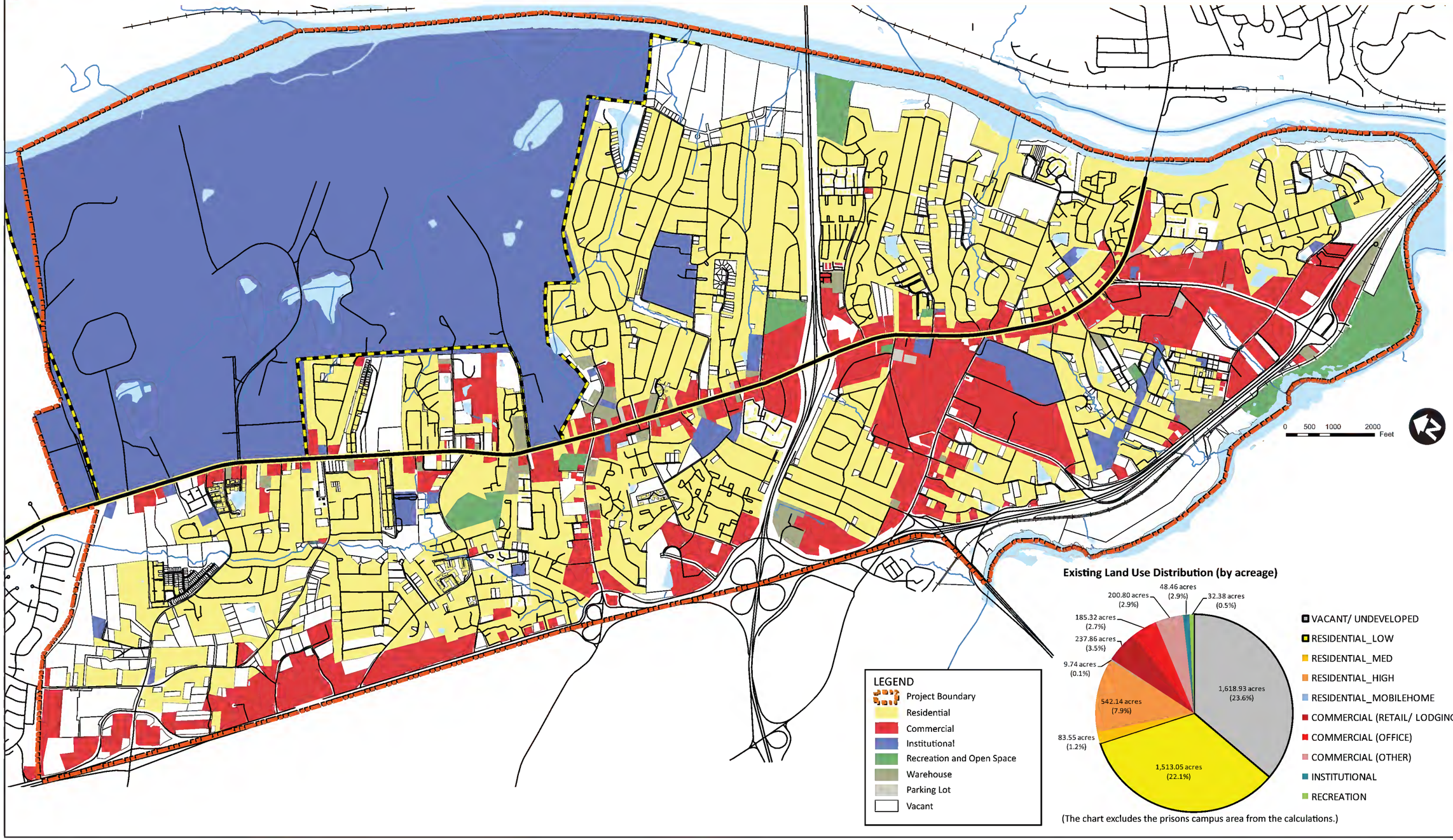


Figure 3.1

EXISTING LAND USE



Residential

Residential uses constitute the largest component of the existing land use categories in terms of the total number of properties and the acreage, accounting for nearly eighty-percent (80%) of the total parcel count (5,204 out of 6,601 parcels) and over thirty-percent (31.4%) of the total land area.

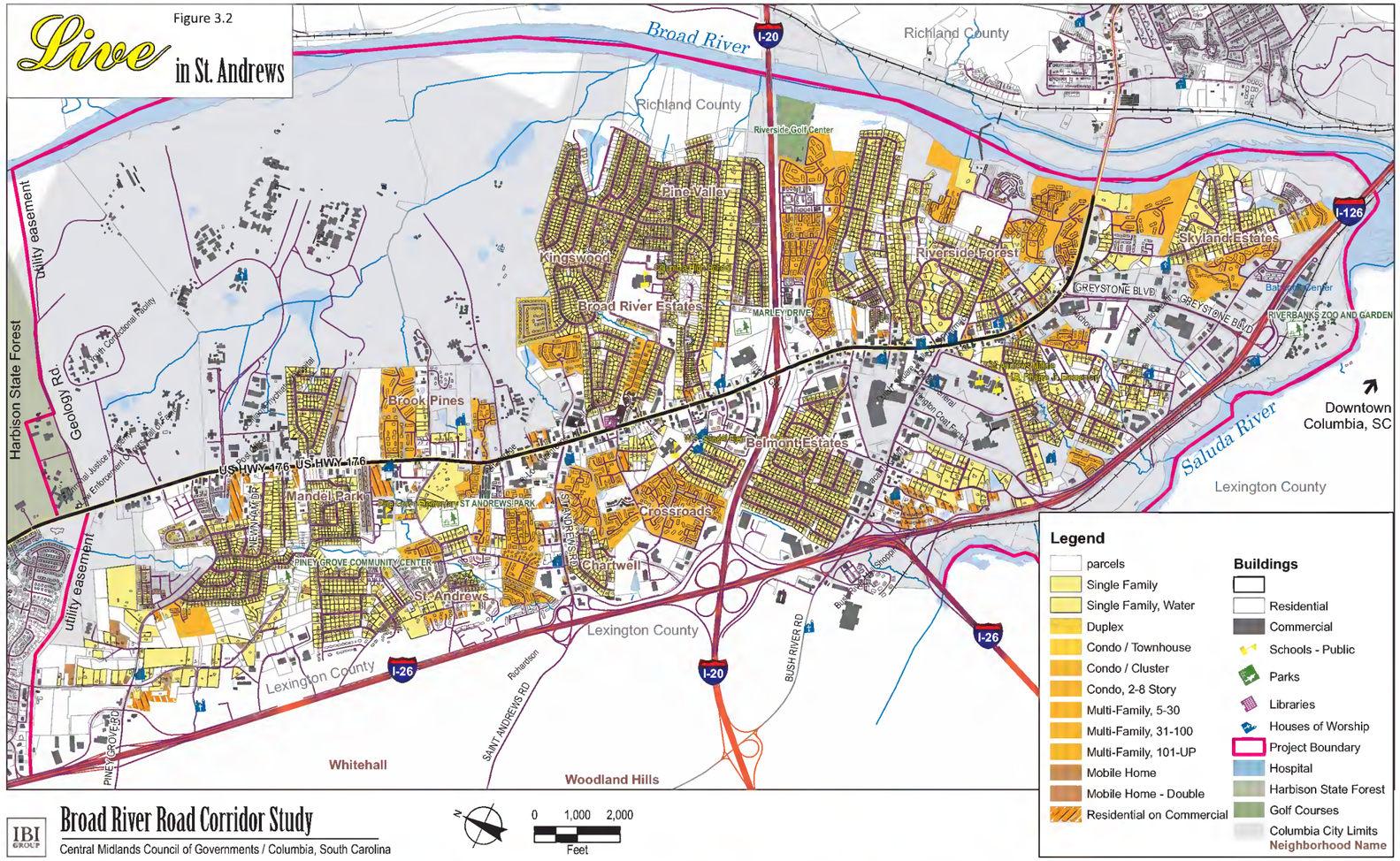
There are nearly 4,000 single-family housing units located within the Study Area, accounting for seventy- seven percent (77%) of the total parcels currently classified as residential uses. Single family subdivisions are spread throughout the Study Area but the largest concentration is north/east of Broad River Road. Some new construction is occurring in the northern third of the Study primarily along Piney Grove Road.

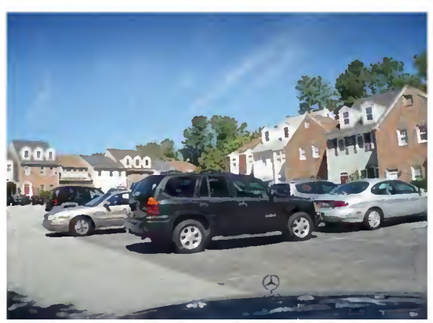
The remainder of the residential uses consists of over 1,200 high density residential uses with more than 10 units. These include apartments, condominiums, and townhomes scattered throughout the Study Area. Some areas exhibiting concentrations of high-density residential developments include:

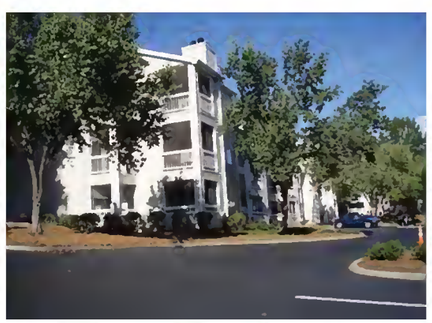
- Areas southwest of Broad River Road between the I-20 interchange and Beatty Road;
- Areas northeast of Broad River Road between the I-20 interchange and Longcreek Drive.

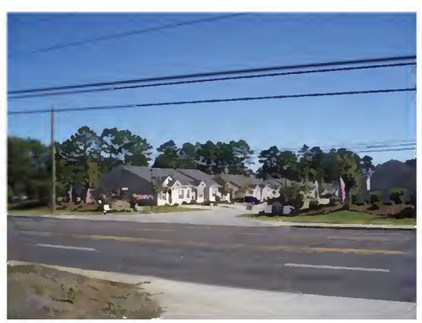
According to the 2008 Multi- Family Rental and Condominium Survey conducted by the CMCOG, the Study Area contains approximately 13,400 housing units of which 8,713 or 65 percent are multi-family units (condominium, townhomes and apartments). The area has the largest concentration of apartments (7,600+) in the Columbia region. Rental units comprise almost 60% of all housing . Apartments (1, 2 and 3 Bedrooms) are all averaging slightly lower lease rates than the regional average. Based on Census and interviews, the local apartment market has a high percentage of students residing in St. Andrews.

Figure 3.2





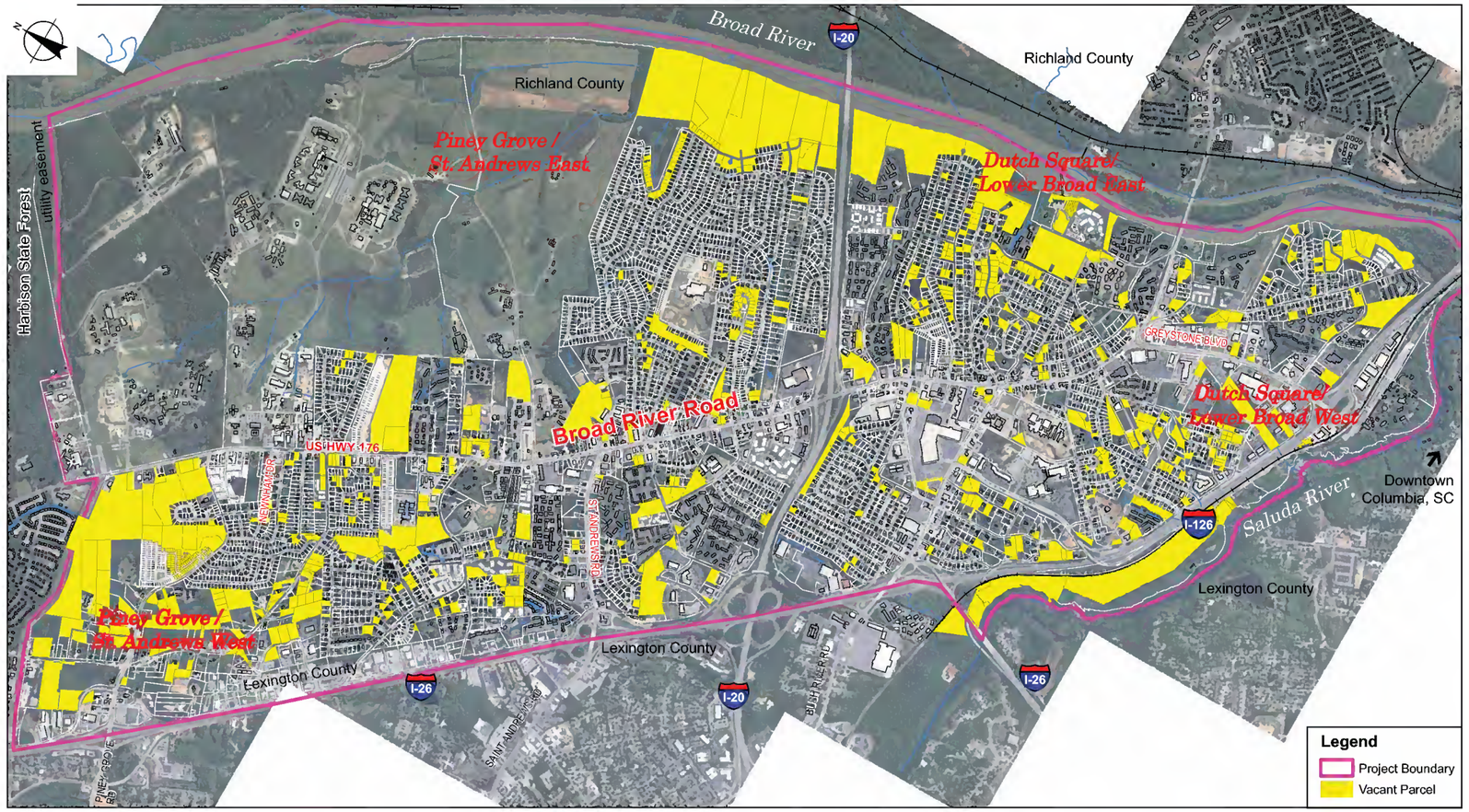




Vacant Lands

According to the Richland County and City of Columbia Property Appraiser's GIS database, approximately twenty percent (19.6%) of the Study Area's total land area, covering over 1,300 acres is considered vacant. There are a total of 889 vacant parcels in the Study Area.

Vacant structures and abandoned lots are strong indicators of economic distress leading to deterioration of the physical environment and are detrimental to the investment image of the community. The presence of vacant and underutilized buildings contributes both as an opportunity and a liability for redevelopment. Vacant parcels of considerable size can be assembled to support significant adaptive reuse of underutilized and deteriorating buildings. Figure 3.6 illustrates the distribution of vacant lands in the Study Area. As evident from the illustration, the vacant residential lands are scattered throughout the Study Area, with moderate degrees of concentration in the Pine Grove/ St. Andrews West neighborhood and properties along the Broad River on the eastern boundaries of the Study Area.



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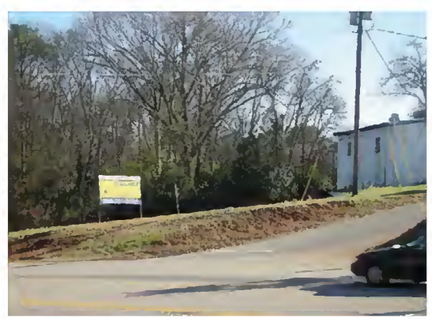
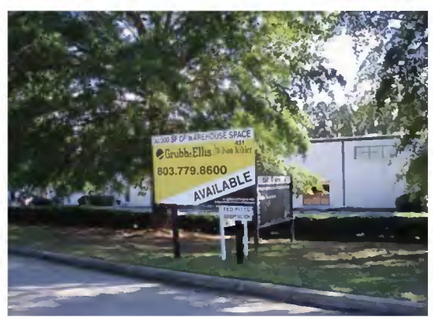
Vacant parcels were selected via a three-step process:
1. All parcels containing all or a portion of a building were removed from the selection set.
2. The resulting "first-pass" vacant parcels were overlaid upon the 2009 aerial photo layer. Each "vacant" parcel was visually verified. Some parcels now contain new buildings and were removed from the "vacant" parcel set. Parcels containing large ponds or which were obvious right-of-way were also removed from vacant parcels.
3. A few sizable "non-vacant" parcels contained a small building or two. These were returned to the vacant parcels layer.

Figure 3.3 **Vacant Parcels** 2009





Commercial

Commercial uses, accounting for 750 acres or 11.0% of total land area, are mainly concentrated along the area's transportation corridors- along Broad River Road, St. Andrews Road, Bush River Road, and Greystone Boulevard. In addition, there is a large concentration of office park development and auto dealerships located along Fernandina Road- a local road running parallel to I-26.

As discussed earlier, the Broad River Road Corridor and Community Study Area served as "the retail hub" of the region during the 1970-80s. The Study Area's retail sector grew as a destination event. When Dutch Square Mall opened it opened as "the largest mall in the Carolinas" and drew from the entire region. The earlier successes mirror the ability of the Bush River Road Corridor to capture the growing suburban expansion of Columbia. However, with the opening of the Columbiana Mall in 1990 and its ability to attract other retailers and power centers, effectively diminished the Study Area's market share. The Study Area does contain a unique retail sector- automobile sales which are concentrated on Greystone Boulevard (and South Broad River Road) with a second concentration on Fernandina Road, adjacent to 1-26.

Figure 3.4 Shop in St. Andrews

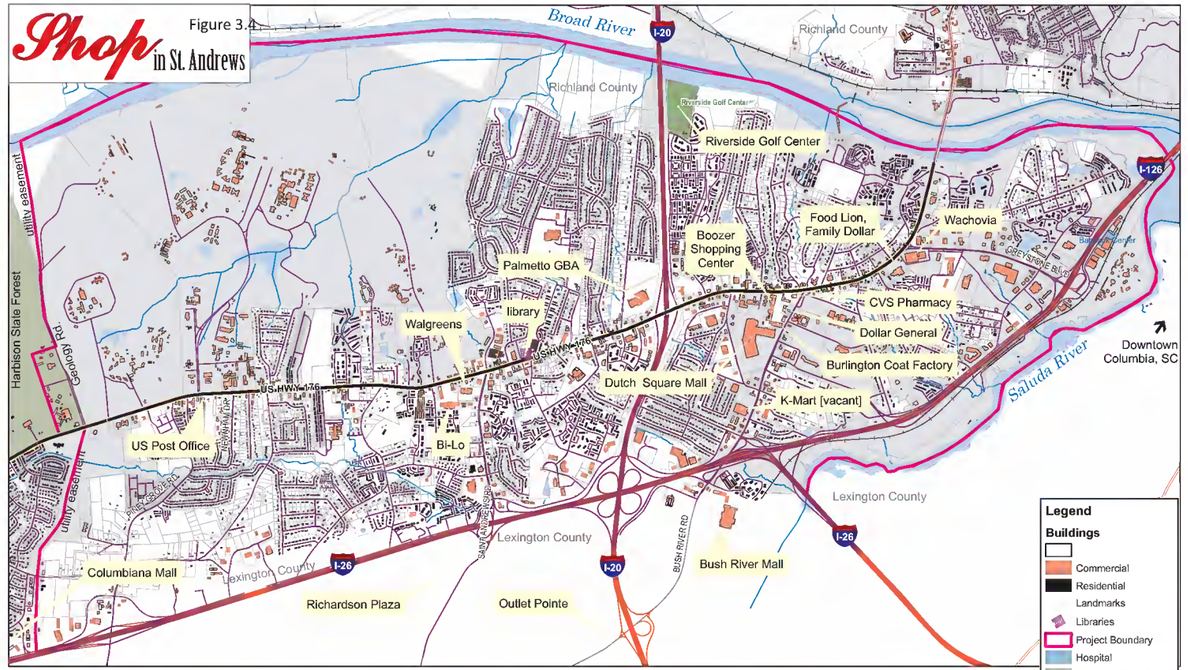


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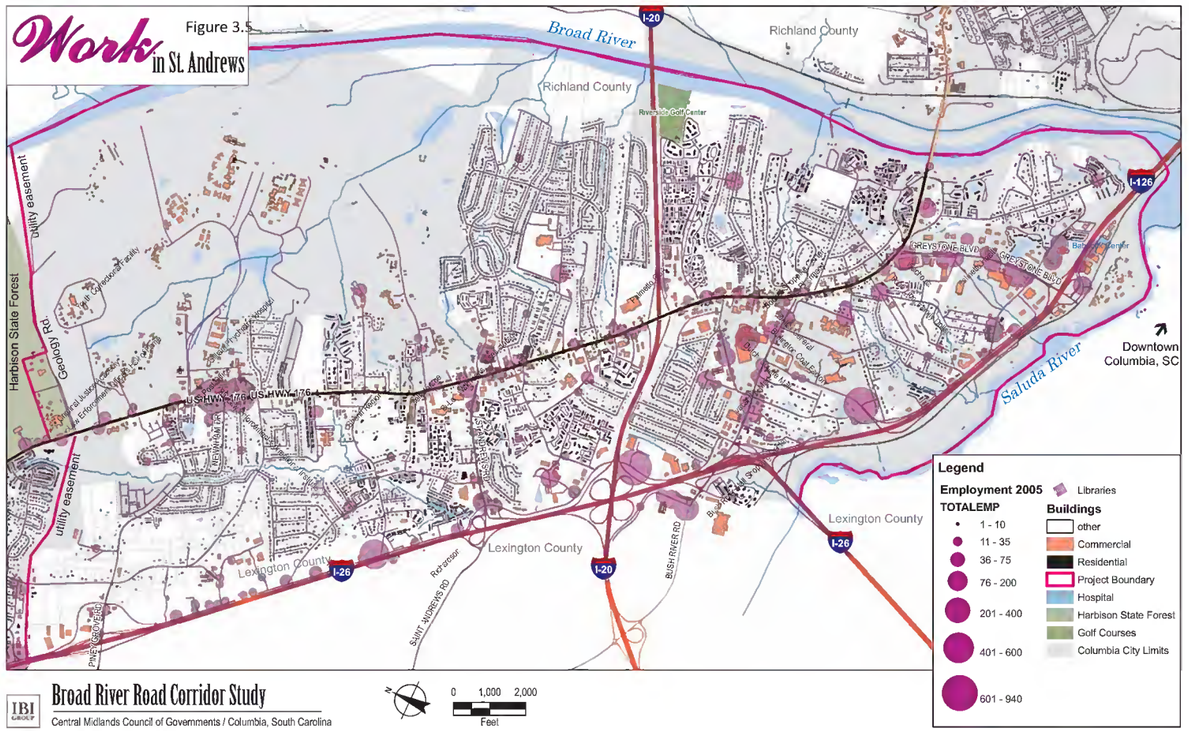
Figure 3.5 Work in St. Andrews



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Institutional

Public and institutional uses constitute the largest component of the existing land use categories in the study area, in terms of total land covered with the inclusion of the Criminal Justice and Prison Campus, located in the northeastern section of the Study Area. The Criminal Justice and Prison Campus consists of 10 parcels and covers 2,263 acres out of the total 2,380 acres (37 parcels) classified as institutional uses. The Criminal Justice and Prison Campus include facilities for the Criminal Justice Academy, Law Enforcement Hall of Fame, Youth Correctional Facility, Gilliam Psychiatric Hospital, and the South Carolina Law Enforcement Correctional Institute.

Other institutional uses within the Study Area include: over 20 churches; educational institutions- Pine Grove Elementary, W.S. Sandel Elementary, Columbia High School, St. Andrews Middle School, H.B. Rhame Junior Elementary; Assisted Living facilities; and nearly ten daycare facilities.

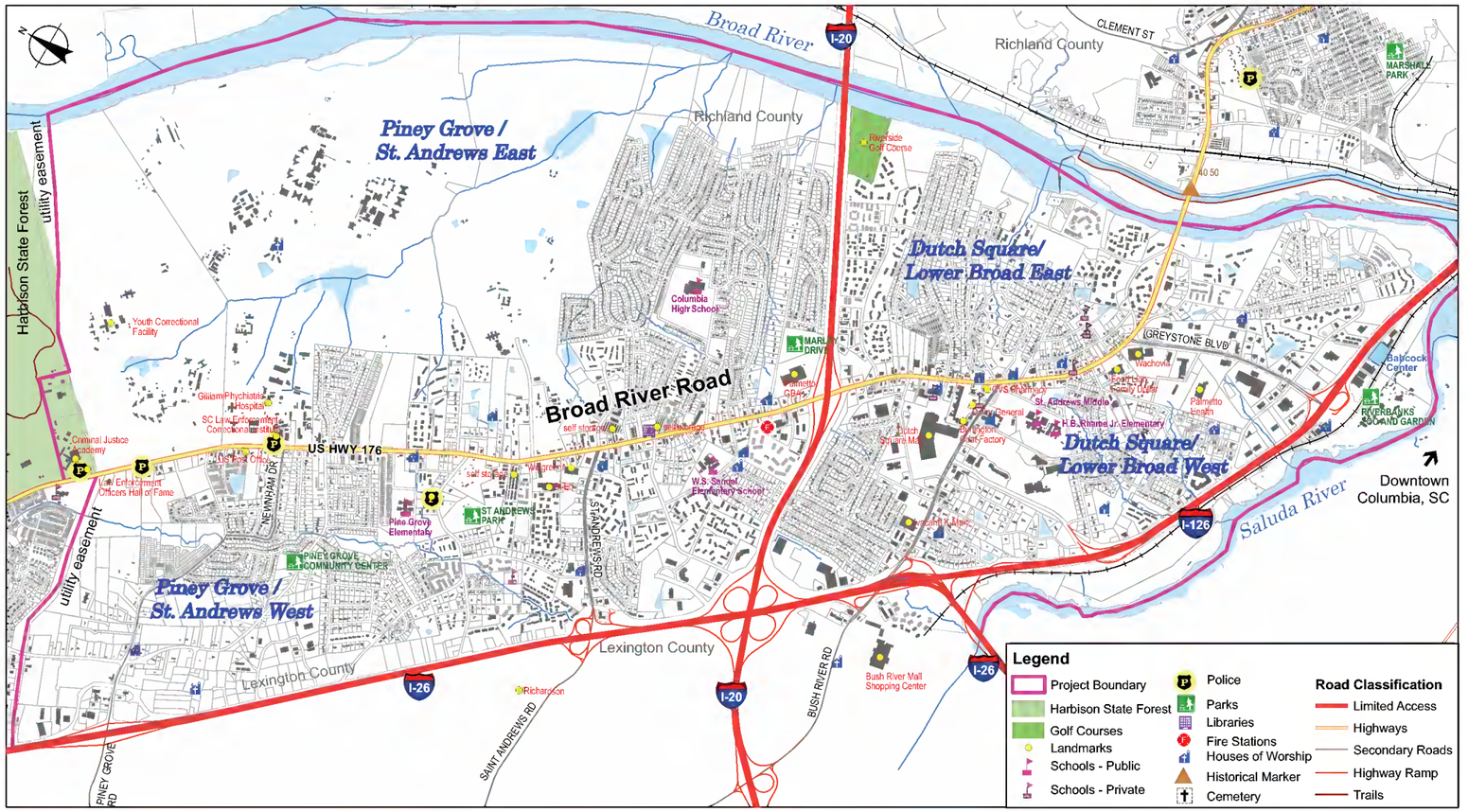

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Figure 3.6 **Landmarks Map**

Recreation and Open Space

The Harbison State Forest and the Riverbanks Zoo are the two major recreational facilities located in the vicinity of the Study Area. Within the Study Area, the St. Andrews Park and the Piney Grove Community Center are the two main public recreational facilities. Other recreational facilities include the Riverside Golf Center.

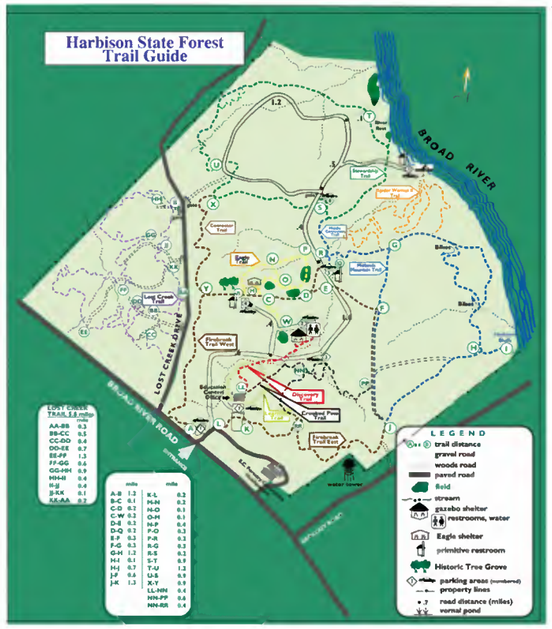
The National Recreation and Park Association (NRPA) recommends 6.25 to 10.5 acres of open space per 1,000 people. The Study Area contains 140 acres of recreation and open space in total, including the Riverbanks Zoo and Garden located just outside the Study Area boundaries. Based on the 2009 population estimates provided by Claritas Inc., the Study Area contains a total population of 24,602 residents. Considering the population estimate and the recommended standards, the Study Area should currently provide for at a minimum of 156.25 acres of open space. Since the Riverbanks Zoo and Garden is located outside the Study Area and also serves as a tourist attraction catering to a regional population, the total open space available is further reduced by 70 acres. Developing an integrated system of open spaces and recreational areas will be pivotal in improving the overall quality of life for current and future residents.

Warehouse

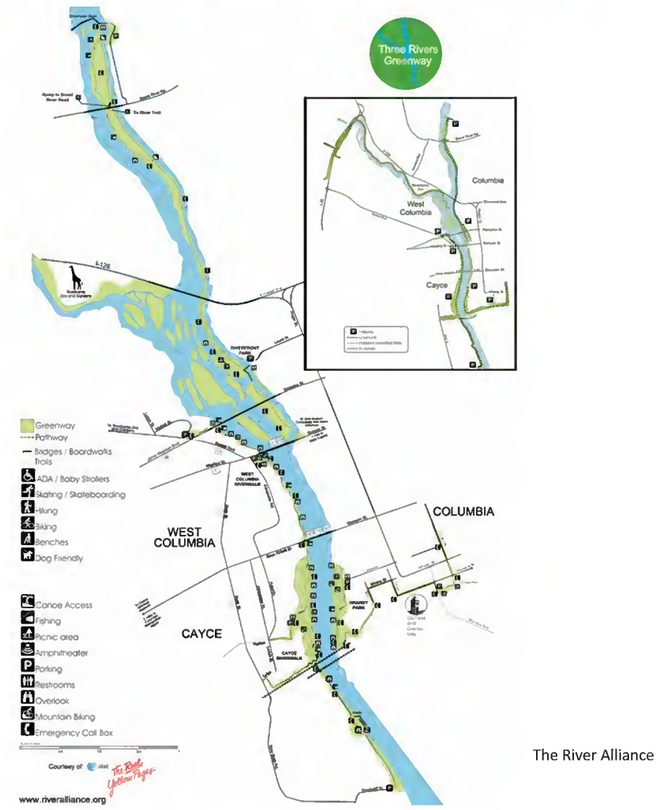
Industry played a prominent role in the development of this portion of South Carolina. The state's first mills were built along the rivers during the 1800's, taking advantage of the hydropower to power the machinery. Today, only remnants remain. Warehousing uses are the closest to industrial that continue to occupy a significant portion of land along the corridor. Forty-one parcels totaling 71 acres are identified by the Richland County Property Appraiser as being at least partially warehouse uses.

Parking Lots

Nine parcels totaling seven acres are exclusively used for surface parking lots in the Study Area. Obviously, much more surface parking exists throughout the corridor but it shares parcels with structures. A characteristic of the surface parking throughout the study area is that it is minimally landscaped, falling far short of meeting Land Development Code requirements and resulting in both poor aesthetics and intensified heat island effects.



The Harbison State Forest

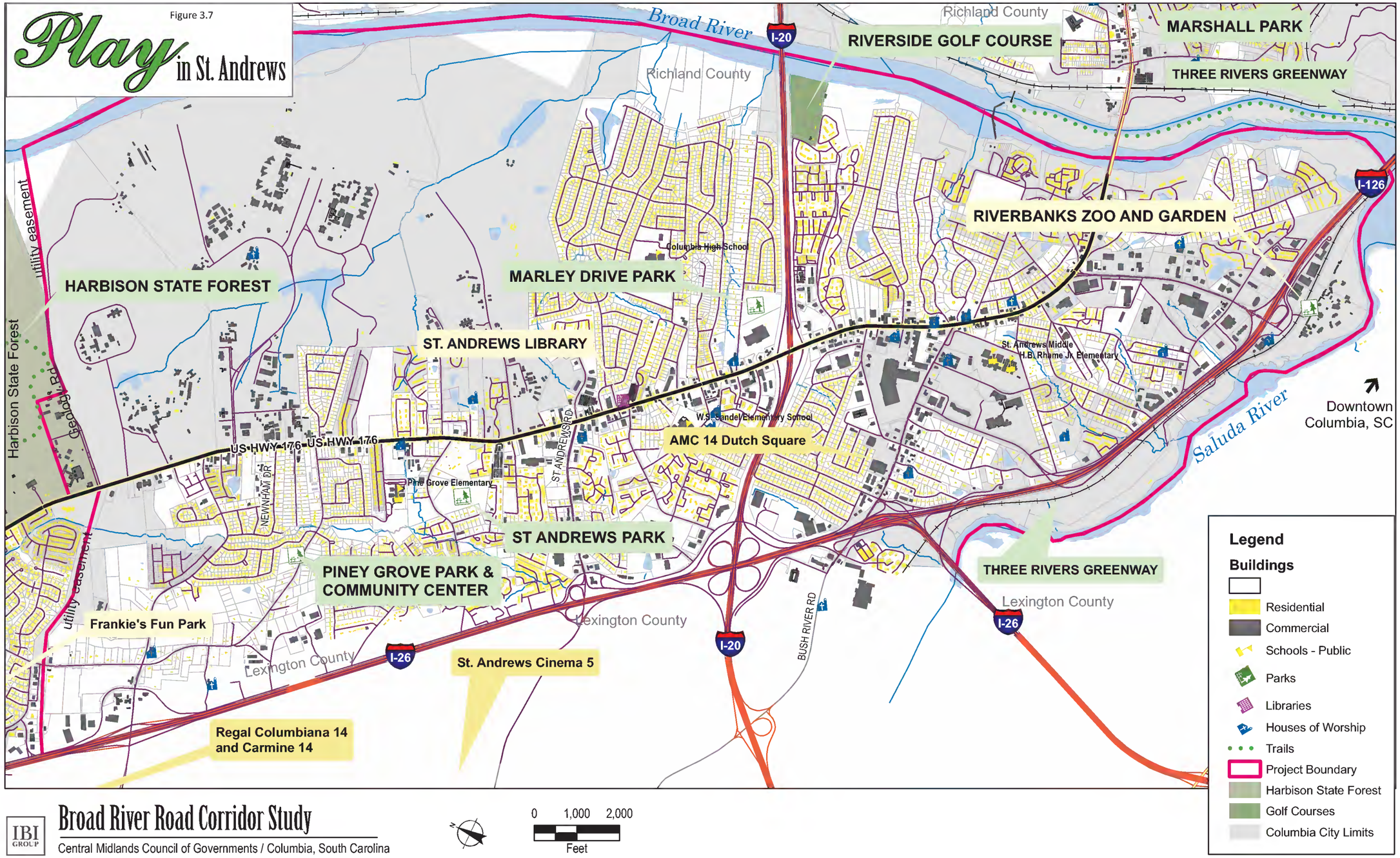


The River Alliance

The St. Andrews Park Facilities

Figure 3.7

Play in St. Andrews



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ZONING

Zoning serves as the primary tool for implementing the goals, objectives, and policies contained in the Comprehensive Plan. As illustrated in Exhibit 3.1, presently the Broad River Corridor and Community Study Area contains over 30 distinct zoning categories that represent five general development types—residential, commercial, industrial, institutional, and mixed-use. Since sections of the Study Area lie within the jurisdictional boundaries of both Richland County and City of Columbia, these zoning district classifications seem redundant in some instances. Most zoning within the Study Area consists of Residential (largely multi-family and single-family) towards the interior portions of the Study Area and General Commercial (GC) along the major corridors fronting Broad River Road, St. Andrews Road, Bush River Road and Greystone Boulevard.

By acreage, more than half of the study area has been annexed into the city. However, after excluding the criminal justice and corrections campuses, we find that only seventeen percent of the land is within city limits and that over eighty-five percent of this is a non-residential use.

Over 5,600 parcels in the Broad River Road Corridor study area are within Richland County and outside of Columbia city limits. Of these, sixty-eight percent are zoned for residential use, two percent for office or institutional, and twenty-one percent for commercial or light industrial uses. See Exhibit 3.2.

Study area parcels annexed by the city show the opposite allocation of zoning districts having a concentration of office and commercial districts and comparatively little residential. This is not surprising, as annexation generally follows the highway corridors in order to draw the commercial tenants and their potential tax revenues into the City jurisdiction. Residential, particularly homesteaded parcels, are a negative tax revenue source.

In analyzing the existing regulations matrix (Exhibit 3.4), there isn't much variation in the requirements as it relates to density, setbacks, or minimum lot requirements. It also seems that some of the commercial and residential zoning classifications are not an accurate representation of the existing and desired development patterns within the Study Area boundaries.

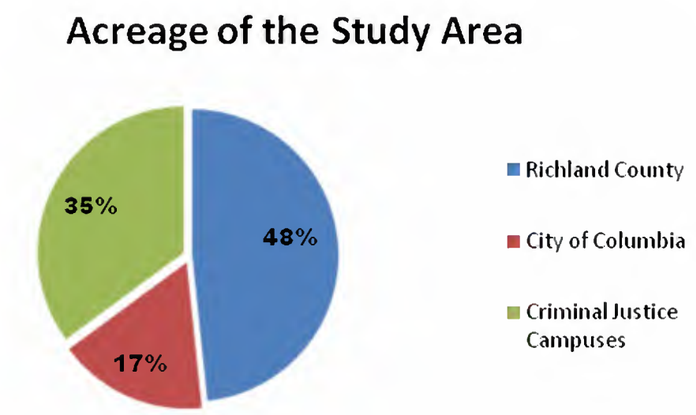


Exhibit 3.1: Acreage of the Study Area
Source: Richland County GIS Database/ IBI Group, March 2010

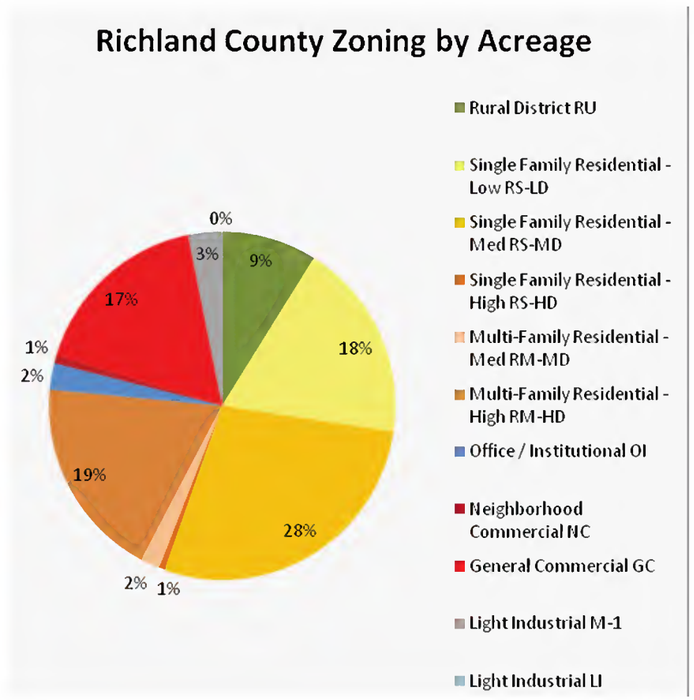


Exhibit 3.2: Richland County Zoning by Acreage
Source: Richland County GIS Database/ IBI Group, March 2010

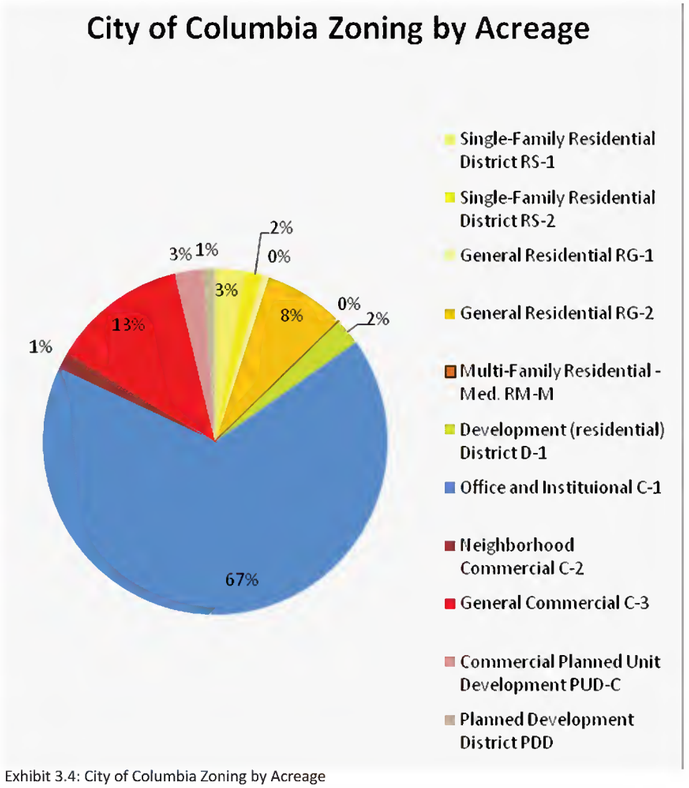


Exhibit 3.4: City of Columbia Zoning by Acreage
Source: Richland County GIS Database/ IBI Group, March 2010

Residential Zoning

Residentially zoned areas within the Study Area boundaries include:

Richland County

Residential Single- Family Low Density District (RS-LD)
Residential Single- Family Medium Density District (RS-MD)
Residential Single- Family High Density District (RS- HD)
Residential Multi- Family Medium Density District (RM-MD)
Residential Multi- Family High Density District (RM- HD)

City of Columbia

Residential Single- Family District (RS-1)
Residential Single- Family District (RS-2)
General Residential District (RG-1)
General Residential District (RG-2)

The majority of the residentially zoned land within the study area falls outside of the City of Columbia municipal boundaries. Of this, 47 percent is zoned for single family while 21 percent is multi-family. The City's RS-1 district is the least dense, requiring a 15,000 square foot lot per dwelling. Comparable to this is Richland County's RS-LD district requiring 12,000 square feet of land per dwelling. Beyond this, the categories largely correspond. The medium density categories including Richland County's RS-MD district, and the City's RS-2 and RG-2 districts all require 8,500 square feet of land per dwelling. The highest-density single family districts allow one dwelling per 5,000 square feet of land. These include the County's RS-HD and the City's RG-1 districts.

Commercial Zoning

Commercial uses within the Study Area boundaries fall within the following zoning district categories.

Richland County

Office and Institutional District (OI)
Neighborhood Commercial District (NC)
General Commercial District (GC)

City of Columbia

Office and Institutional (C-1)
Neighborhood Commercial (C-2)
General Commercial (C-3)

The C-1, C-2 and C-3 districts are established in order to identify and provide those geographic areas within the City and County that are appropriate for the development and maintenance of general retail commercial and office uses. The purpose of these districts is to provide for a wide variety of consumer oriented commercial uses and activities located in relative proximity to major thoroughfares and to residential concentrations.

A majority (84%) of the study area parcels annexed into the City Limits are commercial and/or office institutional uses. By comparison, twenty percent of Richland County parcels are office/institutional or commercially zoned.

Industrial Zoning

Industrially zoned districts in the Study Area include the following categories:

Richland County

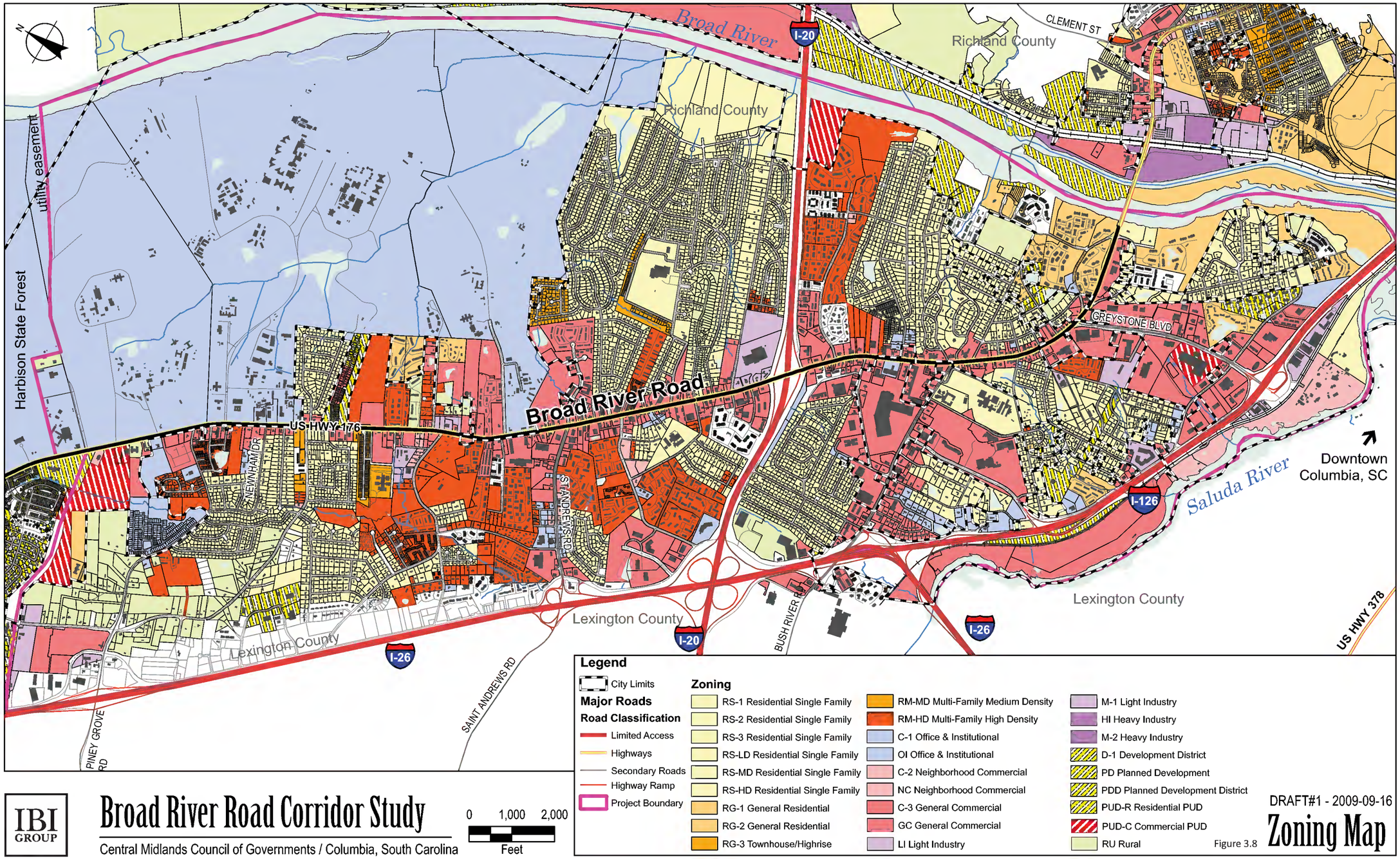
Light Industrial District (M-1)
Light Industrial District (LI)

Of the 6,000 plus parcels in the study area, only thirty-six are zoned for light industrial use totaling just over one hundred acres. These properties are scattered throughout the Study Area with a concentration along the southern edge of the area fronting Interstate 126. Several light-industry zoned sites are currently being used for commercial or back-office institutional uses. The purpose of this district is to identify and provide those geographic areas within the City that are appropriate for the development and maintenance of manufacturing, processing, storage and warehousing, and distribution uses. Residential uses are prohibited as these are not in harmony with the character of the intense activities and uses found in this district. While regulations exist to prevent or reduce friction between uses in this district and to protect nearby residential and commercial districts, the enforcement of these regulations is virtually non-existent.

Planned Development

Planned Development (PDD, PUD-C)

The purpose of these districts is to encourage flexibility in design, development and use of the land in order to promote its most appropriate use; and to facilitate the adequate and economical provision of streets, utilities and public spaces; and to preserve the natural and scenic qualities of open areas. Both of these are City of Columbia designations and are for planned commercial development, not residential.


Broad River
I-20
Richland County
CLEMENT ST
Richland County
Harbison State Forest
utility easement
GREYSTONE BLVD
River Road
Broad River Road
US HWY 176
NEWNHAM DR
ST ANDREWS RD
Saluda River
Downtown
Columbia, SC
I-126
Lexington County
Lexington County
I-20
BUSH RIVER RD
I-26
I-26
US HWY 378
PINEY GROVE RD
SAINT ANDREWS RD
Legend
City Limits
Major Roads
Road Classification
Limited Access
Highways
Secondary Roads
Highway Ramp
Project Boundary
Zoning
RS-1 Residential Single Family
RS-2 Residential Single Family
RS-3 Residential Single Family
RS-LD Residential Single Family
RS-MD Residential Single Family
RS-HD Residential Single Family
RG-1 General Residential
RG-2 General Residential
RG-3 Townhouse/Highrise
RM-MD Multi-Family Medium Density
RM-HD Multi-Family High Density
C-1 Office & Institutional
OI Office & Institutional
C-2 Neighborhood Commercial
NC Neighborhood Commercial
C-3 General Commercial
GC General Commercial
LI Light Industry
M-1 Light Industry
HI Heavy Industry
M-2 Heavy Industry
D-1 Development District
PD Planned Development
PDD Planned Development District
PUD-R Residential PUD
PUD-C Commercial PUD
RU Rural
IBI GROUP
Broad River Road Corridor Study
Central Midlands Council of Governments / Columbia, South Carolina
0 1,000 2,000
Feet
DRAFT#1 - 2009-09-16
Zoning Map
Figure 3.8

Zoning	Maximum Residential Density	Minimum Lot Requirements	Setback Standards	Maximum Height of Structures	Structure Size Standards	Maximum Lot Coverage
RS-LD Residential Single-Family Low Density District	No more than one (1) principal dwelling unit may be placed on a lot except for permitted accessory dwellings.	Width 75 feet Area 12,000 sq.ft.	Front 25 feet Rear 20 feet Side 16 feet total for side setbacks, with 5 feet minimum on any one side The minimum side and rear setback requirement for accessory buildings/ structures in the RS-LD District is five (5) feet.	45 feet		
RS-MD Residential Single-Family Medium Density District	No more than one (1) principal dwelling unit may be placed on a lot except for permitted accessory dwellings.	Width 60 feet Area 8,500 sq.ft.	Front 25 feet Rear 20 feet Side 13 feet total for side setbacks, with 4 feet minimum on any one side The minimum side and rear setback requirement for accessory buildings/ structures in the RS-MD District is five (5) feet.	45 feet		
RS-HD Residential Single-Family High Density District	No more than one (1) principal dwelling unit may be placed on a lot except for permitted accessory dwellings.	Width 50 feet Area 5,000 sq.ft.	Front 25 feet Rear 20 feet Side 12 feet total for side setbacks, with 4 feet minimum setback for any one side. The minimum side and rear setback requirement for accessory buildings or structures in the RS-HD District is five (5) feet.	45 feet		
RM-MD Residential Multi-Family Medium Density District	No more than eight (8) units per acre.	Width 50 feet No minimum lot area requirement except as determined by DHEC.	Front 25 feet Side 7 feet Rear 20 feet The minimum side and rear setback requirement for accessory buildings/ structures in the RM-MD District is five (5) feet.	45 feet		
RM-HD Residential Multi-Family High Density District	No more than sixteen (16) units per acre.	Width 50 feet No minimum lot area requirement except as determined by DHEC.	Front 25 feet Side 7 feet Rear 20 feet The minimum side and rear setback requirement for accessory buildings/ structures in the RM-HD District is five (5) feet.	3 stories or 45 feet, whichever is taller. However, high rise structures may be permitted as a permitted use subject to special requirements (4-5 stories) or as a special exception (6 or more stories)		
OI Office and Institutional District	For residential uses, no more than sixteen (16) dwelling units per acre.	Width 50 feet for residential uses. No minimum lot width required for nonresidential uses. No minimum lot area requirement except as determined by DHEC.	Front 25 feet Side 7 feet Rear 20 feet The minimum side and rear setback requirement for residential accessory buildings or structures in the OI District is five (5) feet. Other accessory structures must comply with the side and rear setback standards enumerated above.	35 feet However, high rise structures may be permitted as a permitted use subject to special requirements (4-5 stories) or as a special exception (6 or more stories). In no case shall high rise structures be higher than seventy-five (75) feet.		
NC Neighborhood Commercial District	For residential uses, no more than eight (8) dwelling units per acre.	No minimum lot width. No minimum lot area requirement except as required by DHEC.	Front 25 feet Side None Rear 10 feet The minimum side and rear setback requirement for residential accessory buildings and structures in the NC District is five (5) feet. Other accessory structures must comply with the side and rear setback standards enumerated above.	35 feet However, buildings between 35 and 50 feet may be allowed, provided that there is an increase in all required yards over the minimum of one (1) foot for each additional three (3) feet in height.	No more than 6,000 square feet. The gross floor area of new structures shall not exceed 12,000 square feet. Existing structures shall not be expanded to exceed a footprint or gross floor area of 12,000 square feet.	
GC General Commercial District	For residential uses, no more than sixteen (16) dwelling units per acre.	No minimum lot width. No minimum lot area requirement except as required by DHEC.	Front 25 feet Side None Rear 10 feet The minimum side and rear setback requirement for residential accessory buildings and structures in the GC District is five (5) feet. Other accessory structures must comply with the side and rear setback standards enumerated above.	45 feet (3 stories or less) High rise structures may be permitted as a permitted use subject to special requirements (4-5 stories) or a special exception (6 or more stories).		
M-1 Light Industrial District	No maximum density standard.	No minimum lot width. No minimum lot area requirement except as required by DHEC.	Front 25 feet Side None Rear 10 feet Accessory structures must comply with the setback standards enumerated above.	50 feet Buildings between the height of 50 and 75 feet may be allowed provided there is an increase of one foot in side, front and rear yards over the minimum requirements for each additional three feet in height.		
LI Light Industrial District	No maximum density standard.	No minimum lot width. No minimum lot area requirement except as required by DHEC.	Front 25 feet Side None Rear 10 feet Accessory structures must comply with the setback standards enumerated above.	None		
HI Heavy Industrial District	No maximum density standard.	No minimum lot width. No minimum lot area requirement except as required by DHEC.	Front 25 feet Side None Rear 10 feet Accessory structures must comply with the setback standards enumerated above.	None		
PDD Planned Development District	No maximum density requirement. The density shall be as established by the general development plan for the PDD District and any regulations of DHEC.	Area 2 acres Width is not stipulated. However, the planning commission and county council, in approving a PDD, shall ascertain that the characteristics of building siting as shown on the development plan is appropriate as related to structures within the planned development and otherwise fulfill the intent of this chapter and the county's comprehensive plan.	Not stipulated. However, the planning commission and county council, in approving a PDD, shall ascertain that the characteristics of building siting as shown on the development plan is appropriate as related to structures within the planned development and otherwise fulfill the intent of this chapter and the county's comprehensive plan.	Not stipulated. However, the planning commission and county council, in approving a PDD, shall ascertain that the characteristics of building siting as shown on the development plan is appropriate as related to structures within the planned development and otherwise fulfill the intent of this chapter and the county's comprehensive plan.	Not stipulated. However, the planning commission and county council, in approving a PDD, shall ascertain that the characteristics of building siting as shown on the development plan is appropriate as related to structures within the planned development and otherwise fulfill the intent of this chapter and the county's comprehensive plan.	
RU Rural District.	No more than one (1) principal dwelling unit may be placed on a lot except for permitted accessory dwellings.	Width 120 feet Area 33,000 sq.ft. First unit.	Front 40 feet Side 20 feet Rear 50 feet The minimum side and rear setback requirement for accessory buildings/ structures in the RU District is twenty (20) feet.	45 feet		

Exhibit 3.5 Zoning Regulations
Source: City of Columbia Land Development Code
AUGUST 2010

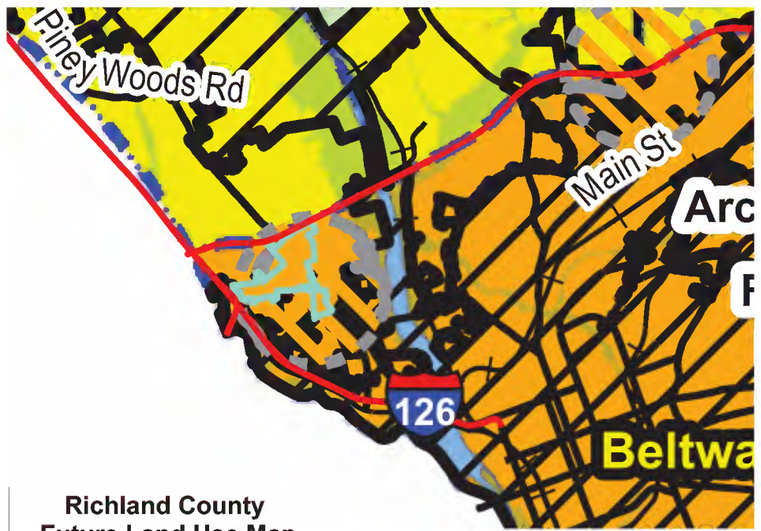
Zoning	Maximum Residential Density	Minimum Lot Requirements	Setback Standards	Maximum Height of Structures	Structure Size Standards	Maximum Lot Coverage
RS-1 Residential Single-Family	Detached units with low to medium population densities.	Width 90 Depth 70 feet Area 15,000 sq.ft. First unit	Front 35 feet Side 8 feet Rear 15 feet	40 feet		30%
RS-2 Residential Single-Family	5.1 units per acre	Width 60 Depth 70 feet Area 8,500 sq.ft. First unit	Front 25 feet Side 5 feet Rear 10 feet	40 feet		30%
RS-3 Residential Single-Family	8.7 units per acre	Width 50 Depth 70 feet Area 5,000 sq.ft. First unit	Front 20 feet Side 5 feet Rear 10 feet	40 feet		30%
RG-1 General Residential District	8.7 units per acre	Width 50 Depth 70 feet Area 5,000 sq.ft. First unit 5,000 sq.ft. Each additional unit	Front 25 feet Side 5 feet Rear 10 feet	40 feet		40%
RG-2 General Residential District	16.4 units per acre	Width 50 Depth 70 feet Area 5,000 sq.ft. First unit 2,500 sq.ft. Each additional unit	Front 25 feet Side 5 feet Rear 10 feet	40 feet		40%
RG-3 Townhouse and High-rise Residential District	Medium to high density	Width 150 feet	Front 25 feet Side 25 feet Rear 25 feet	Not exceed six times the distance from the property line adjacent to the street to the face of the building.		40%
C-1 Office & Institutional	16.4 units per acre	Area 5,000 sq.ft. First unit 2,500 sq.ft. Each additional unit	Front 25 feet Side 5 feet Rear 10 feet	50 feet Buildings between the height of 50 and 75 feet may be allowed provided there is an increase of one foot in side, front and rear yards over the minimum requirements for each additional three feet in height.		50%
C-2 Neighbothood Commercial			Front 25 feet Side 0 or 3 feet Rear 10 feet	50 feet Buildings between the height of 50 and 75 feet may be allowed provided there is an increase of one foot in side, front and rear yards over the minimum requirements for each additional three feet in height.		
C-3 General Commercial			Front 25 feet Side 0 or 3 feet Rear 10 feet	50 feet Buildings between the height of 50 and 75 feet may be allowed provided there is an increase of one foot in side, front and rear yards over the minimum requirements for each additional three feet in height.		
M-2 Heavy Industrial District			Front 25 feet Side None Rear None	50 feet Buildings between the height of 50 and 75 feet may be allowed provided there is an increase of one foot in side, front and rear yards over the minimum requirements for each additional three feet in height.		
D-1 Development District	1.1 units per acre	Width 150 feet Area 40,000 First unit	Front 35 feet Side 10 feet Rear 15 feet	40 feet		25%
PD Planned Develop,ent District	The -PD area is intended to protect the Congaree vista and other areas of the city undergoing redevelopment and revitalization from incompatible land uses and influences which do not complement or promote the high-intensity mixed use character of the area. It is also the intent that new developments within the -PD area are coordinated to ensure that the land use, pedestrian environment, urban design, open space, signs, streetscape and traffic circulation are sensitive to and implement the overall objectives and concept of the applicable redevelopment plan.					
PUD-C Planned Unit Development - Commercial	The PUD-C district is intended to accommodate primarily nonresidential uses, with residential uses integrated into the design of such districts as secondary uses.					
PUD-R Planned Unit Development - Residential	The PUD-R district is intended to accommodate residential uses, with nonresidential uses integrated into the design of such districts as secondary uses.					

Exhibit 3.6 Zoning Regulations
Source: Richland County Land Development Code

FUTURE LAND USE

The Richland County Comprehensive Plan (2009) evaluates how the population is growing and changing, identifying where people live, work, in addition to identifying and protecting the County's natural and cultural resources. Furthermore, the Plan addresses issues of land use in an effort to accommodate changes to the population, housing, and economy. The Future Land Use Map serves as a guide for growth and does not change the current zoning of any area. When rezoning requests appear before the County, this Map will guide decision making and assist in determining whether the proposed rezoning is in accordance with goals for future growth.

The Broad River Corridor and Community Study Area include desired future land uses for the two designated neighborhood planning areas in the area- Northwest and Beltway Planning Areas. The Future Land Use Map envisions the Northwest Area as a Suburban/ low density area. The Beltway Planning Area which consists of the Dutch Square/ Lower Broad River neighborhoods is identifies as the Urban Land Use district where high-density growth will be concentrated in the future. The Dutch Square/ Lower Broad River Neighborhood Planning Area is designated as an Urban Village and Suburban Priority Investment Area by the County's Future Land Use Map. Excerpts of detailed descriptions of these Future Land Use designations from the Richland County Comprehensive Plan are presented below.



Richland County
Future Land Use Map
Figure 3.9
12/15/2009

Urban Land Use
Urban areas should contain a deliberate mix of residential, commercial, and civic land uses, with many multi-story buildings, complete utilities and full local government services. Housing types should be varied, at higher densities (8 or more units per acre).

Residential areas should contain eight or more dwelling units per acre and are encouraged to contain a mix of residential, commercial, and civic land uses.

Commercial/Office activities should be located at traffic junctions (intersections of arterial roads), along arterial roads, or in areas where existing commercial and office uses are located.

Commercial uses within residential areas are appropriate when they complete a block face.

Industrial activities should be compatible with surrounding land uses. Those that produce noise, smoke, or odors should not locate near residential or commercial uses without providing adequate buffers and setbacks. Proposed sites should have existing infrastructure and adequate room for expansion. Sites will be considered during the rezoning process and periodically updated.

Institutional uses such as schools, libraries, government facilities, police and fire stations should locate in appropriate locations along arterial roads or traffic junctions serving the community.

Public facilities such as schools, libraries, and recreation centers should be located reinforcing neighborhoods and communities.

Recreational uses including community parks, pocket parks, and community gardens should be located in appropriate locations serving the community. The National Recreation and Park Association (NRPA) recommends 6.25 to 10.5 acres of open space per 1,000 people.

Legend

- Urban Villages
- Priority Investment Areas
- Municipalities
- Federal Lands
- 3000 Ft Military Buffer
- Planning Areas
- Conservation
- Rural
- Suburban
- Urban

Urban Villages
These urban centers offer a sense of place, in contrast with suburban sprawl and inefficient land use. They should contain a deliberate mix of residential, commercial, and civic land uses, with many uses in multi-story buildings, complete utilities and full local government services. Housing types should be varied, at higher densities (8 or more units per acre), and include affordable housing. Connected streets should provide multiple transportation options, including automobiles, transit, bicycling, and walking, with traffic calming in residential neighborhoods. Open space should include community parks, pocket parks, community gardens, and restored stream corridors. Housing types should be varied, at densities greater than eight dwelling units per acre.

Residential areas are encouraged containing a mix of residential, commercial, and civic land uses. Multifamily may be used as a compatible high density development.

Commercial/Office activities should be located at traffic junctions or in areas with existing commercial and office uses.

Industrial activities should be compatible with the surrounding land uses. Activities producing noise, smoke, or odors should not locate adjacent to residential or commercial uses. Proposed uses should consider sites with adequate room for expansion and existing infrastructure. Sites will be considered during the rezoning process and periodically updated.

Institutional uses such as schools, libraries, government facilities, police and fire stations should be located in appropriate locations serving the community. Locations should be considered on a case by case basis.

Public facilities such as schools, libraries, and recreation centers should be located to reinforcing neighborhoods and communities.

Recreational uses including community parks, pocket parks, and community gardens should be located in appropriate locations serving the community with provisions for connectivity to the surrounding areas. The National Recreation and Park Association (NRPA) recommends 6.25 to 10.5 acres of open space per 1,000 people.

Suburban Land Use

Throughout the suburban areas infill development should be a focus in residential, commercial and industrial areas, complementing and connecting the existing sprawl pattern. Housing should be varied at 4-8 units per acre. Streets should accommodate automobiles, transit, bicycling, and walking. Principal streetscapes should have turning lanes, transit stops, bikeways, sidewalks and crosswalks, trees and other landscaping, appropriate lighting, and sign controls. Buildings should be oriented to the street, but located outside future rights-of-way. Automobile access should be managed with shared driveways, shared side streets, and interconnected parking lots. Underutilized commercial strips and big-box retail parcels can be divided and redeveloped into smaller blocks with street extensions and pedestrian-friendly designs. Existing housing should be maintained and rehabilitated with traffic calmed on residential streets. Recreational areas and open space should include regional parks, athletic fields, community parks, community gardens, and greenways along forested stream corridors. Public facilities such as schools, libraries, and recreation centers should be located reinforcing community centers.

Residential areas are encouraged to contain a mix of residential and civic land uses. Existing single family developments may be adjacent to multifamily or a PDD including a buffer from higher intensity uses. Residential developments should occur at medium densities of 4-8 dwelling units per acre.

Commercial/Office activities should be located at traffic junctions or areas where existing commercial and office uses are located and not encroaching on established residential areas. Industrial activities should be compatible with the surrounding land uses and should not locate near residential or commercial uses without adequate space for buffering/setbacks. Proposed industrial uses should consider sites with adequate room for expansion, existing infrastructure, and access to major arterials and/or highways. Sites will be considered during the rezoning process and periodically updated.

Suburban Priority Investment Areas

Growth should be concentrated in designated Priority Investment Areas, which are outlined on the Future Land Use Map. These areas should contain a deliberate mix of residential, commercial, and civic uses. Housing should be varied at moderate densities (4-16 dwelling units per acre) and should include affordable housing. Complete streets should be available with access for vehicles, cyclists, and pedestrians and open space should be included and respected. The I-26/ Broad River Road Exit and the Dutch Square/ Broad River Road are identified as the two Priority Investment Areas within the district.

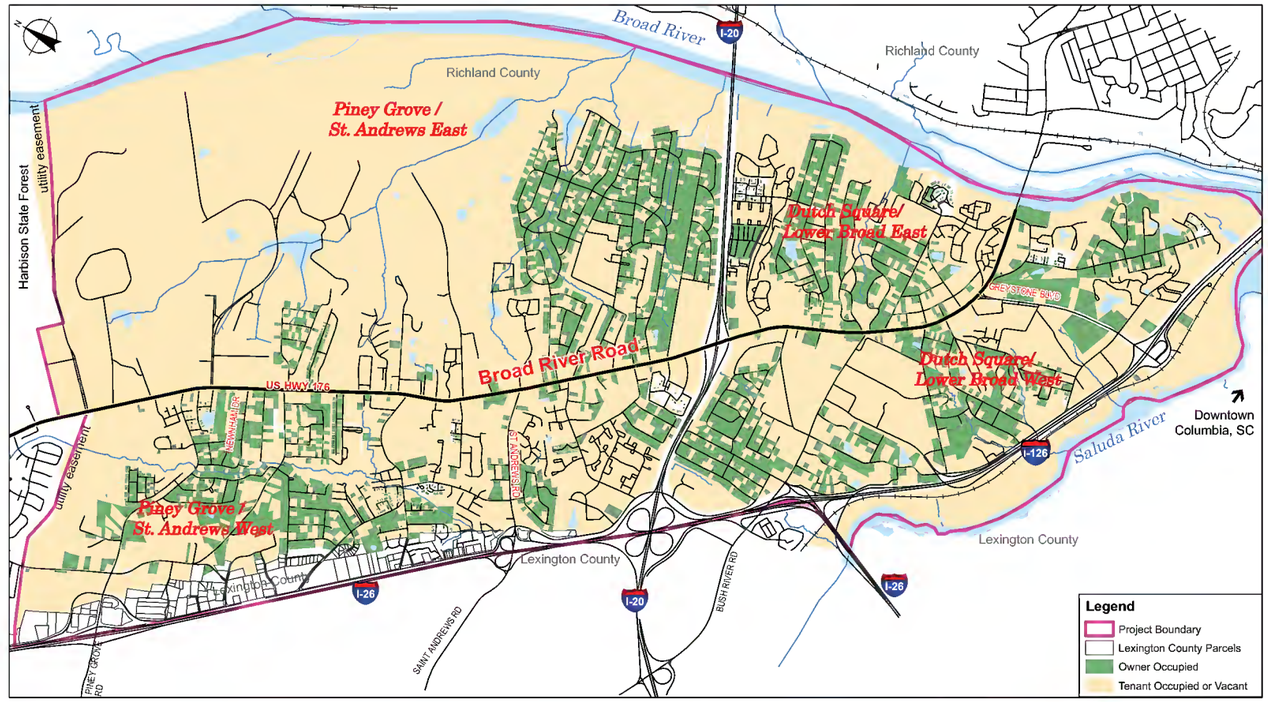
OWNERSHIP

The redevelopment potential of an area is often dependent on the property ownership patterns. Multiple ownership patterns can be a hindrance for assembling individual properties to support redevelopment projects. For example, if one owner is interested in redeveloping a property but needs additional area to meet existing land development regulations, and the adjacent owners are not interested in joining forces or selling the property, then the first owner is powerless to make the necessary property improvements.

Large shares of public owned vacant land also reduces the tax base for the City and creates some challenges for redevelopment. However, often the public entities are more supportive of the community's vision and could be an asset in developing "demonstration" projects to facilitate investment and revitalization of deteriorating areas. Major public landowners within the Study Area boundaries include: Richland County Board of School Commissioners, Richland County Recreation, South Carolina State Housing, Riverbanks Park Commission, State of South Carolina, and the City of Columbia Housing Authority. Some of these properties owned by the public sector present the opportunity to promote quality development in the area though the employment of a combination of strategies. For example, the County could utilize some of its vacant or underutilized to introduce needed recreational facilities in the area. Alternatively, a public entity could use its property as leverage to attract desired private development into the area by assisting interested developers in land assemblage to create a developable site footprint.

Single-family residential properties with absentee owners also create challenges for redevelopment and are sometimes an obstacle in improving the aesthetic character of a neighborhood, typically due to the lack of property maintenance by tenants and landowners. Ownership patterns in residential areas were analyzed using the Richland County Property Appraiser records. Residential properties were determined to be owner-occupied if the property street address matched the mailing address of the property owners as listed in the Property Assessor's Tax Roll database. Within the Study Area, nearly thirty-five percent (35%) of the total low density residential properties within the Study Area were found to be rental properties (1,355 of the total 3,936 residential properties).

In several communities around the nation, absentee landlord property has led to blighted conditions and deteriorating housing stocks, if left unchecked. Developing first-time home-buyer assistance programs and financial incentives to empower renters to transition into being a home owner will be pivotal in stabilizing the neighborhoods and in turn improving the aesthetic character and increasing the economic base for the Study Area. Home ownership promotions are one of the contributing factors in raising property values in the area.



IBI GROUP

Broad River Road Corridor Study

Central Midlands Council of Governments / Columbia, South Carolina

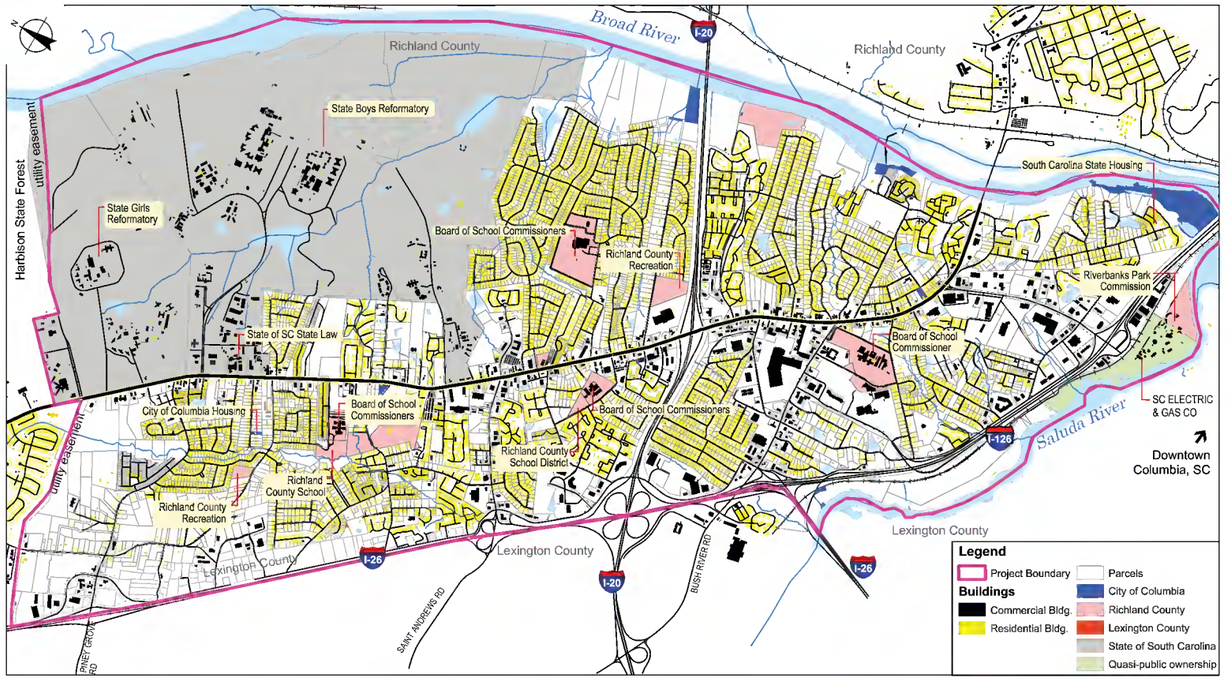
0 1,000 2,000 Feet

Occupancy was determined by matching the street address of the property with the mailing address of the owner. If they match, owner occupancy is presumed.

Figure 3.10

Occupancy

2009



IBI GROUP

Broad River Road Corridor Study

Central Midlands Council of Governments / Columbia, South Carolina

0 1,000 2,000 Feet

Government ownership was determined by examination of the Owner Name field within the parcel attribute database.

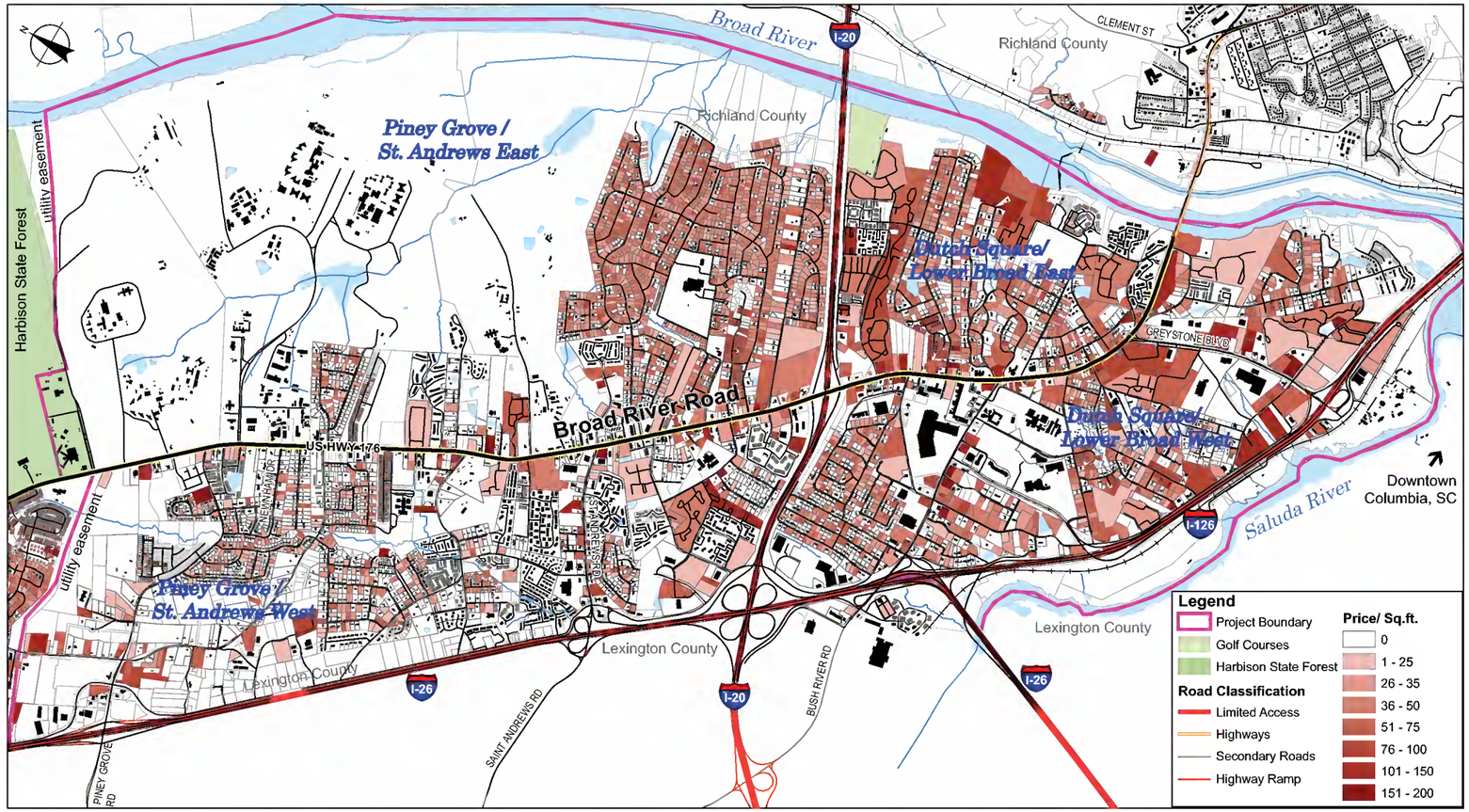
Government Owned Parcels

2009

PROPERTY VALUES

Richland County Assessor's tax rolls (2009) were utilized to analyze property values for all properties within the Study Area boundaries. In real property valuation terms, the market value is the most probable selling price, based on the actual sales of similar properties, less the typical costs of sale. The assessed value may be less than the market value. For example, if the property is a residential property having homestead exemption and is therefore protected by the "Save Our Homes" Constitutional assessment limitations set in states such as Florida. In other words, the assessed value is the dollar value assigned to a property by the Property Assessor's Office for taxation purposes and includes exempt properties such as governmental properties and churches. The taxable value is the assessed value less any applicable exemptions.

The market value, as determined by the Property Assessor's tax rolls, is primarily an estimate based on the land use, building square footage, property improvements, building materials, and location. The total market value of all properties in the Study Area is $1,876,736,300. The overall average market value of all properties in the Study Area is $238,406. In 2009, over ten percent (11.1%) of the properties in the planning area were valued below or equal to $50,000 (734 properties). Nearly fifty percent (47.6%) of the properties within the Study Area were valued at between $100,000 and $200,000.



IBI GROUP

Broad River Road Corridor Study

Central Midlands Council of Governments / Columbia, South Carolina

0 1,000 2,000
Feet

Uncolored parcels:
- lacked a valid Tax Map ID link to the Tax Roll database, or
- did not have a record of sale in the Tax Roll database, or
- lacked a building (had a TSQFT value of "0".)

Sale Price Per Square Foot (of Structure)

Figure 3.11 **Property Value Study**

URBAN DESIGN ANALYSIS

Following decades of low density suburban development it has become evident that the isolated communities created by traditional planning are not conducive to walkable and transit oriented neighborhoods. Planning a sequence of integrated environments rather than separating land uses through zoning codes is a step toward curbing the current pattern of unsustainable growth across North America. The Broad River Road Corridor and Community Study Area consists of diverse urban design characteristics that could be organized into a sequence of environments which can be applied to create "complete communities" based on the concept of transit oriented development patterns.

As it relates to the character of the public realm- the topography, the mature tree canopies, and proximity to the Broad River and Saluda River are the area's primary assets. Future planning efforts need to build upon these assets in order to develop a system of linkages that provides increased access for residents to these assets. The current level of investment in encouraging a higher quality of development is insufficient. The following are key observations related to major weaknesses in the public realm urban form within the study area:

- **Connectivity**: Physical Barriers created by the interstates, the Broad River Road, and lack of a continuous street network system has resulted in a disjointed development pattern.
- **Pedestrian Environment:** The area does not provide for conditions that could support a pedestrian- friendly environment. Some of these weak conditions include: absence of landscaping and streetscape improvements along the primary commercial corridors, inconsistent signage, wide travel lanes and limited traffic calming measures, incomplete sidewalk network, inadequate linkages between neighborhoods and area destinations, and lack of public spaces.
- **Community Character and Identity**: The Broad River Road Study Area has evolved into its current form primarily due to the suburbanization trend seen in numerous communities throughout the nation. This has resulted in the inability of communities such as those within the Study Area to define a consistent character and identity. Overall, due to a lack of vision and planning practices in response to development interests have created an urban form that has no distinct edges and therefore lacks a sense of place. Identifying character districts based on existing land use patterns and future development potential will be pivotal in defining the community's character.
- **Destinations and Nodes:** Over time, the haphazard development patterns along the corridor have resulted in scattering of diverse uses throughout the area without the creation of any focused centers of activity serving the community. Creation of nodes and destinations at strategic locations along the corridor that serve as centers of community activity accommodating a diversity of uses and services in a compact urban form will be integral to any future planning efforts.
- **Quality of Public Infrastructure:** The quality of the public realm infrastructure as it relates to streetscape and utilities within the Study Area are generally in average condition. As new nodes and compact development patterns are developed along the area, public realm improvements along Broad River Road will require attention to detail as it relates to streetscape amenities, transit investment, parking, stormwater management, water and sewer systems, and community facilities.

The public realm analysis is directly related to transportation improvements and includes an analysis of the following components: Street Hierarchy, Pedestrian Environment and Walkability, and Streetscape Conditions. The following section discusses these components in detail as it relates to the conditions within the Study Area.

Street Hierarchy

As discussed previously, the Study Area's urban form is defined by a haphazard suburban-style subdivision spatial arrangement ending in cul-de-sacs type street patterns with dead ends in several areas. The resulting street patterns from this arrangement hinder connectivity between the area's activity districts and feed into a primary collector, Broad River Road in this case. Throughout the area, the street grid is interrupted by large-scale institutional developments such as the Dutch Square Mall, churches, large office park complexes, and the area schools. As the Broad River Road Study Area evolves into a revitalized urban core with concentrated mixed-use, opportunities to reestablish a grid street-pattern should be made a priority.

The combination of new and existing streets is envisioned to create an interconnected network of streets designed to accommodate different modes of transportation. The key map identifies where these street sections were taken.

Based on the existing land use compositions, future redevelopment potential, roadway functions, right-of-way conditions, and access potential, the following street typologies have been identified for the Study Area:

- **Primary Mixed-Use Avenue: Broad River Road between Greystone Boulevard and St. Andrews Road**
- **Commercial Boulevard: Greystone Boulevard**
- **Primary Retail Streets: Bush River Road, St. Andrews Road**
- **Neighborhood Connectors: Piney Grove Road, Beatty Road**
- **Primary Residential Streets**
- **Rural Residential: Broad River north of St. Andrews Road**

The collection of graphics shown on the following pages illustrate the typical street sections based on existing conditions within the Broad River Road Corridor and Community Study Area.

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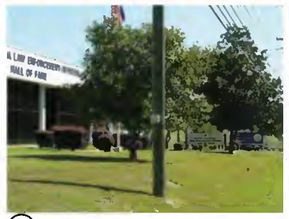
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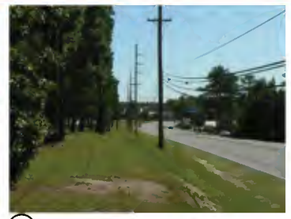
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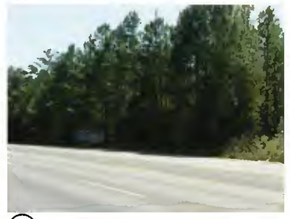
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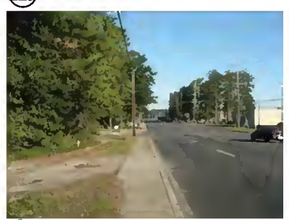
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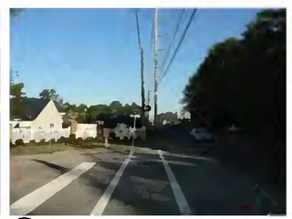
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EXISTING CHARACTER


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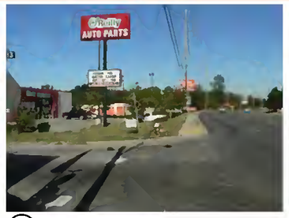

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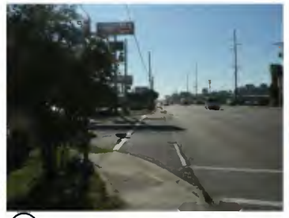
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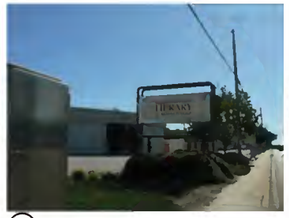
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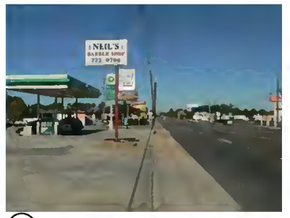

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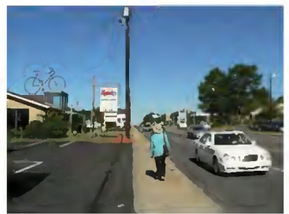
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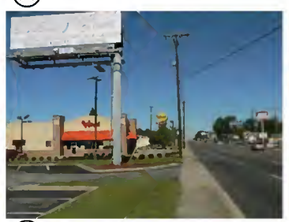
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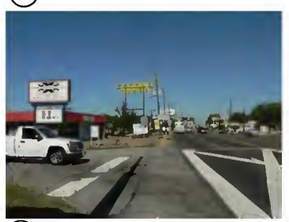
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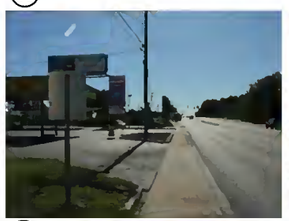
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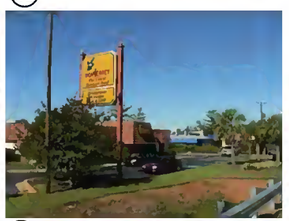
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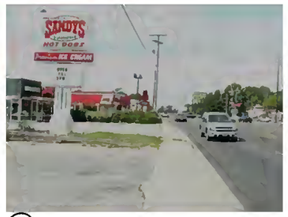

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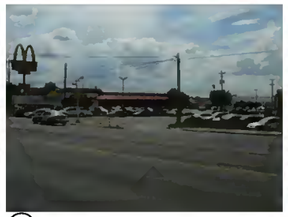
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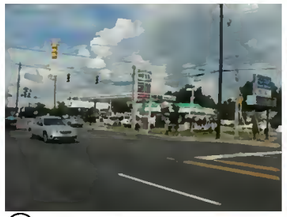
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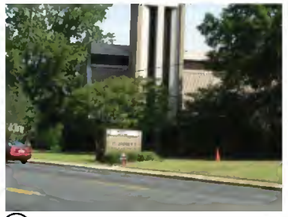
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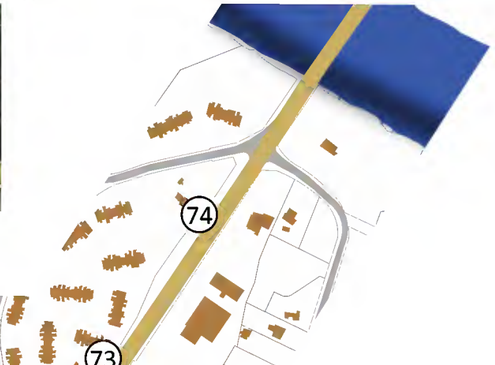


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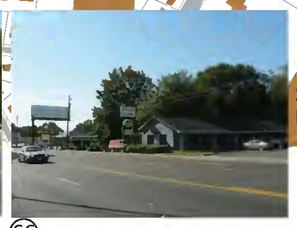

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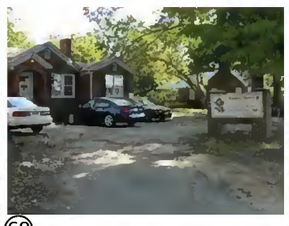
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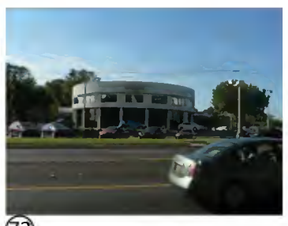
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Built Form

In addition to the public realm character, the urban design analysis also examines the relationship between development in the private realm and the Study Area's overall pedestrian orientation. The built form mainly consists of large low rise building footprints on large-size blocks located towards the rear edge of the property. The basic component of the private realm- the built environment, includes an analysis of the site planning and building massing as it relates to existing conditions, proposed developments, and the regulations governing the future development of these parcels of land.

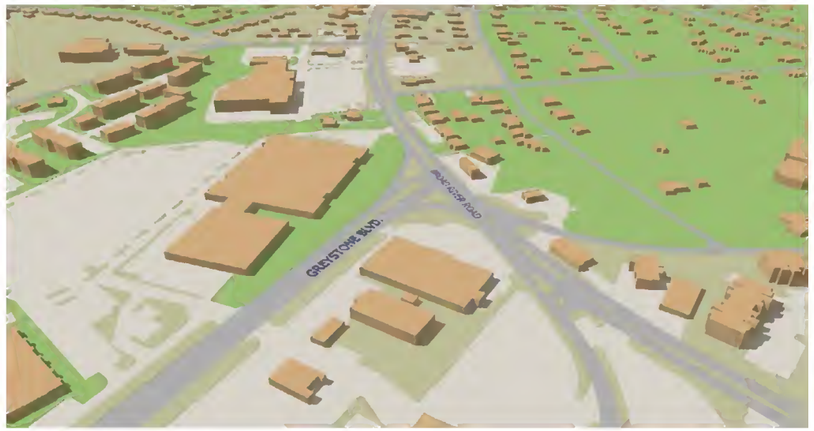
Site Planning and Building Massing

For zoning (traditional or form-based) to be an effective implementation tool for redevelopment and infill development, it is important to analyze the existing land use characteristics and its relationship to the prevailing land development regulations. A build-out analysis allows a community to test out its existing regulations and possible future development when land is developed to the maximum extent allowed under law. This analysis shows different alternatives, primarily to evaluate the character of future development upon the study area's physical character, based on existing regulations.

The development impact of the built environment is presented through a series of urban design schematics illustrating build out scenarios on a block- by -block basis for key areas. The scenarios will be based on the following considerations. Buildings that appear similar in mass and scale to existing buildings in the Study Area will help maintain the desired human scale of the buildings. This model is purely illustrative, but it helps to better understand the consequences of various design decisions concerning the site planning, height, and mass of buildings in the Downtown.

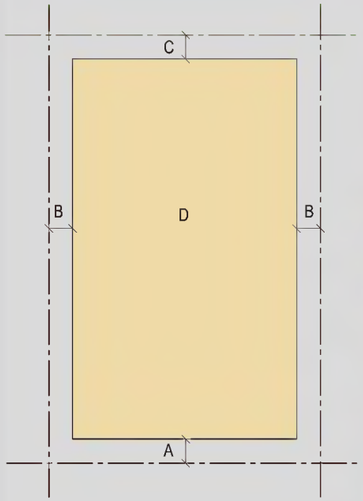
For analysis purposes, developable land is defined as properties with a high redevelopment potential based on two factors- delineating undeveloped or underutilized land (vacant properties) and identifying contiguous parcels under the same ownership and have a higher probability of assemblage. Based on these factors, the redevelopment of the properties located at the intersection of the St. Andrews Road and Broad River Road is illustrated as three-dimensional model to better understand the implications of redeveloping the site based on existing codes. Existing zoning regulations are applied to these properties, including: minimum lot sizes, setback requirements, landscaping requirements, parking requirements, and allowable heights.

The General Commercial District requires a 25 foot front setback, 10 foot rear setback and no side setbacks for new development, per the regulations illustrated in the table shown below. There is a height limit of 45' or 3 stories.

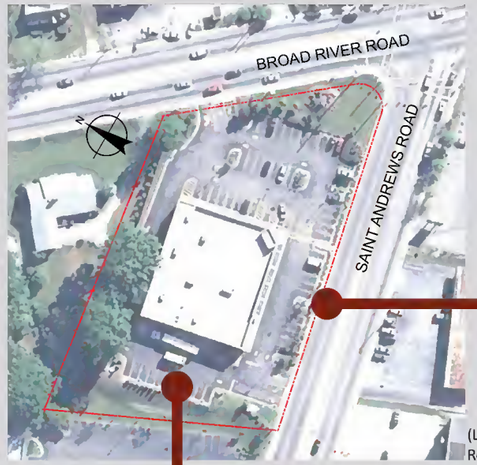


URBAN DESIGN ANALYSIS

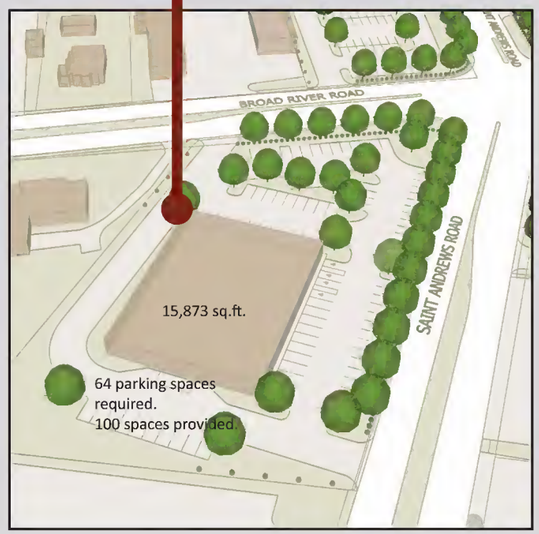
PRIVATE REALM : BUILD-OUT SCENARIO #1
GC- GENERAL COMMERCIAL DISTRICT



ZONING	MIN. LOT	A (FRONT SETBACKS)	B (SIDE SETBACKS)	C (REAR SETBACKS)	D (LOT COVERAGE)	E (HEIGHT LIMITS)
GC General Commercial District	No minimum lot width. No minimum lot area requirement except as required by DHEC.	Front 25 feet. The minimum side and rear setback requirement for residential accessory buildings and structures in the GC District is five (5) feet. Other accessory structures must comply with the side and rear setback standards enumerated above.	None	10 feet	None	45 feet (3 stories or less) High rise structures may be permitted as a permitted use subject to special requirements (4-5 stories) or a special exception (6 or more stories).



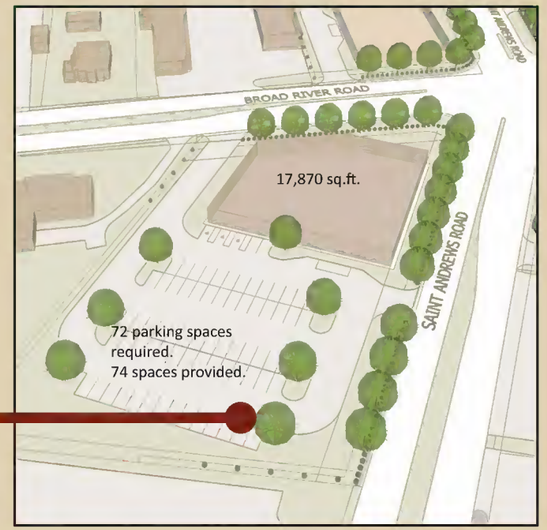
(Left) Aerial view of parcel: west intersection of Broad River Road and Saint Andrews Road.



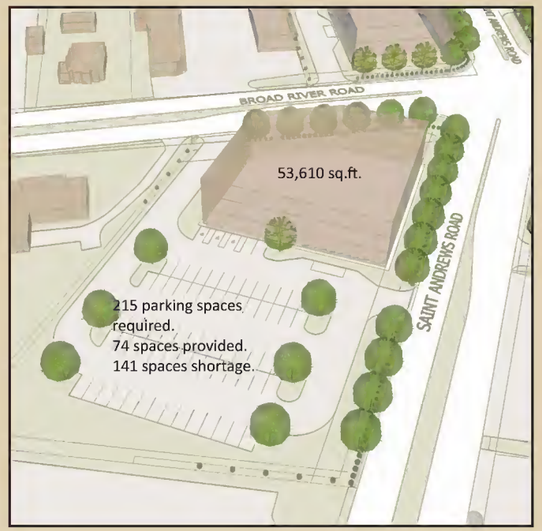
Build-out under existing zoning regulations: 1story building height.

Build-out under existing zoning regulations:
3 story building height.

PRIVATE REALM : BUILD-OUT SCENARIO #2



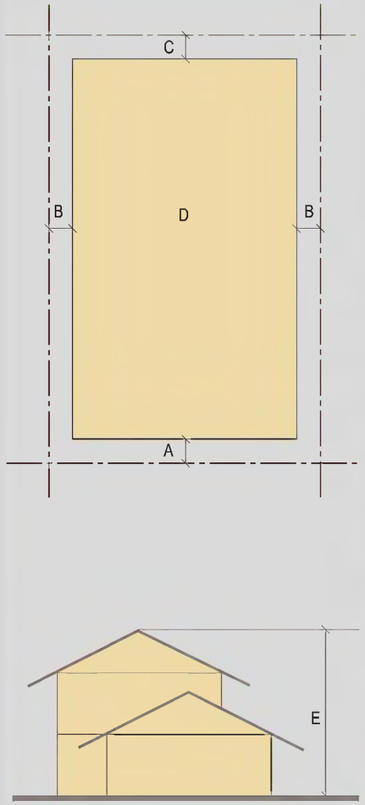
Build-out under existing zoning regulations: 1story building height.



Build-out under existing zoning regulations:
3 story building height.

URBAN DESIGN ANALYSIS

PRIVATE REALM : BUILD-OUT SCENARIO #1
GC- GENERAL COMMERCIAL DISTRICT



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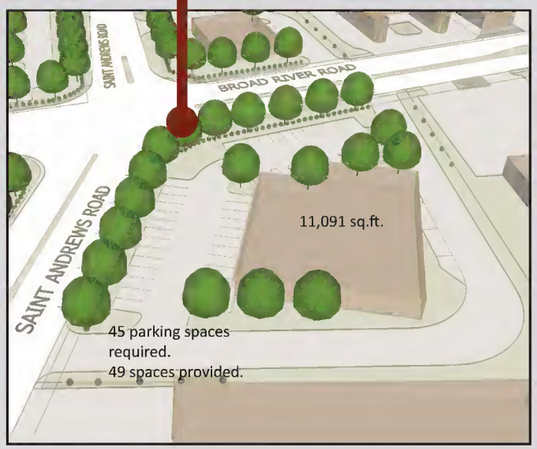
(Left) Aerial view of parcel: south intersection of Broad River Road and Saint Andrews Road.



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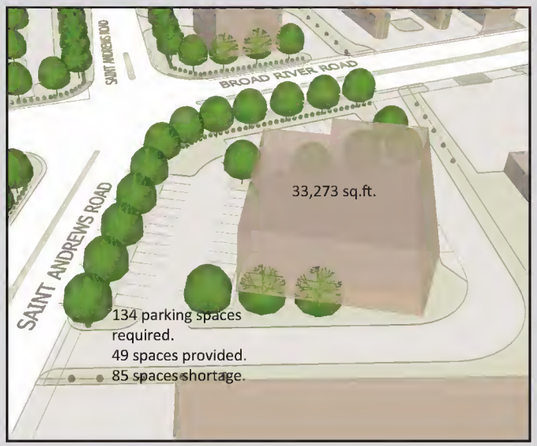
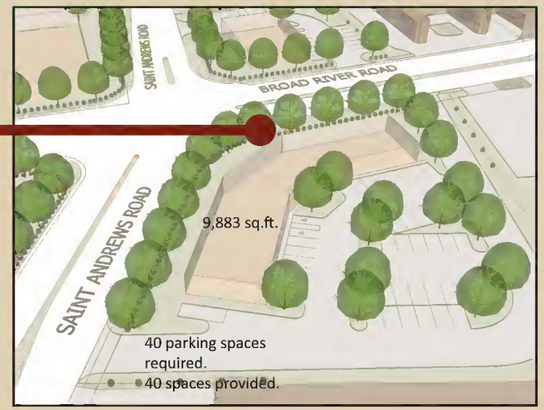
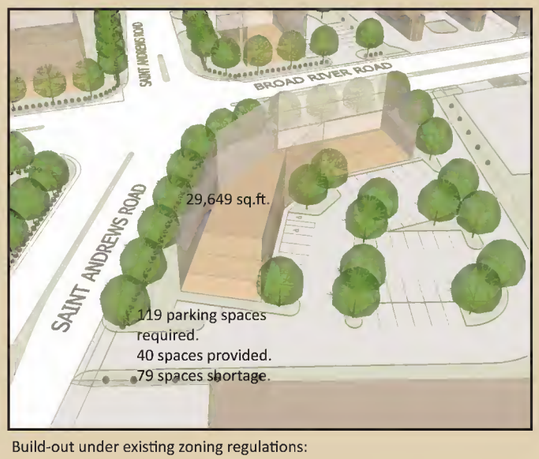


Build-out under existing zoning regulations:
3 story building height.

PRIVATE REALM : BUILD-OUT SCENARIO #2



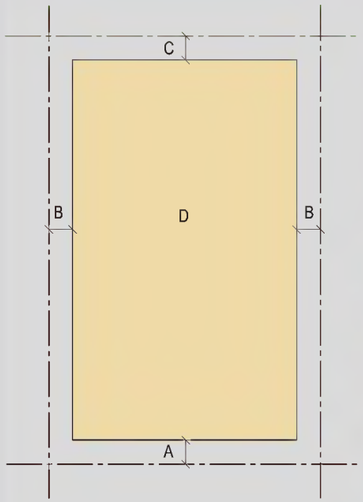
Build-out under existing zoning regulations: 1story building height.



Build-out under existing zoning regulations:
3 story building height.

URBAN DESIGN ANALYSIS

PRIVATE REALM : BUILD-OUT SCENARIO #1
GC- GENERAL COMMERCIAL DISTRICT



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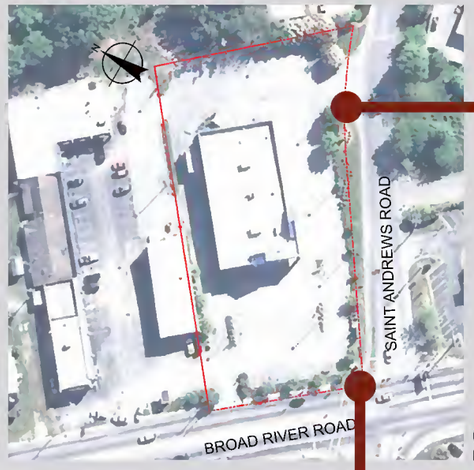
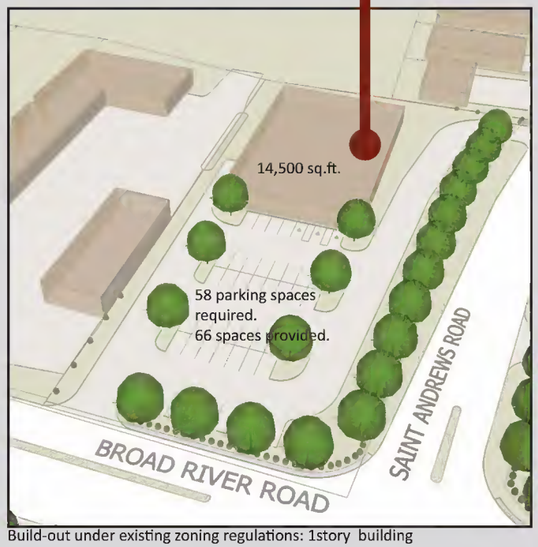


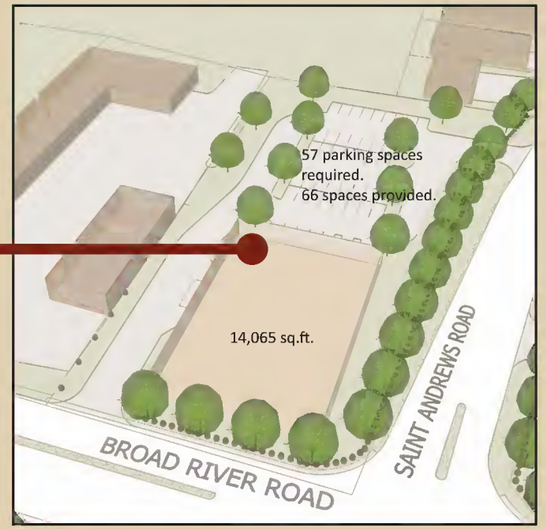
(Left) Aerial view of parcel: north intersection of Broad River Road and Saint Andrews Road.



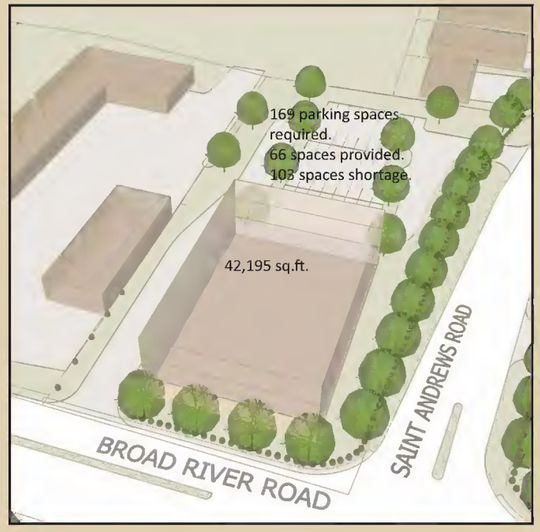
Build-out under existing zoning regulations: 1story building height.

Build-out under existing zoning regulations:
3 story building height.

PRIVATE REALM : BUILD-OUT SCENARIO #2



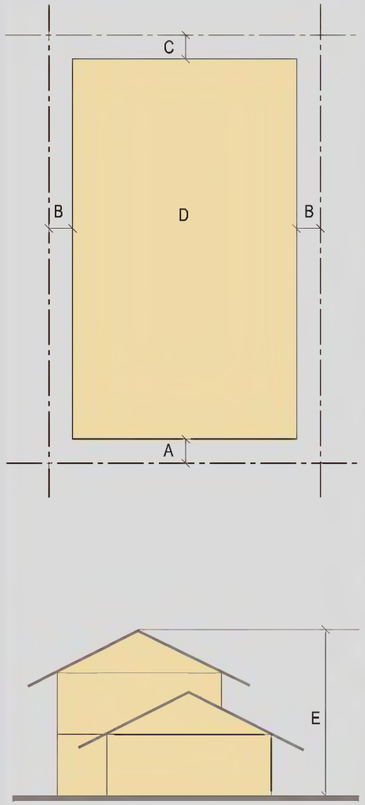
Build-out under existing zoning regulations: 1story building height.



Build-out under existing zoning regulations:
3 story building height.

URBAN DESIGN ANALYSIS

PRIVATE REALM : BUILD-OUT SCENARIO #1
GC- GENERAL COMMERCIAL DISTRICT



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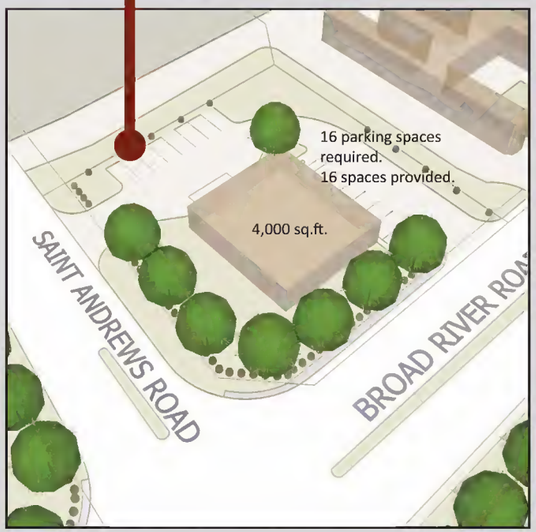
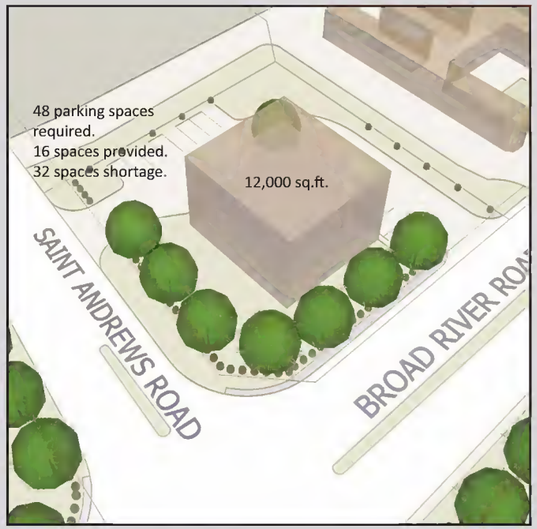
(Left) Aerial view of parcel: east intersection of Broad River Road and Saint Andrews Road.

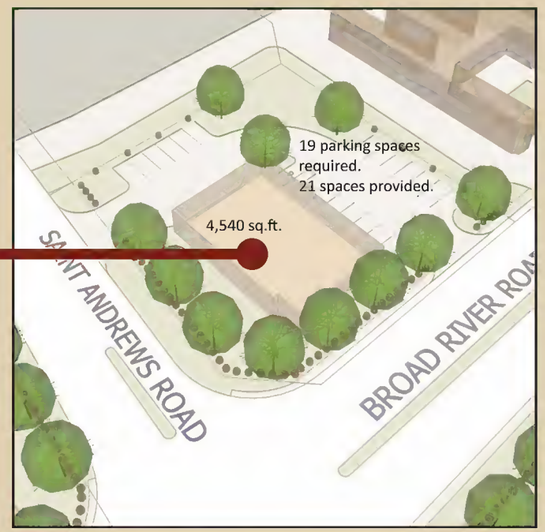


Build-out under existing zoning regulations: 1story building height.

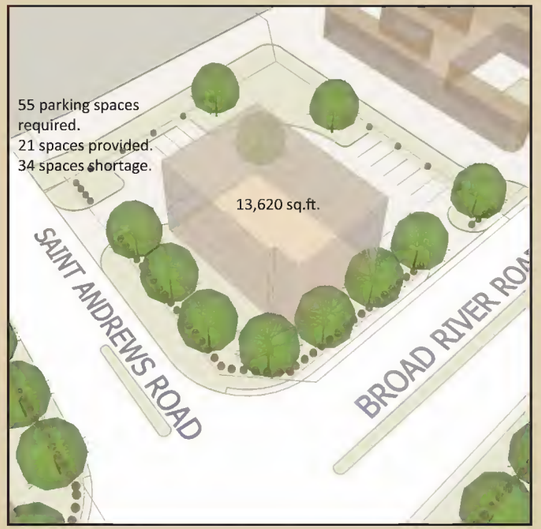


Build-out under existing zoning regulations:
3 story building height.

PRIVATE REALM : BUILD-OUT SCENARIO #2



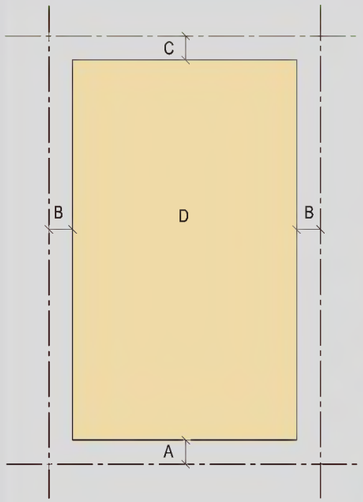
Build-out under existing zoning regulations: 1story building height.

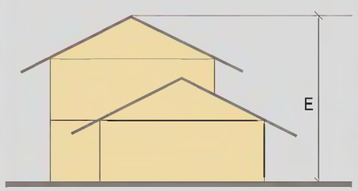


Build-out under existing zoning regulations:
3 story building height.

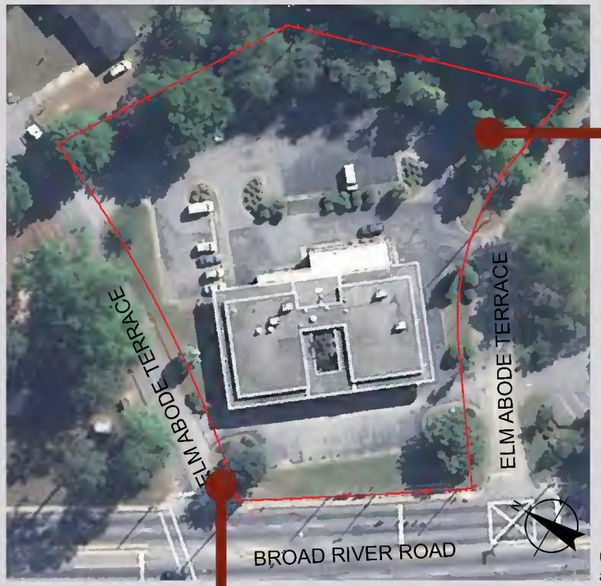
URBAN DESIGN ANALYSIS

PRIVATE REALM : BUILD-OUT SCENARIO #1
GC- GENERAL COMMERCIAL DISTRICT

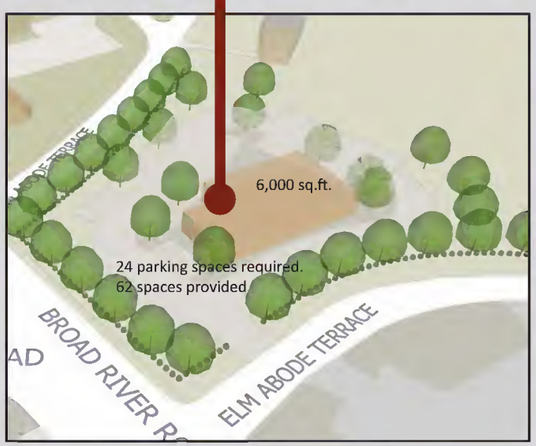




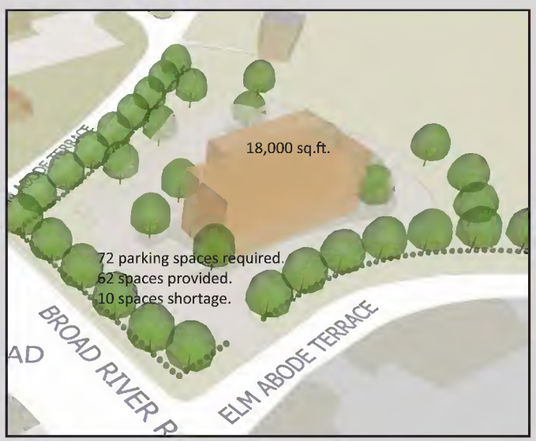
ZONING	MIN. LOT	A (FRONT SETBACKS)	B (SIDE SETBACKS)	C (REAR SETBACKS)	D (LOT COVERAGE)	E (HEIGHT LIMITS)
GC General Commercial District	No minimum lot width. No minimum lot area requirement except as required by DHEC.	Front 25 feet. The minimum side and rear setback requirement for residential accessory buildings and structures in the GC District is five (5) feet. Other accessory structures must comply with the side and rear setback standards enumerated above.	None	10 feet	None	45 feet (3 stories or less) High rise structures may be permitted as a permitted use subject to special requirements (4-5 stories) or a special exception (6 or more stories).



(Left) Aerial view of parcel: intersection of Elm Abode Terrace and Broad River Road.

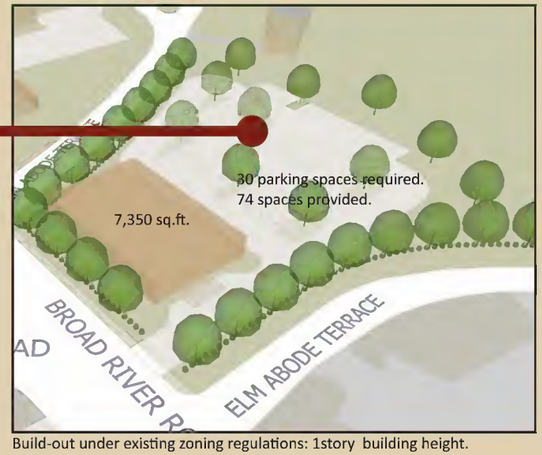


Build-out under existing zoning regulations: 1story building height.

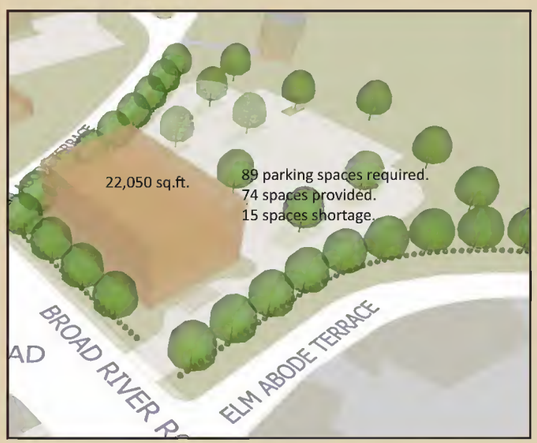


Build-out under existing zoning regulations:
3 story building height.

PRIVATE REALM : BUILD-OUT SCENARIO #2



Build-out under existing zoning regulations: 1story building height.



Build-out under existing zoning regulations: 3 story building height.

TRANSIT ORIENTED DEVELOPMENT (TOD)

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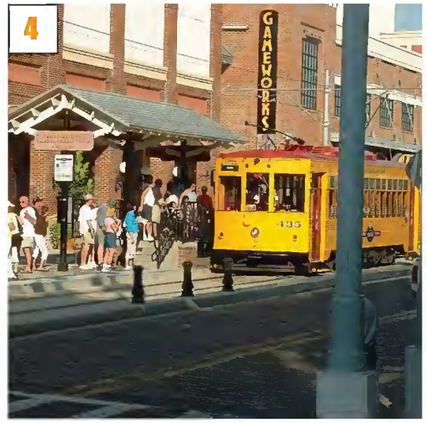

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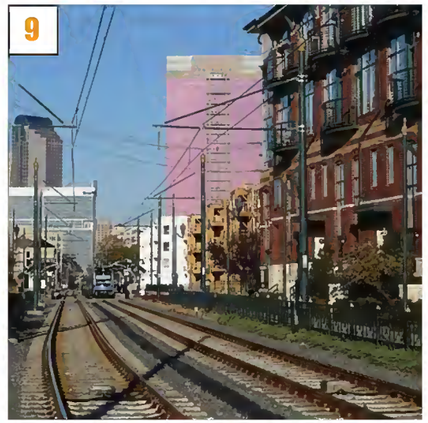

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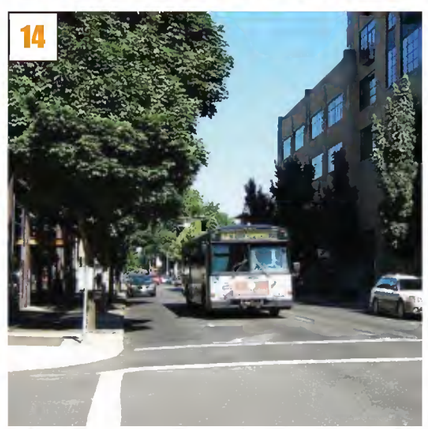

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MIXED USE DEVELOPMENT

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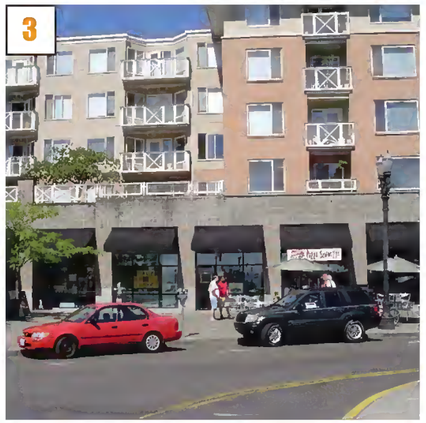

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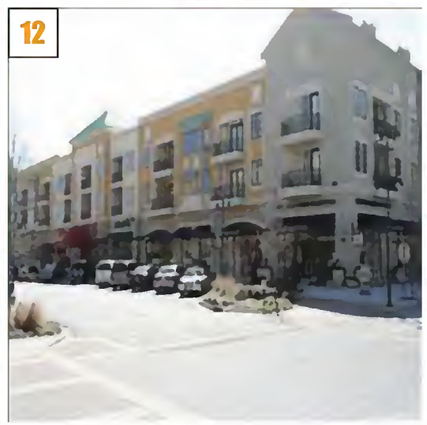

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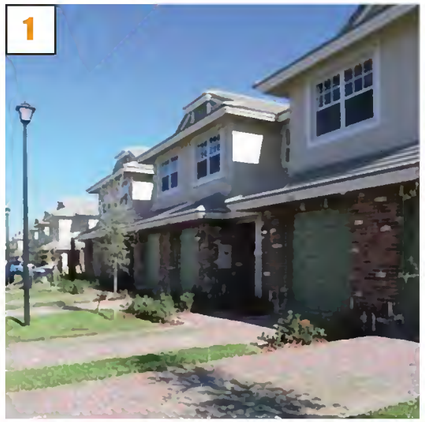
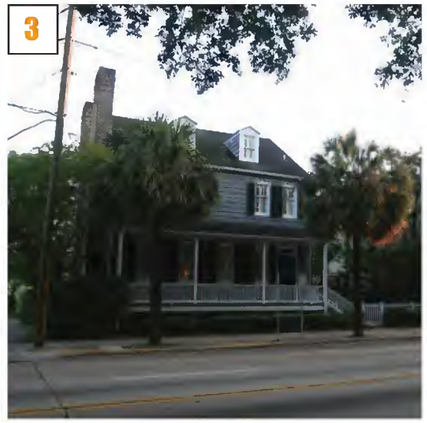
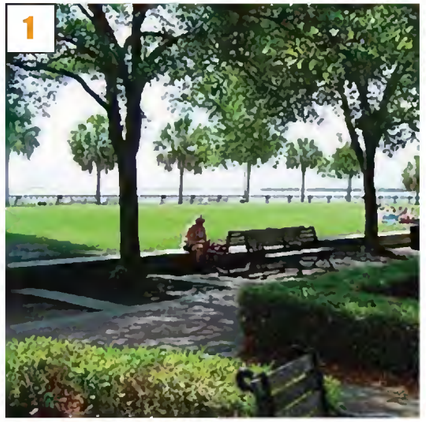
RESIDENTIAL





PARKS AND PLAZAS



HEIGHT

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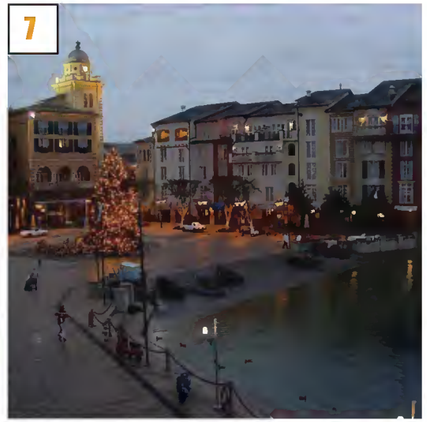

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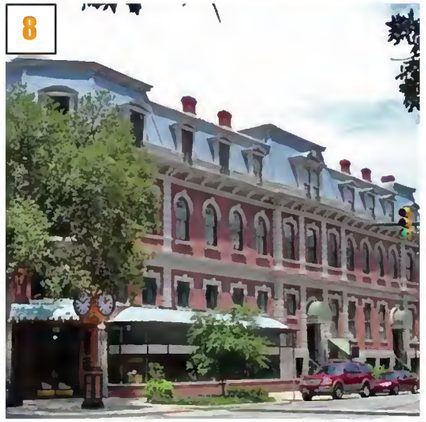

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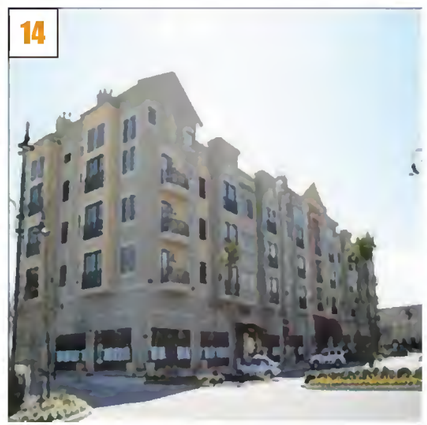

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DENSITY AND MASSING

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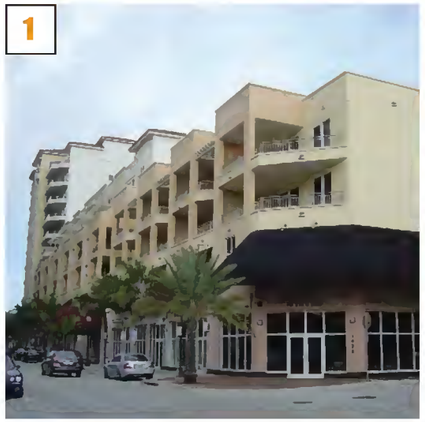

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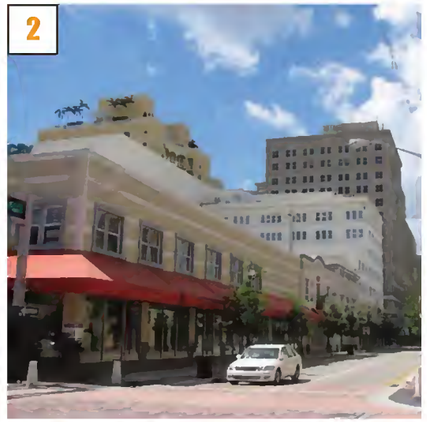

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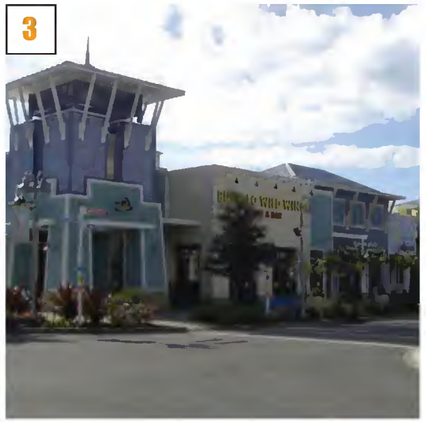

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PUBLIC ART GATEWAYS LIGHTING

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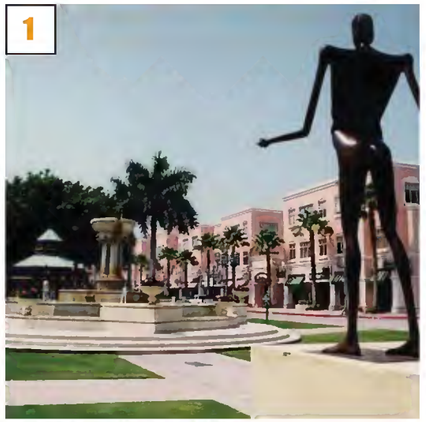

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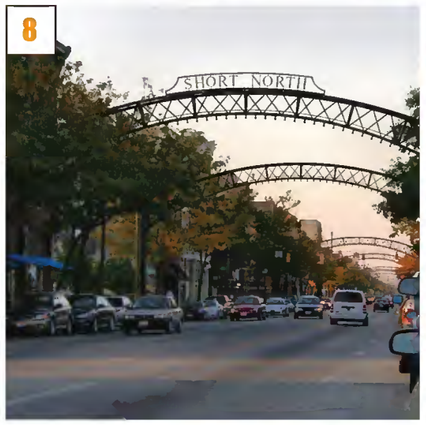

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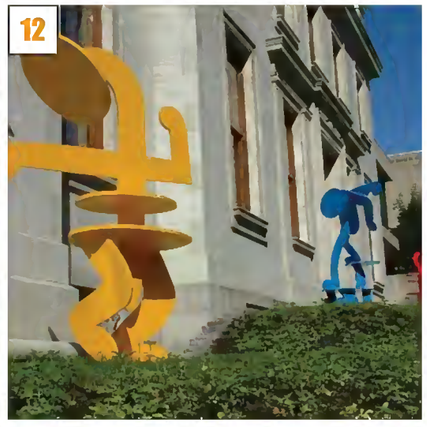

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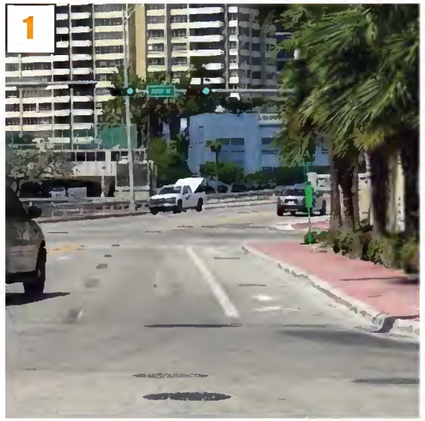
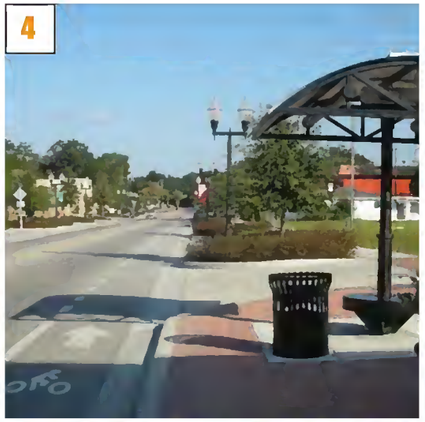
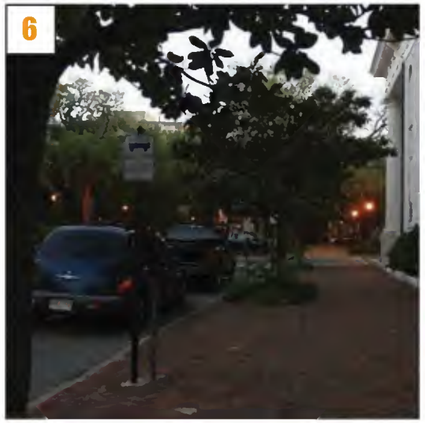
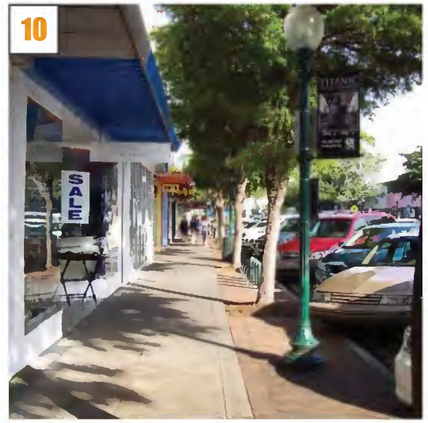
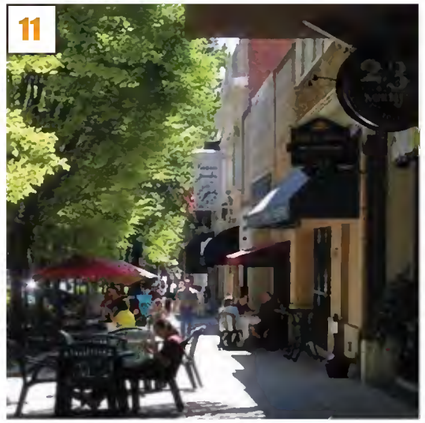
BICYCLE AND PEDESTRIAN ENVIRONMENT

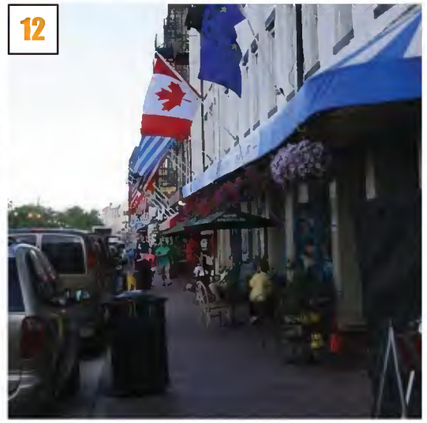












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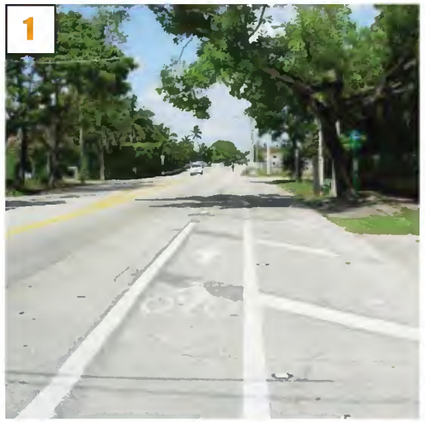

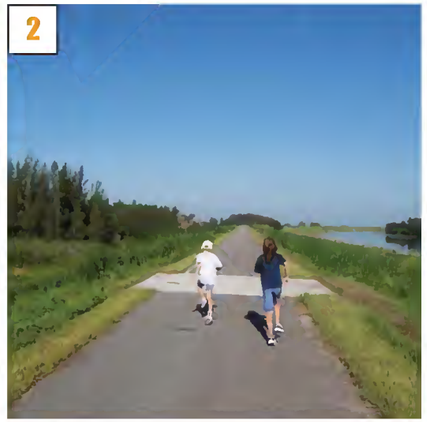

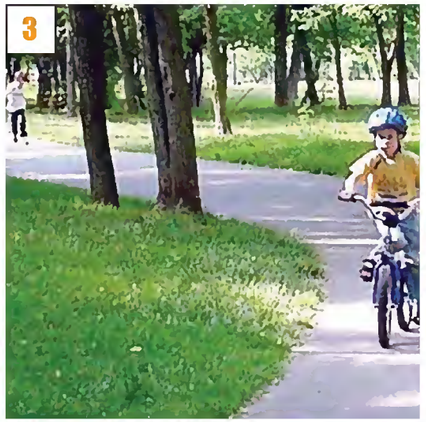

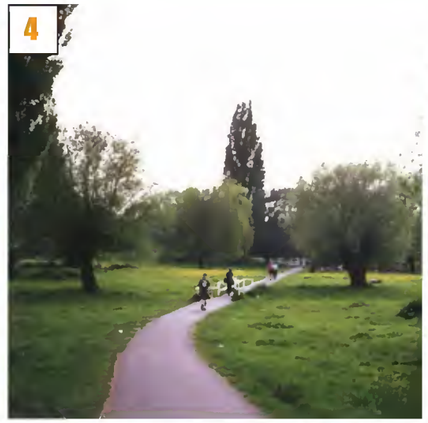

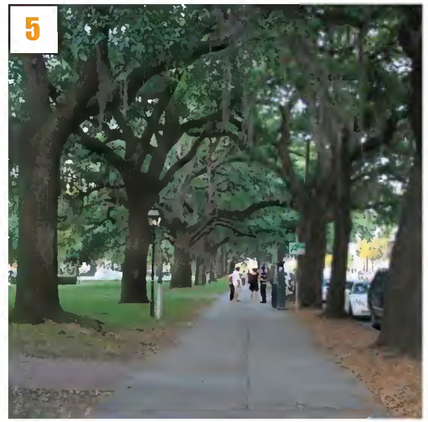

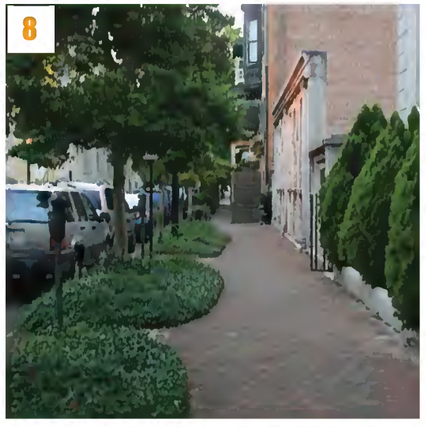

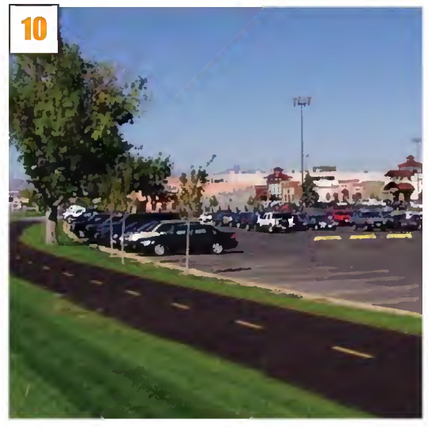

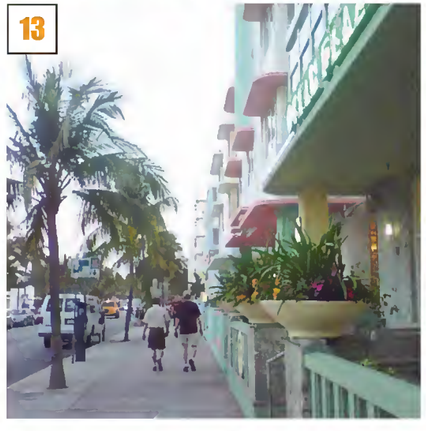

TRAFFIC CALMING

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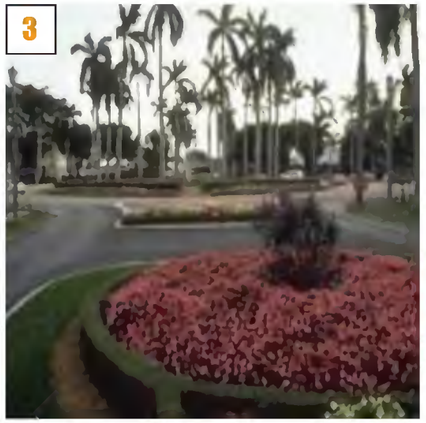

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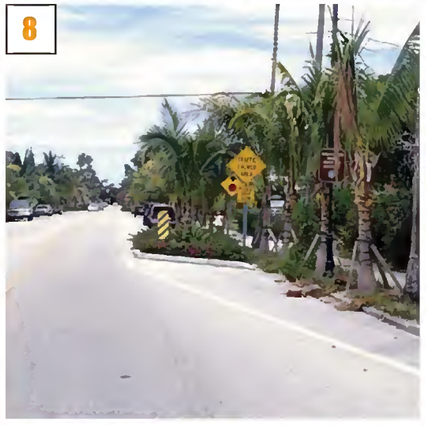

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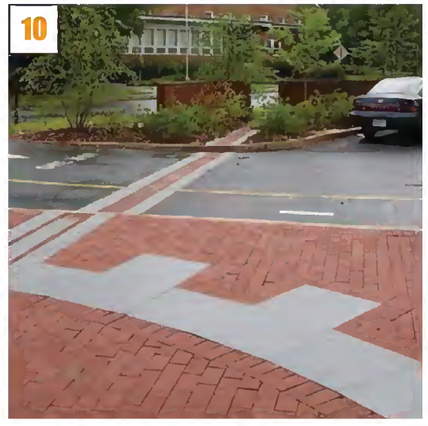

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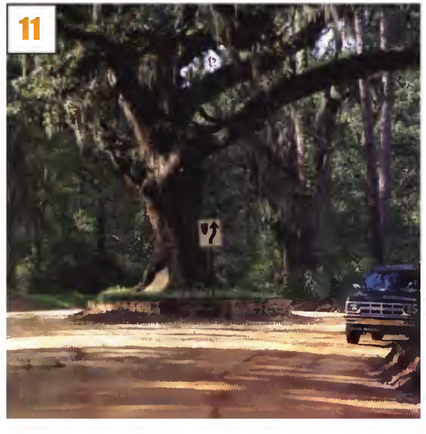

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PARKING

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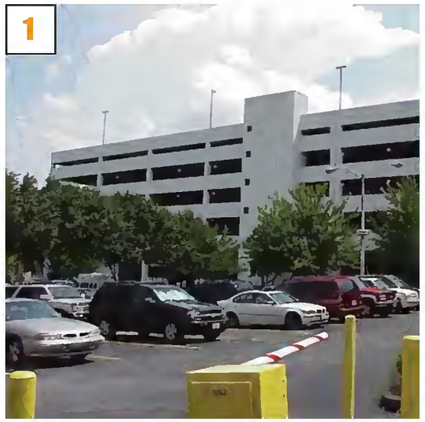

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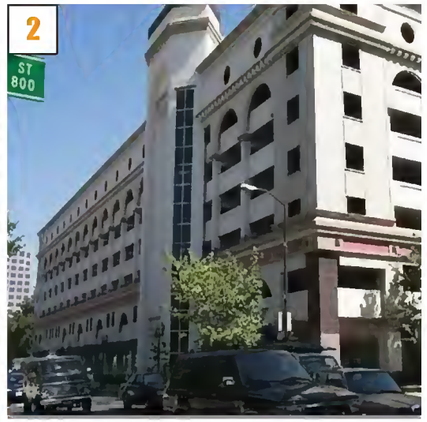

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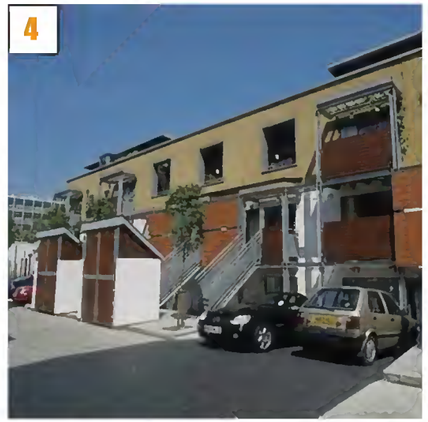

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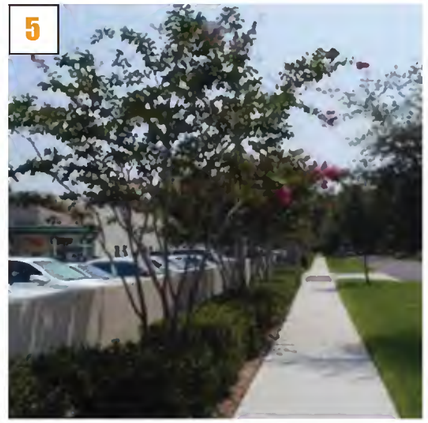

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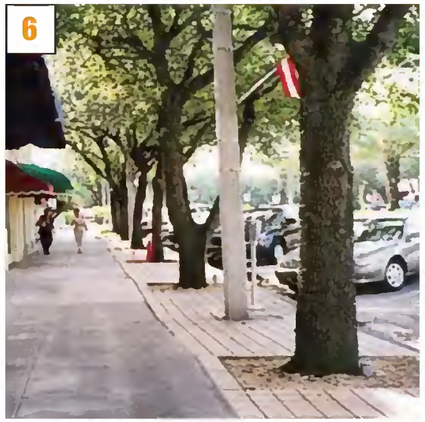

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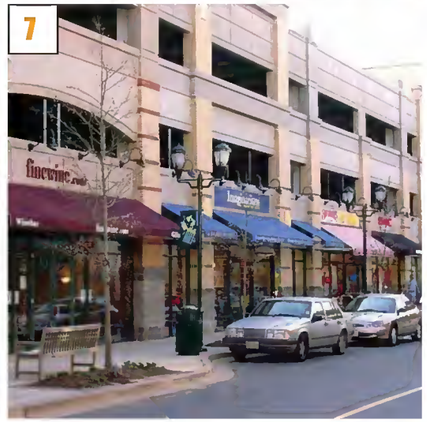

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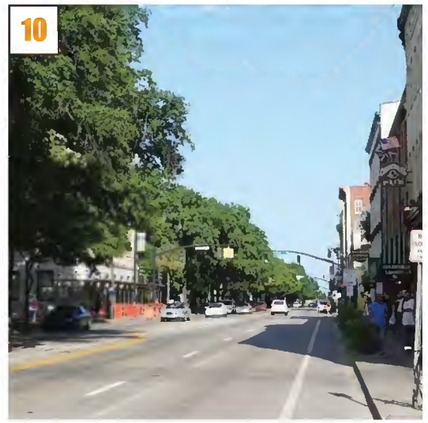
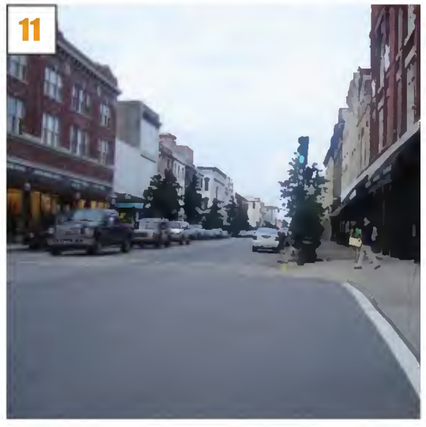
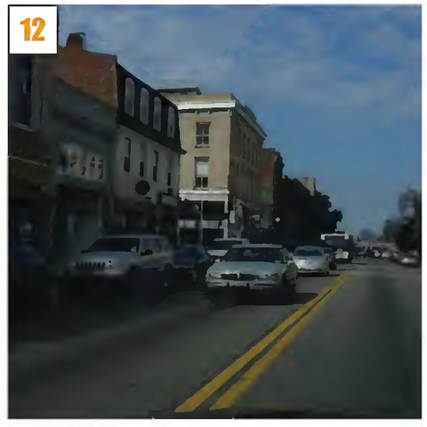
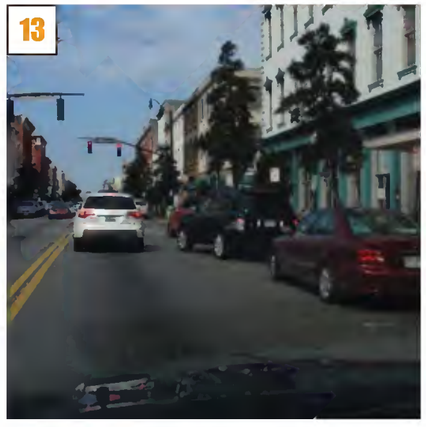
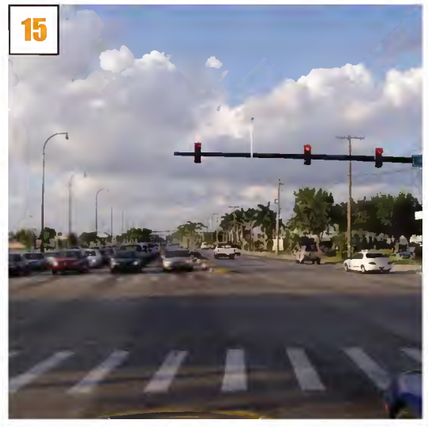
ROADWAYS











Appendix B

Transportation

CIRCULATION AND MOBILITY

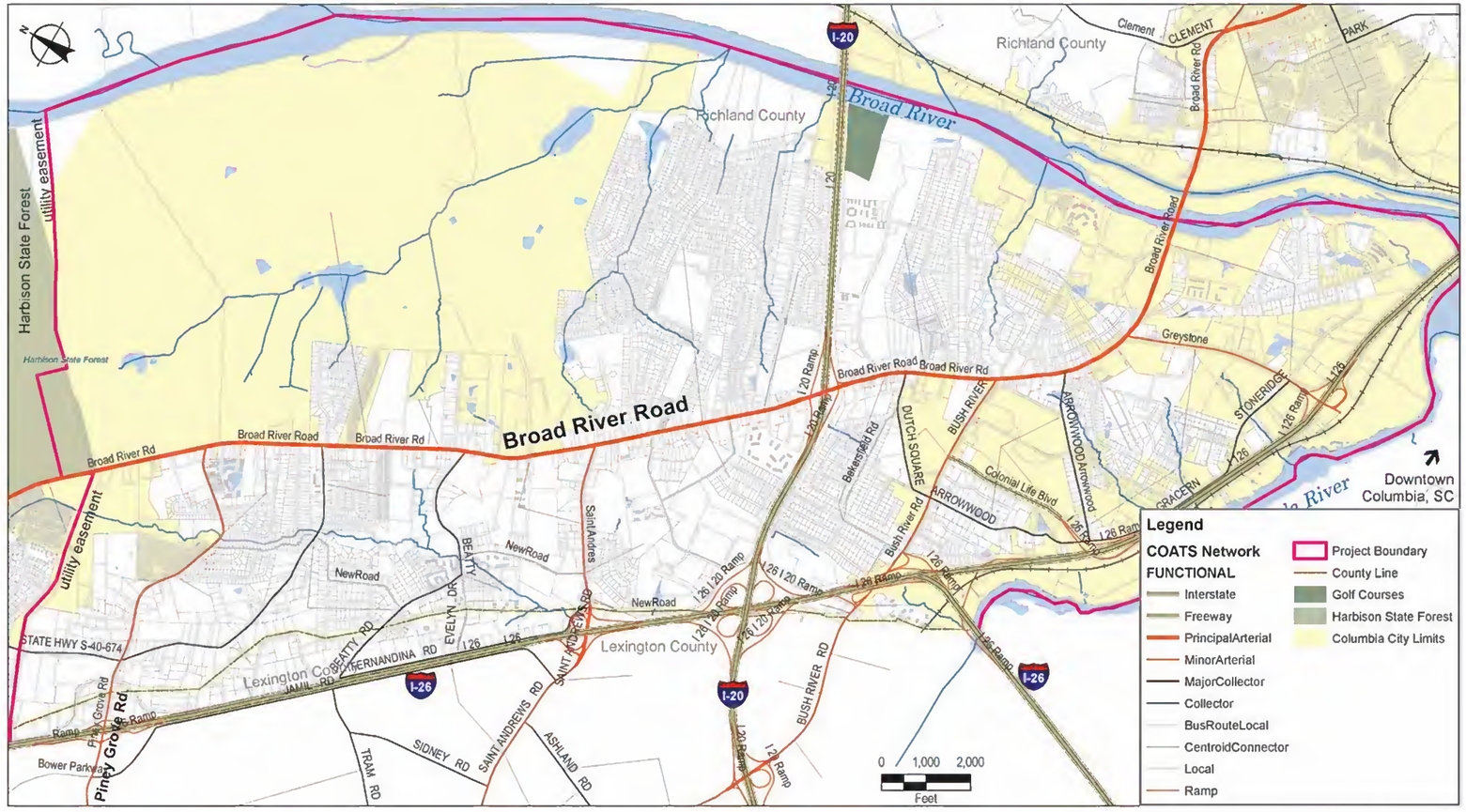
ROADWAY CAPACITY

This section will frame the design issue for the Broad River Road corridor by reviewing traffic counts to understand where the pressure for additional traffic capacity is or is not needed. A major result of this research should be the determination of whether or not Broad River Road should be redesigned to accommodate more or less traffic.

Functional Classification

Functional classification defines a thoroughfare's function in a network, how it should operate and governs the selection of certain design criteria such as design speed, travel lane width and level of land access.

Broad River Road is classified as a principal arterial (Figure 2). Arterials, as defined in A Policy on the Geometric Design of Highways and Streets (The Green Book by AASHTO 2004), are intended to provide the highest level of service at the greatest speed for the longest uninterrupted distance with some degree of access control. Arterials, therefore, provide higher levels of vehicle mobility and lower levels of land access. These competing issues are discussed in greater detail later in this report.



IBI GROUP

Broad River Road Corridor Study

Central Midlands Council of Governments / Columbia, South Carolina

Figure 2 COATS Transportation Network

The following major thoroughfares in the study area are classified as minor arterials:

- Greystone Boulevard
- Bush River Road
- St. Andrews Road
- Piney Grove Road

Piney Woods Road, Beatty Road, Dutch Square Boulevard, Arrowwood Road and Stoneridge Road are all classified as collectors. Colonial Life Boulevard is classified as a freeway, while all other thoroughfares in the area are local roads.

Collectors provide a less highly developed level of service at a lower speed for shorter distances than arterials, by collecting traffic from local roads and connecting them with arterials. Collectors specifically balance vehicle mobility and land access.

Local roads primarily provide access to land with little or no through movement.

Traffic Volumes

Regional traffic for the area was obtained by the South Carolina Department of Transportation (SCDOT) and the Central Midlands Council of Government (CMCOG), in the form of average annual daily traffic (AADT) or total volume of vehicle traffic on a thoroughfare for a year divided by 365 days. Table 1 provides this data for major roads in the area for the years 2003-2008. Table 2 presents the % change in traffic for each year. Most increases or decreases were minimal given the high volumes reported, further supported by the 6-year average. Subtle changes in traffic are likely the result of transportation improvements shifting movement from one corridor to another within the region, while overall volumes remained the same.

Route Name	From	To	2003	2004	2005	2006	2007	2008
Broad River Rd	North	Piney Grove Rd	17,300	16,700	15,300	15,700	17,100	17,100
Broad River Rd	Piney Grove Rd	St. Andrews Rd	21,400	20,600	19,500	19,300	20,600	21,100
Broad River Rd	St. Andrews Rd	Bush River Rd	39,200	39,200	36,800	36,800	34,400	34,600
Broad River Rd	Bush River Rd	Greystone Blvd	25,900	27,200	26,100	25,400	27,300	26,100
Broad River Rd	Greystone Blvd	Across River	24,100	23,900	23,000	23,800	21,900	22,700
Greystone Blvd	Broad River Rd	I-126	19,400	18,100	18,600	17,000	17,200	15,500
Piney Grove Rd	Lexington Co	Broad River Rd	6,900	5,700	5,300	5,900	5,900	6,000
Dutch Square Blvd	Arrowwood Rd	Bakersfield Rd	9,500	8,900	8,500	8,900	8,800	7,900
Bush River Rd	I-26	Broad River Rd	34,300	31,000	29,200	28,900	31,700	31,700
St. Andrews Rd	Lexington Co	Broad River Rd	21,700	19,700	17,900	18,400	19,200	19,000
Arrowwood Rd	Broad River Rd	Gracern Rd	950	950	1,000	750	900	950
Arrowwood Rd	Gracern Rd	Innsbrook Dr	3,000	3,000	3,000	2,800	3,100	2,900
Beatty Rd	Broad River Rd	Lexington Co	2,400	2,500	2,500	2,700	2,700	2,600
Piney Woods Rd	Broad River Rd	Broad River Rd	1,450	1,400	1,300	1,100	1,400	1,450
Bakersfield Rd	Morninghill Dr	Broad River Rd	1,250	1,050	1,150	1,100	1,300	1,150
Colonial Life Blvd	I-126	Bush River Rd	10,900	10,300	9,500	8,700	9,400	9,100
Stonebridge Dr	Gracern Rd	Greystone Blvd	5,600	5,400	5,300	5,200	5,000	4,900
Gracern Rd	Stonebridge Dr	Arrowwood Rd	4,400	4,100	4,200	4,000	3,900	3,900

Table 1: Broad River Road Corridor Area Annual Average Daily Traffic: 2003-2008
Data Source: South Carolina Department of Transportation and Central Midlands Council of Governments

Route Name	From	To	% Change 2003-2004	% Change 2004-2005	% Change 2005-2006	% Change 2006-2007	% Change 2007-2008	6 yr Average
Broad River Rd	North	Piney Grove Rd	-4%	-9%	3%	8%	0%	0%
Broad River Rd	Piney Grove Rd	St. Andrews Rd	-4%	-6%	-1%	6%	2%	0%
Broad River Rd	St. Andrews Rd	Bush River Rd	0%	-7%	0%	-7%	1%	-2%
Broad River Rd	Bush River Rd	Greystone Blvd	5%	-4%	-3%	7%	-5%	0%
Broad River Rd	Greystone Blvd	Across River	-1%	-4%	3%	-9%	4%	-1%
Greystone Blvd	Broad River Rd	I-126	-7%	3%	-9%	1%	-11%	-4%
Piney Grove Rd	Lexington Co	Broad River Rd	-21%	-8%	10%	0%	2%	-3%
Bush River Rd	I-26	Broad River Rd	-11%	-6%	-1%	9%	0%	-2%
St. Andrews Rd	Lexington Co	Broad River Rd	-10%	-10%	3%	4%	-1%	-2%
I-20	I-26	Broad River Rd	1%	0%	3%	1%	-4%	0%
I-20	Broad River Rd	Monticello Rd	1%	0%	3%	2%	-4%	0%
I-26	I-20	I-126	1%	-1%	1%	-2%	-4%	-1%
I-126	I-26	S-2963	1%	0%	0%	-4%	-3%	-1%
I-126	S-2963	Greystone Blvd	1%	0%	0%	-3%	-3%	-1%
I-126	Greystone Blvd	US 21	1%	-1%	0%	-2%	-3%	-1%

Table 2: Broad River Road Corridor Area Annual Average Daily Traffic % Change: 2003-2008
Data Source: South Carolina Department of Transportation and Central Midlands Council of Governments

The following Figure 3 illustrates the latest 2008 traffic counts along the main Broad River Road corridor. These counts suggest a hearty amount of traffic for a four-lane facility.

The design of Broad River Road is the same for all the count stations shown in Figure 3 above (#1-5). Broad River Road at these locations (see Figure 4):

- Is classified as a principal arterial,
- Has two travel lanes in each direction of approximately 12' each.
- Includes a median turn lane of approximately 14' and
- Operates at a level of service D.

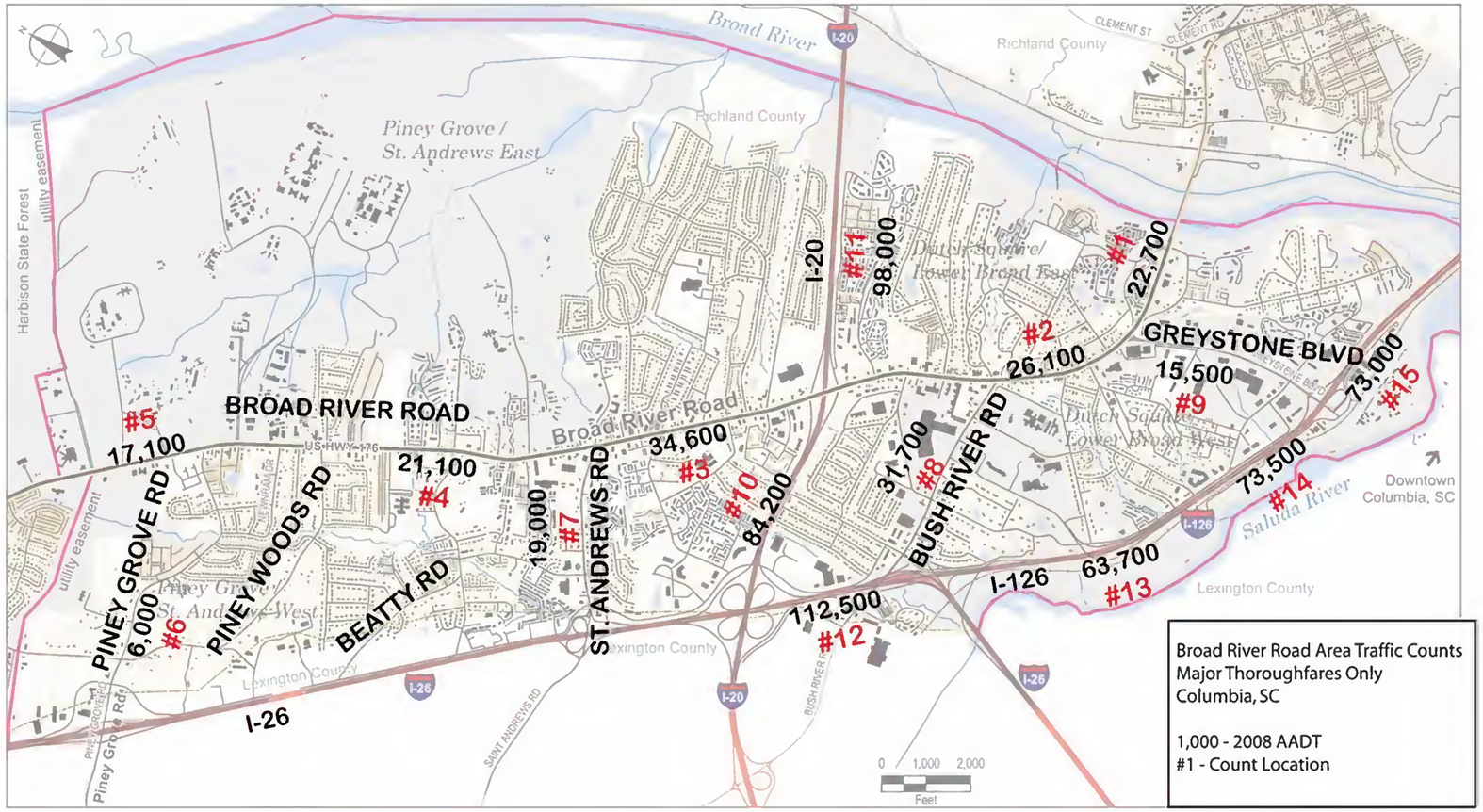


Figure 3: 2008 AADT

Broad River Road's total right-of-way width is approximately 62' from face of curb to face of curb. Note also in the cross section below a narrow sidewalk and lack of planting strips, buffering the pedestrian from vehicular traffic – the issues caused by this are discussed later in the report as they relate to the walkability of the corridor. Buildings are set back generously from the roadway, most in excess of 25' with parking in front of or to the sides of buildings. As noted above, Broad River Road's AADT ranges from 17,100 to 34,600. Without additional network to distribute this traffic on, a four lane cross section is warranted for capacity.

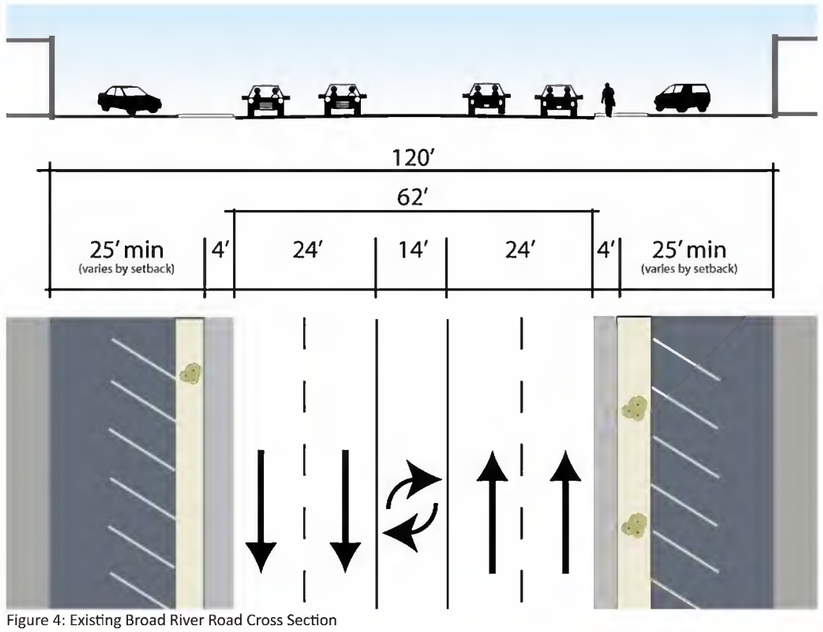


Figure 4: Existing Broad River Road Cross Section

Greystone Boulevard (count station #9 on Figure 3) is a 60' wide minor arterial with five lanes of travel, two trough lanes in each direction and a center two way turn lane (TWLTL) (see Figure 5). This is a fairly wide cross section, yielding higher speeds and exceeding the amount of capacity needed for 15,500 ADT. There are no sidewalks along Greystone Boulevard and drainage is accommodated with a swale. Buildings are set back significantly from the travelway and are separated from the thoroughfare by a large grass buffer and parking lots.

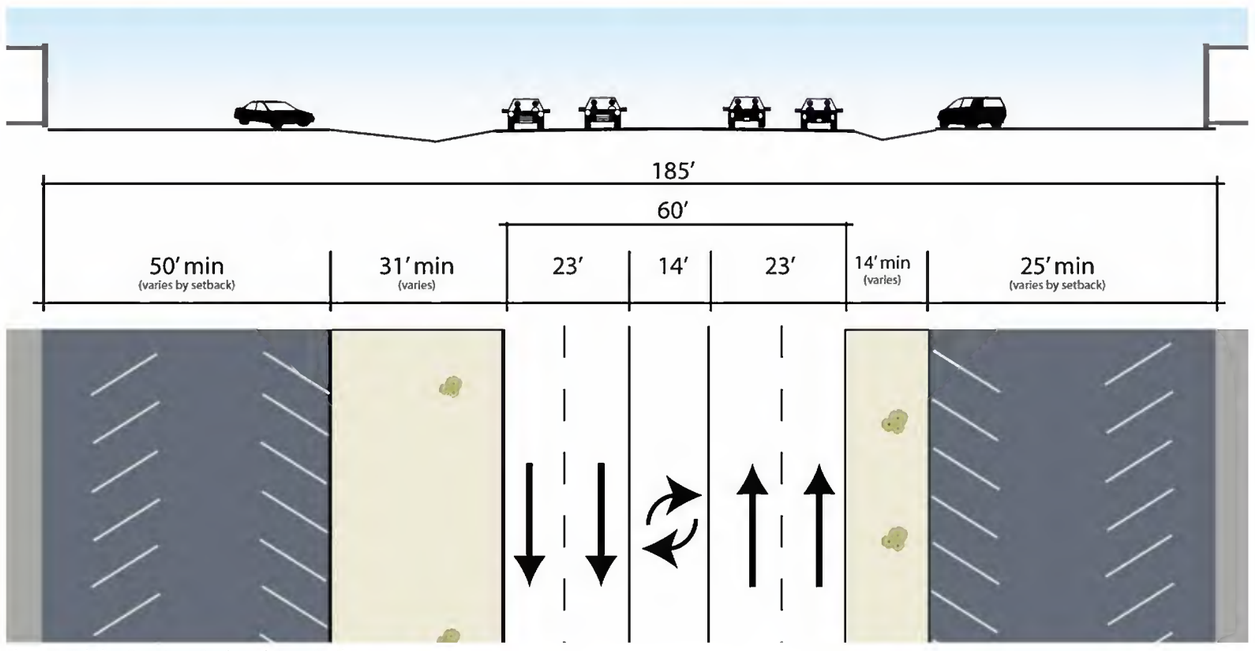


Figure 5: Existing Greystone Boulevard Cross Section

Bush River Road (count station #8 on Figure 3) is a 46' wide arterial with two travel lanes in each direction and no median (see Figure 6). An ADT of 31,700 requires four lanes of capacity without an expanded network of streets. There is minimal sidewalk and planting treatment and drainage is by curb and gutter. Buildings are substantially set back from the street, separated by a large grass buffer and parking lots.

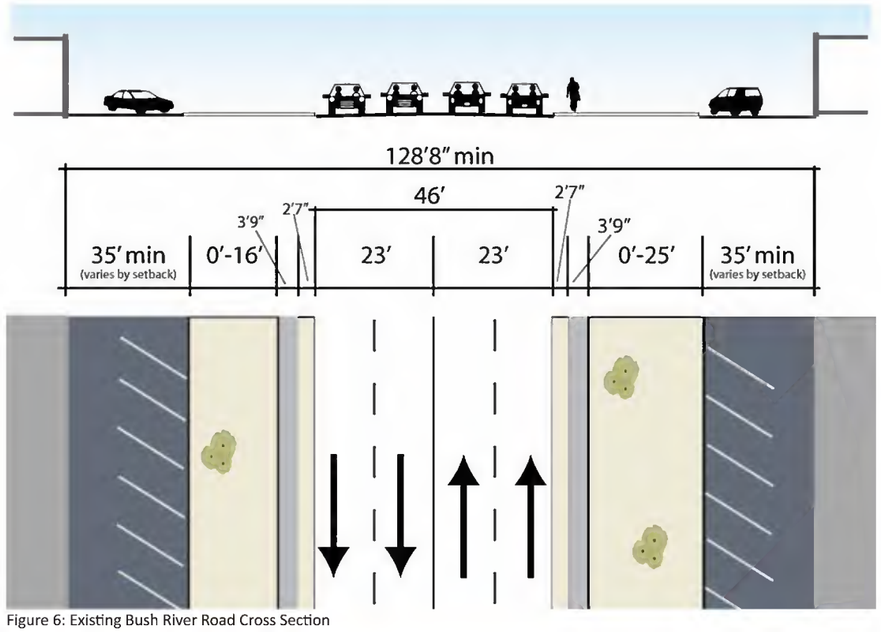


Figure 6: Existing Bush River Road Cross Section

St. Andrews Road (count station #7 on Figure 3) is a 64' wide urban arterial with five travel lanes, two trough lanes in each direction and a center TWLTL (see Figure 7). This design may be exceeding the capacity required for 19,000 ADT. St. Andrews Road has decent sidewalk treatment (5') and has curb and gutter drainage. Buildings are set back and separated from the travelway by grass buffers and parking lots.

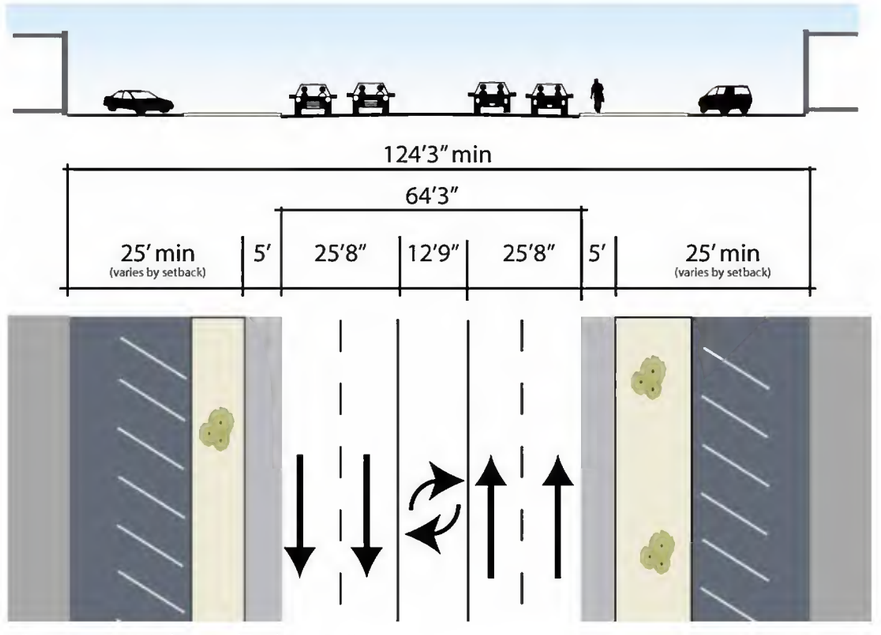


Figure 7: Existing St. Andrews Boulevard Cross Section

Piney Grove Road (count station #6 on Figure 3) is a 23' wide arterial throughout most of the study area, with rural characteristics such as swale drainage, no sidewalks and curvy design. There is one travel lane in each direction, providing ample capacity for the 6,000 ADT noted in 2008 (see Figure 8).

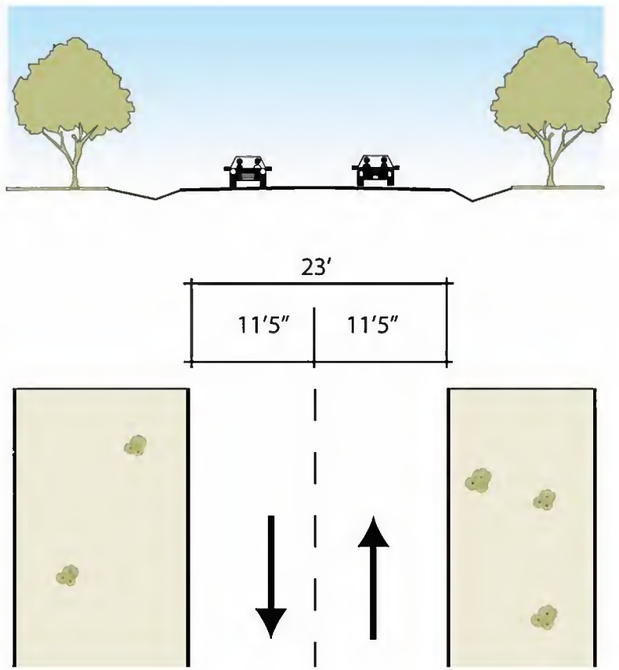


Figure 8: Existing Piney Grove Road Cross Section

Beatty Road and Piney Woods Road are other important collectors in the study area. Beatty Road is a two-lane section with 21' of width (Figure 9). Piney Woods Road is 21' in width, also with two travel lanes, one in each direction (Figure 10). Both streets lack sidewalks and curb and gutter drainage.

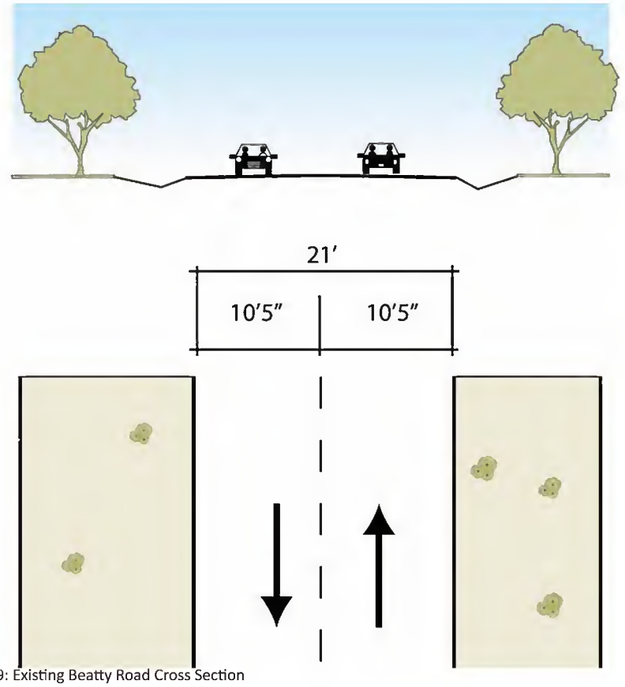


Figure 9: Existing Beatty Road Cross Section

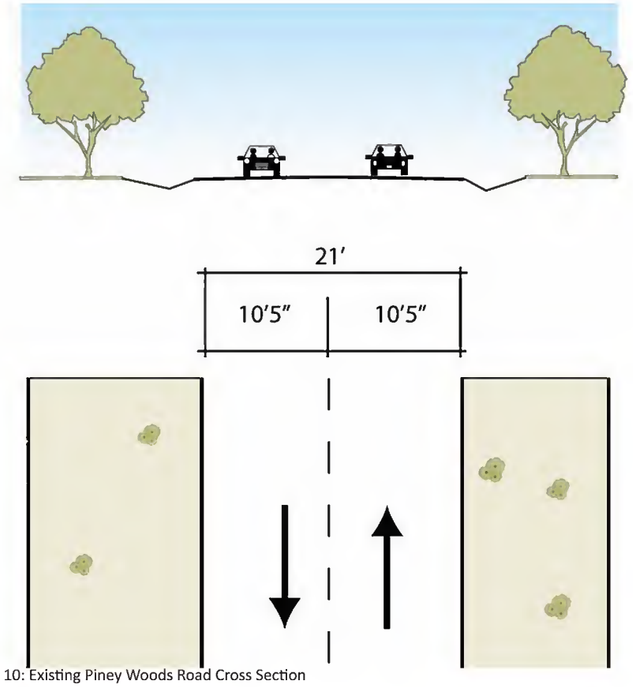


Figure 10: Existing Piney Woods Road Cross Section

TRAFFIC CIRCULATION PATTERNS

The arterial of Broad River Road complements the parallel interstate, I-26, vehicular traffic flow into and out of downtown Columbia. Broad River Road also serves to carry vehicular traffic to and from downtown for the intersecting interstate, I-20.Multiple collectors feed vehicular traffic to Broad River Road from I-26: Greystone Boulevard, Bush River Road, St. Andrews Road and Piney Grove Road.

From observation of traffic and network character, users on Broad River Road are making more local daily shopping and commuting trips, as well as some travel through the area, but to a much lesser degree. Interstate 26 carries a higher proportion of long distance trips.

Hourly turning movement counts for several locations along Broad River Road were recently taken, providing the design team with greater understanding of the area's traffic circulation patterns.

Counts are available for the Broad River Road intersections at Greystone Boulevard, Bush River Road, I-20 Eastbound, I-20 Westbound and St. Andrews Road. Graphing the three daily peak hours (AM, Midday and PM) illustrates that the corridor has two distinct travel patterns. The first, in certain areas it is clear that Broad River Road functions as a commuter corridor, with slightly greater peak volumes in the morning and evening work commute hours than driving other periods of the day (see Figures 11-15). These directional peak volumes are reciprocated in the other work commute time. For example, most vehicles are traveling eastbound in the AM peak hour and return westbound during the PM peak hours, except at I-20 westbound. Ideally, the corridor would be utilized more fully throughout all periods of the day to more efficiently spread daily vehicle capacity. These two peaks throughout the day, though minimal, indicate the inefficient use of the corridor during other periods of the day, but the trend is an important one from a design consideration. The design of Broad River Road will have to continue to accommodate the larger peak volumes, even if its AADT is considered low enough for a reduction in lanes.

A second travel pattern is evidenced in the counts. In other count locations the travel flows are heavy in both directions indicating that traffic is specifically attracted to the region for employment or shopping. The spread of traffic throughout the day is not wide enough, however, to consider a reduction in lanes.

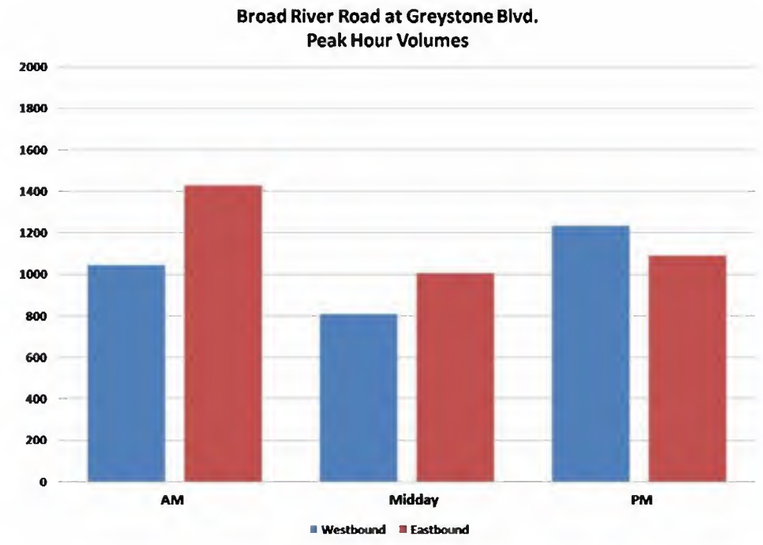


Figure 11: Traffic Profile at Broad River Road and Greystone Boulevard

Figure 11 illustrates the AM eastbound dominance towards the downtown Columbia area at Greystone Boulevard, with just over 1,400 vehicles utilizing the two lanes in the AM peak hour. The eastbound direction remains slightly heavier than the westbound during the midday hours. PM peak hour travel is only slightly heavier in the westbound direction, which might indicate that commuters utilize more hours in the PM for returning in the other direction. The heavy midday and PM eastbound flow is also a likely result of traffic being attracted to the Broad River Road employment centers from downtown, in stark contrast to the traditional pattern of commuting to the downtown central business district, seen in many suburban areas around the country.

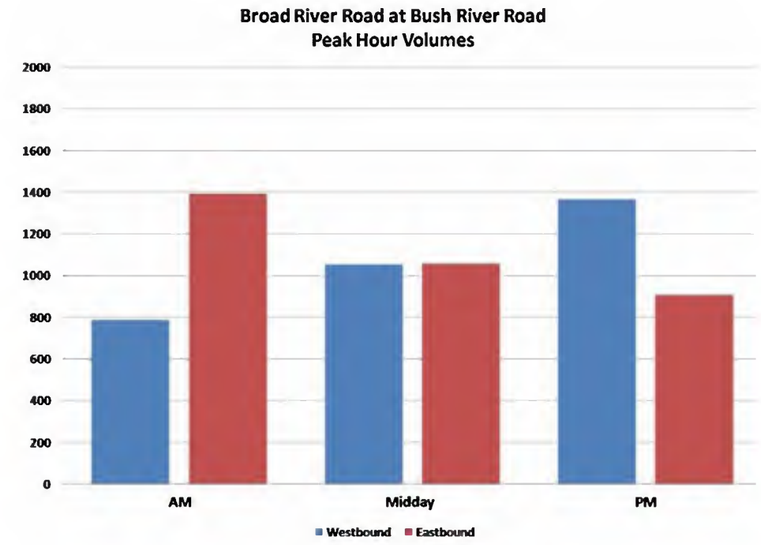


Figure 12: Traffic Profile at Broad River Road and Bush River Road

The counts taken at Bush River Road illustrate a more normal commuting pattern (Figure 12). There is a much heavier AM eastbound flow and a reciprocal PM westbound flow; both at nearly 1,400 vehicles in the peak hour. Midday traffic is pretty even in both directions.

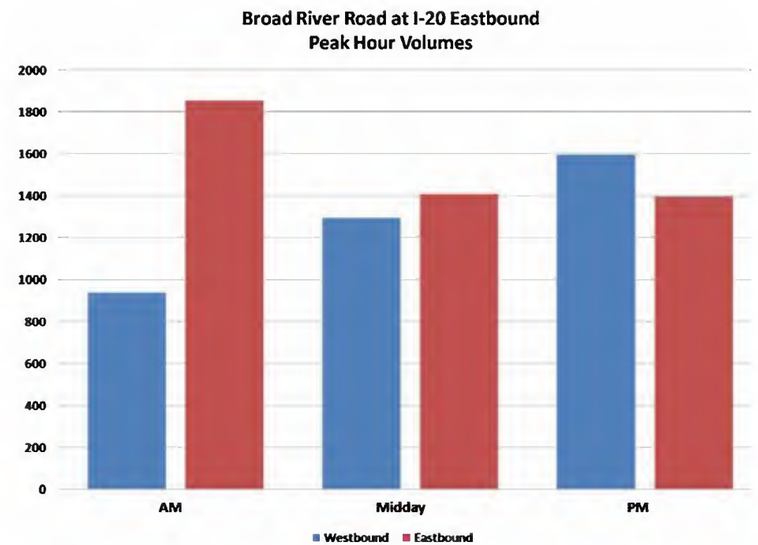


Figure 13: Traffic Profile at Broad River Road and I-20 Eastbound

Figure 13 illustrates that traffic remains relatively flat between midday and PM peak, with a fairly heavy eastbound flow. Again, this is likely the result of large employment and shopping attractors in the eastern portion of the Broad River Corridor attracting trips to the area, as well as funneling them through to the downtown. The AM eastbound traffic at this count location is quite high – over 1,800, reinforcing the mix of travel patterns in this particular part of the corridor and implying a large amount of traffic is brought into the corridor from I-20.

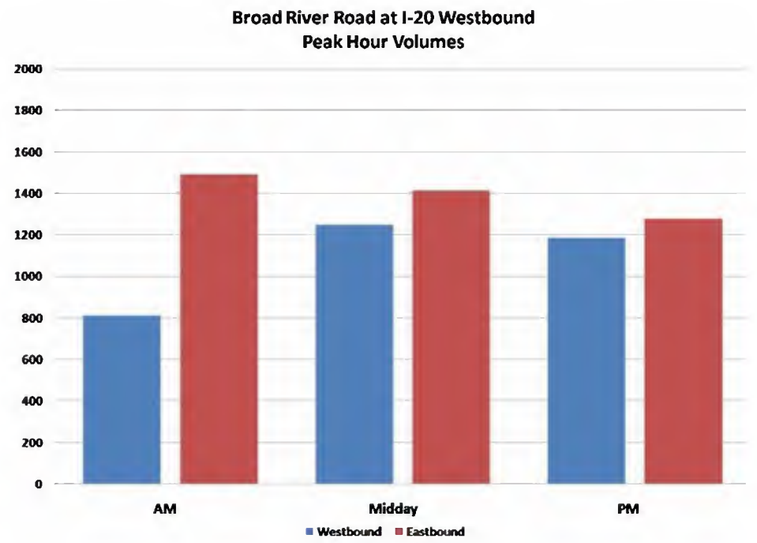


Figure 14: Traffic Profile at Broad River Road and I-20 Westbound

Figure 14 illustrates a slight trend to travel eastbound during all three periods of the day with overall traffic volumes remaining flat. This pattern is opposite of what is expected in a corridor functioning as a commuter feeder to the downtown area.

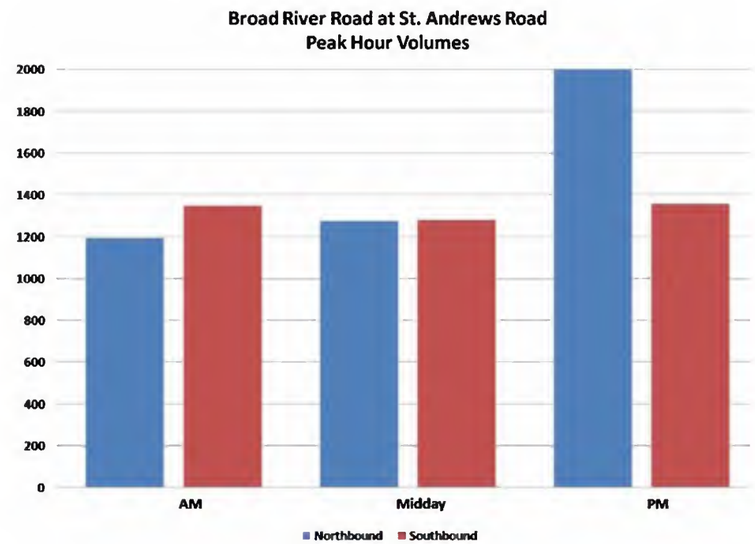


Figure 15: Traffic Profile at Broad River Road and St. Andrews Road

Figure 15 illustrates an interesting travel pattern. The AM peak hour volumes are more balanced in both directions suggesting a draw from I-20 to the Judicial complex and remaining flat throughout the midday. A spike in northbound traffic is seen in the PM peak, with 2,000 vehicles. This may be the result of a heavy concentration of traffic exiting the work place at the same time traveling toward suburban places north of St. Andrews Road. Daily traffic profiles available for I-20 and I-26 were reviewed to help better understand commuting patterns in the area. The following graphs (Figures 16-18) illustrate the occurrence of dual daytime commuting peaks.

The graphs indicate a heavy AM eastbound (into town) traffic flow and PM westbound (out of town) flow. These flow likely impact Broad River Road but forcing commuters to utilize the corridor during particularly congested times on the two interstates. Any improvements to providing better circulation on I-20 and I-26 during heavy commuter hours will positively impact travel on Broad River Road, as well.

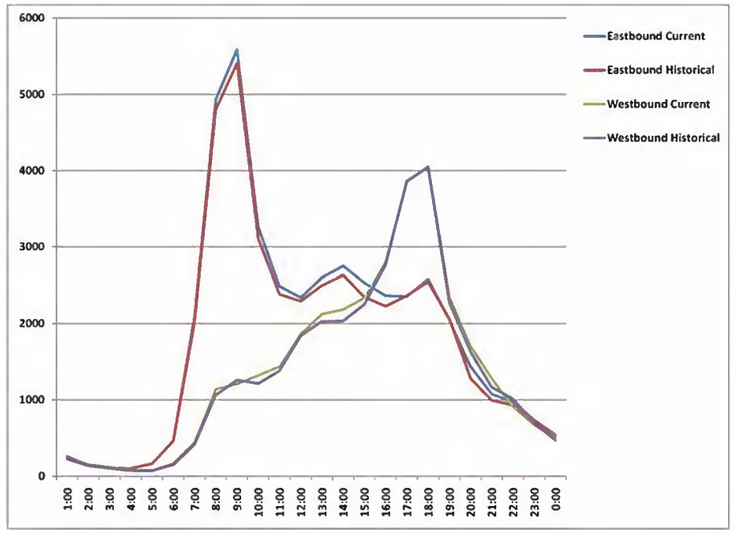


Figure 16: I-126 (Between Bush River and Greystone Blvd) Daily Traffic Profile

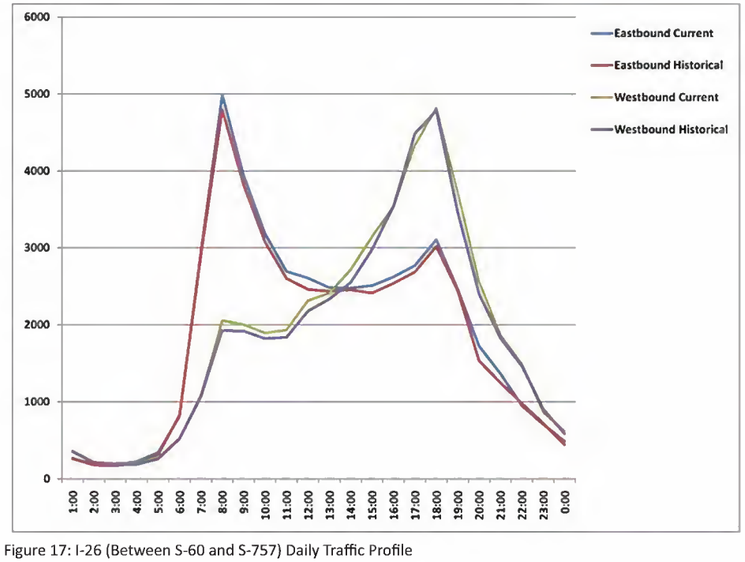


Figure 17: I-26 (Between S-60 and S-757) Daily Traffic Profile

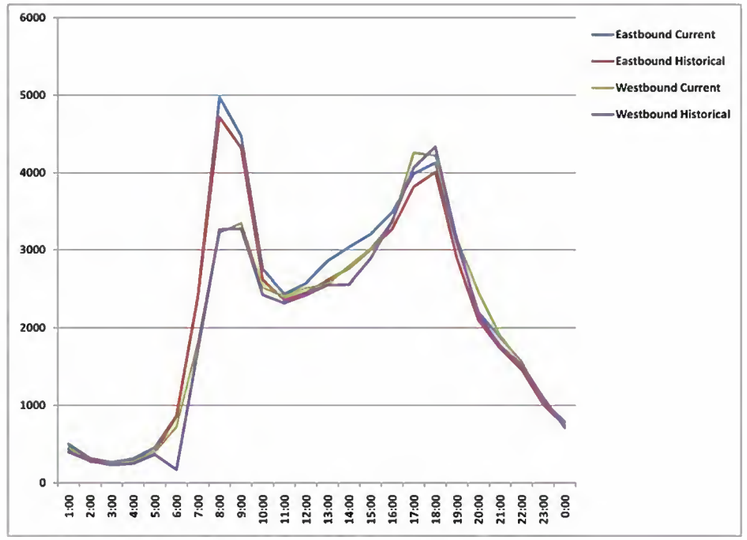


Figure 18: I-20 (near Broad River Road) Daily Traffic Profile

Recent Improvements

Broad River Road, according to an interview with SCDOT representatives, has been resurfaced recently from the Broad River Bridge to Kennerly Road.

Planned Improvements

The Columbia Area Transportation Study (COATS) 2035 Long Range Transportation Plan does not identify any widening projects in the Broad River Corridor area as priorities in its 30-year improvement plan for widening projects.

The Broad River Road Bridge is currently being replaced with pedestrian and bicycle considerations, along with a pedestrian ramp to the canal.

Projected Future Improvements

A focus group meeting with representatives from the SCDOT (Program Manager and the Mass Transit Division) yielded a discussion about ways the State is trying to address congestion issues on the Interstates (I-26 and I-20). Any improvements, especially to the parallel commuter system of I-26, will have a positive impact on Broad River Road's traffic capacity and redevelopment efforts

Relevant Studies

A number of local transportation studies and report have been developed that have significant relevance to transportation improvements strategies affecting Broad River Road. They are reviewed herein.

Midlands Tomorrow: 2035 Long Range Transportation Plan

The Midlands Tomorrow: 2035 Long Range Transportation Plan (LRTP) is the Columbia metropolitan area's regional, long term transportation plan, developed, maintained and administered by the Central Midlands Council of Governments (CMCOG). The CMCOG is designated by the Governor of South Carolina as the Metropolitan Planning Organization for the urbanized Columbia area, referred to as the Columbia Area Transportation Study (COATS).

The LRTP is a multi-modal 30-year vision plan, anticipating future transportation needs for the region based on demographic and economic forecasts. It serves as a guide for local, state and federal resources and will become a component of the South Carolina Statewide Transportation Improvement Program (STIP). As eligible to receive federal funding, the LRTP meets the requirements of federal law authorizing the adoption of a long range transportation plan.

The LRTP, adopted in December 2008, covers the 1,100 square-miles COATS planning area, comprising most of Richland and Lexington counties, small portions of Kershaw and Calhoun counties and twelve municipalities.

The LRTP's vision is printed below:

The paramount purpose of our transportation system is to enhance and sustain the quality of life and economic vitality of the region. This will be accomplished through collaboration, sound development, maintenance, and management of a transportation system that meets the accessibility and mobility needs of people and goods in the region through safe, secure, environmentally prudent, and financially sound means. [1]

1 Central Midlands Council of Governments. Midlands Tomorrow: 2035 Long Range Transportation Plan. p.4. http://www.centralmidlands.org/COATS_pdf/COATS_FinalPlan_Rev_5-11-10.pdf.

Goals for the LRTP include the following:

- Consultation – consult with transportation partners and entities that provide guidance and input into the transportation planning process, identify critical transportation issues, and determine the principles for implementation.
- Mobility – promote efficient movement of people and goods across all modes of transportation.
- Accessibility – increase connectivity and provide better ways for people to reach important destinations easily.
- Safety – minimize accidents and fatalities on our roadways for all motorized and non-motorized users.
- Security – support homeland security and safeguard the personal security of all motorized and non-motorized users.
- Economic Vitality – provide an efficient, interconnected transportation system to advance and support the economic well-being of the region.
- Environment – protect and enhance the environment, support social justice, promote energy conservation, promote consistency between transportation improvements and local planned growth patterns.
- Finance – ensure by minimizing cost, wisely applying existing resources while seeking innovative funding sources, and expanding. [2]

The LRTP provides a list of objectives and strategies that will promote the long range vision and eight goals listed above. Those that most clearly influenced the Urban Design Plan for Broad River Road are listed below:

1. As they relate to socio-economics:
- Encourage regional collaboration and coordination amongst local jurisdictions in planning for future growth and development in the region.
- Promote economic vitality by investing in infrastructure improvements that increase the potential for job creation and retention, improve linkages between housing and employment opportunities, and support regional economic development strategies.
- Ensure that all citizens and communities within the Columbia Metropolitan Area are equitably served by the region's transportation system.
- Ensure that all programs, policies, and activities do not have disproportionately adverse effects on minority and low income populations and that all potentially affected communities are represented in the transportation decision-making process.

2 Ibid., p.5

2. As they relate to environmental mitigation:
- Promote sound growth principles that strengthen the connection between land use and transportation planning by encouraging street connectivity, neo-traditional neighborhood design, transit supportive development and bike and pedestrian accessibility.
- Identify and encourage the development of land use patterns
- that improve and support transportation efficiency, increase mobility and support alternative modes of transportation.
- Work with local governments to integrate these principles into their comprehensive plans and land development regulations.

3. As they relate to quality of life:
- Improve the transportation system to accommodate bicycle and pedestrian access along roadways.
- Partner with SCDOT in making pedestrian and bicycle travel a routine part of every roadway project.
- Require transportation projects to include bicycle and pedestrian considerations in order to be eligible for inclusion on the TIP.
- Encourage more cooperate land use and transportation policies
- Encourage land development regulations that require nonmotorized facilities, support bicycle and pedestrian connectivity, promote the efficient use of the existing transportation network, and foster regional coordination.
- Encourage local governments to update land development regulations to support bicycle and pedestrian connectivity and the efficient use of the transportation network through the inclusion of pedestrian facilities as a requirement of development and performance standards that promote multimodal access.

4. As they relate to transit:
- Encourage land development and travel patterns that support higher utilization of mass transit.

5. As they relate to highways;
- Balance investments between major improvements (road widening) and projects that make the existing transportation system safer and more efficient.
- Provide incentives in the TIP process for right-of-way preservation, access management and land use/ transportation planning integration.
- Use intersection improvements, signalization, access management and other congestion management tools effectively to provide relatively quick, relatively low-cost mobility improvements.

The LRTP provided specific recommendations for Broad River Road. For example, the LRTP noted that wide sidewalks and bikelanes should be included on the new Broad River Road Bridge. It also ranked the need to improve two intersections at Broad River Road, within this project's study area:
#17 - realign side streets and signalize at Riverhill Cr.
#21 – realign side streets and signalize at Meetze/Shivers Rd.

South Carolina Statewide Transportation Improvement Program

The South Carolina Statewide Transportation Improvement Program (STIP) is the State's six-year transportation improvement program for all projects or program areas receiving federal funding. The STIP includes projects that evolve from SCDOT planning processes, the Statewide Multimodal Transportation Plan, and MPO and COG long-range plans.

The State's current document is the 2010–2015 STIP, covering the six-year period beginning October 1, 2009, which is the beginning of the 2010 federal fiscal year, and ends September 30, 2015. The document and process of developing the STIP meets the requirement of the Safe, Accountable, Flexible, Efficient and Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA-LU was enacted August 10, 2005, and provides federal funds for transportation projects.

The only study area project on the current STIP is the Broad River Bridge replacement. Approximately $25 million was spent on construction in the previous STIP and $205,000 is allocated for fiscal year 2010 for engineering, design and environmental analysis.

COATS Transportation Improvement Program 2006-2012

The Transportation Improvement Program (TIP) is a seven-year program of transportation capital projects, together with a seven-year estimate of transit capital and maintenance requirements. The majority of the projects in the TIP are aimed at increasing the efficiency and safety of the existing transportation systems rather than construction of new facilities.

There are no improvement projects currently listed in the TIP for Broad River Road.

COATS Unified Planning Work Program for Transportation Planning FY2009/2010

The fiscal year 2009/2010 Unified Planning Work Program (UPWP) incorporates, in one document, all transportation planning and directly supporting comprehensive planning activities in Columbia Metropolitan area. It is intended to provide a mechanism for the coordination of planning efforts by local, State, and regional agencies through the Columbia Area Transportation Study (COATS). It identifies the transportation planning activities which are to be undertaken in the COATS study area in support of the goals, objectives and actions established in the 2035 Long-Range Transportation Plan.

Initiation of the Broad River Corridor and Community Study was listed as a major accomplishment of the 2008-2009 UPWP and was carried over for completion in the current UPWP.

Central Midlands Regional Transportation Authority Comprehensive Study

The Central Midlands Regional Transportation Authority (CMRTA) has recently completed a comprehensive study aimed at assessing the state of its transit operations and management. This comprehensive effort consisted of three concurrent studies: a Comprehensive Operational Analysis (COA) of fixed route services, a Contract-Operator Management Performance Review (MPR) and a County-wide Park-and-Ride Study (PRS).

The COA is described in greater detail in the following "Transit" section of this report, specifically as recommendations relate to the Broad River Road corridor. Briefly, the objective of the COA was to identify near-term, short-range and long-range service recommendations that would boost ridership. The analysis utilized a multi-pronged approach that incorporated data collection and field work, staff and public input and a latent demand analysis.

A number of common issues arose that become the focus for what the future-year recommendations would need to accomplish in order to increase ridership, improve service and expand opportunities for residents to use transit. They are grouped in the three following major themes:
1. CMRTA fixed-route service needs to be more reliable.
2. CMRTA fixed routes need to connect more places together.
3. CMRTA fixed-route services need to be accessible to more of the community.

The MPR was conducted to help CMRTA provide efficient services within the financial resources provided to the agency, by reevaluating its core business. The approach taken was to first analyze the agency's method of service delivery to determine if further efficiencies can be realized by employing innovative service delivery strategies that fit CMRTA and, then to develop recommendations to establish the most appropriate management structure to implement the recommendations made in the COA. The report compares SMRTA's fixed-route system to peer communities, historical performance trends are presented, followed by findings from a paratransit service review and bus maintenance audit. Service delivery options are provided, along with a recommended organizational structure for CMRTA. This was management-level review, with no specific recommendations affecting the Broad River Road corridor.

The PRS analyzed 47 potential park-and-ride facilities for CMRTA, which currently does not have any designated park-and-ride facilities in the service area. The analysis applied the following basic guidance for suburban transit services and facilities:
- The easiest and most inexpensive strategies for providing high quality transit services in suburban areas are the extensions of city routes on arterial streets with occasional park-and-ride facilities.
- Near expressways, the preferred strategy is to develop a network of larger park-and-ride facilities with direct express services to the central business district. Ideally, the park-and-ride lots would be located within close proximity of the of the highway interchange.
- A single large lot is superior to a number of smaller lots within a single market area, providing the "critical mass" necessary to support higher quality transit service.

Near the Broad River Road corridor study area, potential park-and-ride site was recommended for I-26 at St. Andrews Road, as part of the Newberry Corridor. This site has a large population within the 50 percent catchment area (2.5 miles of each site), was within close proximity to the CBD and was within 1 mile of a freeway. It is further proposed that a direct service originate at the park-and-ride lot at St. Andrews Road that would proceed to downtown Columbia via I-26 and I-126.

ACCESS MANAGEMENT

Broad River Road has developed like many arterial corridors throughout the United States; with multiple lanes and frequent commercial driveways, often leading to congested conditions. Broad River Road is required to carry all types of motor vehicle trips whether long range or short distance access trips. In fact, there is a driveway nearly every 100 feet between Bush River Road and Seminole Road, with even more in some areas (see Figures 19-22). The SCDOT Access and Roadside Management Standards require 220' of driveway spacing on a 35mph street carrying more than 2000 vehicles per day. By that criteria, a large majority (upwards of 80% based on a preliminary aerial review) of driveway access along the Broad River Road corridor study area does not meet SCDOT standards, for typically suburban adjacent land development. A full hierarchy of streets is needed to deal with these different functions, supported by the manual of highway design by the American Association of State Highway and Transportation Officials (AASHTO). In a situation like Broad River Road, congestion and crashes occur because slower speed access trips are placed on a high speed arterial. Departments of Transportation are undertaking efforts to better manage access along these types of arterials. Access Management limits and consolidates access along major roadways, while promoting a supporting street system and unified access and circulation systems for development. The intended result is a roadway that functions safely and efficiently. The Transportation Research Board (TRB) suggests that by "managing roadway access, government agencies can increase public safety, extend the life of major roadways, reduce traffic congestion, support alternative transportation modes, and even improve the appearance and quality of the built environment." The TRB further states, "without access management, the function and character of major roadway corridors can deteriorate rapidly. Failure to manage access is associated with the following adverse social, economic, and environmental impacts:

- An increase in vehicular crashes,
- More collisions involving pedestrians and cyclists,
- Accelerated reduction in roadway efficiency,
- Unsightly commercial strip development,
- Degradation of scenic landscapes,
- More cut-through traffic in residential areas due to overburdened arterials,
- Homes and businesses adversely impacted by a continuous cycle of widening roads, and
- Increased commute times, fuel consumption, and vehicular emissions as numerous driveways and traffic signals intensify congestion and delays along major roads."

The red hash marks roughly illustrate the location of driveways in Figures 19-22. A half hash indicates a driveway on one side of the street, while a full hash indicates drives exist on both sides of the street in approximately the same location.

Figure 19: Existing Driveways - Southern Portion

A heavy concentration of driveways between Brevard Street and Young Drive is shown in Figure 20 above. These driveways mainly access suburban style stand alone and strip center businesses. The multiple drives impede traffic flow in this area.

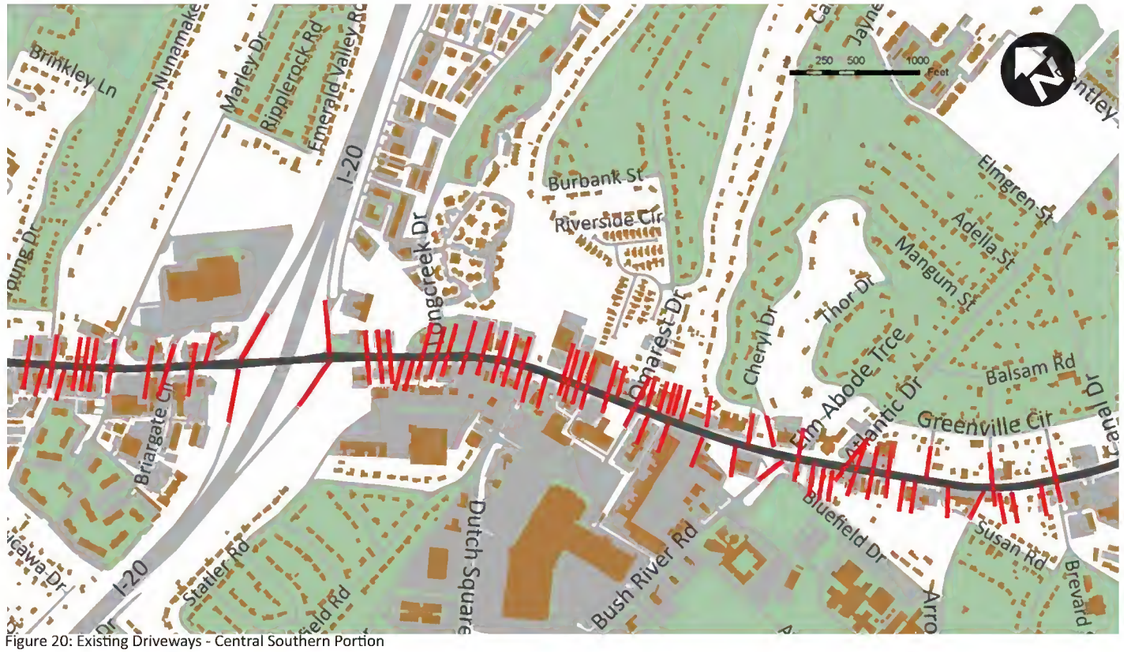


Figure 20: Existing Driveways - Central Southern Portion

Figure 21 illustrates a similar concentration of driveways, again, mostly to businesses and causing delay in vehicular traffic flows.

Figure 21: Existing Driveways - Central Northern Portion

Driveway spacing increases along the northeast portion of the corridor, where businesses are less frequent ad where the large Judicial complex is accessed my only a couple driveways. Traffic flows more smoothly along this stretch of corridor and at higher speeds.

Figure 22: Existing Driveways - Northern Portion

TRAFFIC SAFETY ACCIDENTS/ TRAFFICSIGNALS

Fortunately, there was only one (1) traffic-related death within the study area on Broad River Road in 2009. That occurred near the intersection of Broad River Road and Piney Woods Road and involved a pedestrian lying and/or illegally in the roadway. There were a number of accidents, however, reported in 2009. Those locations with more frequent crashes are shown in Table 3 below.

Major Intersection	# of Incidents	# of Injuries	Main Causes	Notes
Greystone Blvd	11	6	Too Fast for Conditions - 3 Failed to Yield to ROW - 3	
Bush River Rd	18	8	Too Fast for Conditions - 7 Failed to Yield to ROW - 4	
Omarest Dr	14	4	Too Fast for Conditions - 3 Failed to Yield to ROW - 6	One incident involving a pedacycle
Longcreek Dr	26	19	Too Fast for Conditions - 5 Failed to Yield to ROW - 11	One incident involving a pedestrian
Rushmore Rd	14	5	Too Fast for Conditions - 5 Failed to Yield to ROW - 3	One incident involving a pedestrian
Zimalcrest Dr	17	10	Too Fast for Conditions - 5 Failed to Yield to ROW - 9	
St. Andrews Rd	28	15	Too Fast for Conditions - 7 Failed to Yield to ROW - 10	
Piney Grove Rd	5	1	Too Fast for Conditions - 2 Under the Influence - 2	

Table 3: 2009 Crash Statistics
Data Source: South Carolina Department of Public Safety

The large number of accidents at Longcreek Drive and St. Andrews Road are likely the result of high traffic volumes. St. Andrews Road, for example, showed higher than average peak hour volumes (see Figure 16 above). Longcreek Drive's proximity to I-20 and short distance between signals (along Broad River Road) might also lead to the increase in incidents. Note that a majority of all accidents were the result of driving too fast for conditions (mostly on dry, clear days) and failure to yield to right of way. This indicates two important issues that must be addressed in the design and redevelopment of the corridor:

- Thoroughfare design recommendations must be made that encourage slower, safer driving speeds and
- The number of driveways must be considered to ensure potential right of way conflicts are kept at a minimum.

PEDESTRIAN CIRCULATION/ WALKABILITY CONDITIONS

"Walkability" is a term used in this effort to describe the extent to which places are comfortable for pedestrians, cyclists and transit users. Walkable places require a mix of uses, public spaces, a fine-grained network of connected streets that provides many options for travel, managed vehicle speeds and human-scaled development placing amenities and services within a ¼ mile radius of one's home. A walkable community is one that encourages the use of a mix of modes (pedestrian, bicycle, transit and motor vehicle). Walkable communities are created by a number of factors; a few are listed below:

- On-street parking
- Mixture of uses and densities
- Streets with managed speeds
- Connected network of streets
- Buildings fronting streets
- Sidewalks
- Narrow streets

Existing Walkability Conditions

A walkability audit of Broad River Road was performed on February 8, 2010 by HPE. This audit was conducted to assess the overall walkability of the corridor and utilized an extensive collection of data.

HPE measured the "walkability" of the Broad River Road corridor to assess total mobility, using an analysis tool called the Walkability Index. Grading a location's walking environment is basic to assessing its total mobility. Successfully applied in several cities, HPE's Walkability Index achieves a block by block, pedestrian level of service score. This score is highly related to bicycle and transit mobility potential for a given block.

Background

The HPE Walkability Index utilizes the Transect (or Context) theory to describe context zones, which organizes the natural, rural, suburban and urban landscape into categories of compactness, richness of design opportunity and street structure. One operating principle of the Transect is that elements of a certain type belong in certain environments; for example, an apartment building belongs in a more urban setting, and a house on a large lot belongs in a more rural setting. Some kinds of thoroughfares are urban (streets), and some are rural (roads). For the Walkability Index, HPE utilizes the Sub-urban (T3) to Urban Core (T6) zones for analysis purposes. These Transect zones are briefly described as the following:

- T3 Sub-urban consists of low density residential areas, adjacent to higher zones with some mixed use. Blocks may be large and the roads irregular to accommodate natural conditions.
- T4 General Urban consists of mixed use but primarily residential urban fabric and may have a wide range of building types: single, sideyard and rowhouses. Streets with curbs and sidewalks define medium-sized blocks.
- T5 Urban Center Zone consists of higher density mixed used buildings that accommodate retail, offices, rowhouses and apartments. It has a tight network of streets, with wide sidewalks, steady street tree planting and buildings set close to the sidewalks.
- T6 Urban Core Zone consists of highest density and height, with the greatest variety of uses, and civic buildings of regional important. It may have larger blocks, streets have steady street tree planting and buildings set close to the wide sidewalks. Typically only large towns and cities have an Urban Core Zone.

For the index, HPE carefully selected ten walkability criteria related to quality of the walking environment. These combined parameters were observed to effectively yield walkable places in over 40 urban design "charrettes" or community design workshops performed during the last two decades:

1. **Vehicle Speed** - Non-peak hour free flow speed, measured with a speed gun; at least 10 samples recommended; posted speed used as a minimum procedure

2. **Thoroughfare Width -** Street width at each pedestrian crossing, measured curb face to curb face

3. **Street Parking** - Presence of on-street parking, percent of a block face where on-street parking is provided and in use

4. **Sidewalk Width** - Full width of paved sidewalk, sensitive to context, per Transect Zones

5. **Pedestrian Connectivity** - The distance between street intersections or mid-block crossings, a measure of network density

6. **Pedestrian Features** - Presence and quality of pedestrian features of high quality versus low quality

7. **Street Enclosure** - The ratio of building height to street width

8. **Land Use Mix** - The presence of different, pedestrian attractive land use types; also Transect sensitive

9. Façade Design - The number of doors and façade character per block face

10. Transit/ Bicycle Features - The presence of bus shelters, stops, bicycle lockers and bicycle racks

On the Index data sheet or form (shown in Appendix A), walkability criteria are arranged in check-list style. After scoring in the field, results are tallied in a spreadsheet for comparison. Each criterion has a maximum score of 10, yielding a maximum score of 100 points. The following table shows total scores, graded per street segment.

90 - 100	High Walkability (A)
70 - 89	Very Walkable (B)
50 – 69	Moderately Walkable (C)
30 – 49	Basic Walkability (D)
20 – 29	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous to walking (F)

The scores from these ten criteria are tabulated and added to obtain a total score out of 100 points. A complete technical memo describing the Walkability Index can be found in Appendix A.

Results

The results of applying the HPE Walkability Index to the study corridor are an average of 29 points out of 100 (See Appendix B for full assessment). This indicates that the Broad River Road Corridor under study has "minimal walkability."

The following table shows scores for major blocks. The character and design of the thoroughfare is fairly consistent throughout the study area, yielding the consistent block scores demonstrated below. The worst performing segment exists between the two I-20 ramps (I-20 overpass), which is quite common. These locations are highly unwalkable, due to the lack of adjacent buildings and other speed management elements.

Segment		Walkability Measures Summary	
		Total	Grade
From	To		
River	Greystone Blvd.	26	E
Greystone Blvd.	Arrowwood Rd.	33	D
Arrowwood Rd.	Bush River Rd.	33	D
Bush River Rd.	Omarest Dr.	33	D
Omarest Dr.	Bakersfield Rd.	33	D
Bakersfield Rd.	Longcreek Dr.	33	D
Longcreek Dr.	I-20 EB Offramp	29	E
I-20 EB Offramp	I-20 WB Onramp	12	F
I-20 WB Onramp	Marley Dr./Briargate Cr.	33	D
Marley Dr./Briargate Cr.	Young Dr./Seminole Rd.	33	D
Young Dr./Seminole Rd.	Rushmore Rd.	28	E
Rushmore Rd.	St. Andrews Pkwy.	33	D
St. Andrews Pkwy.	St. Andrews Rd.	33	D
St. Andrews Rd.	Huffstetler Dr.	33	D
Huffstetler Dr.	Grove Park Ln.	33	D
Grove Park Ln.	Piney Grove Rd.	26	E

Table 4: Walkability Index Results for Broad River Road Existing Conditions

The following image (Figure 23) illustrates the results of the Walkability Audit on each block. Note that the least walkable conditions along the corridor are indicated in orange (Grade of E) and red (Grade of F).

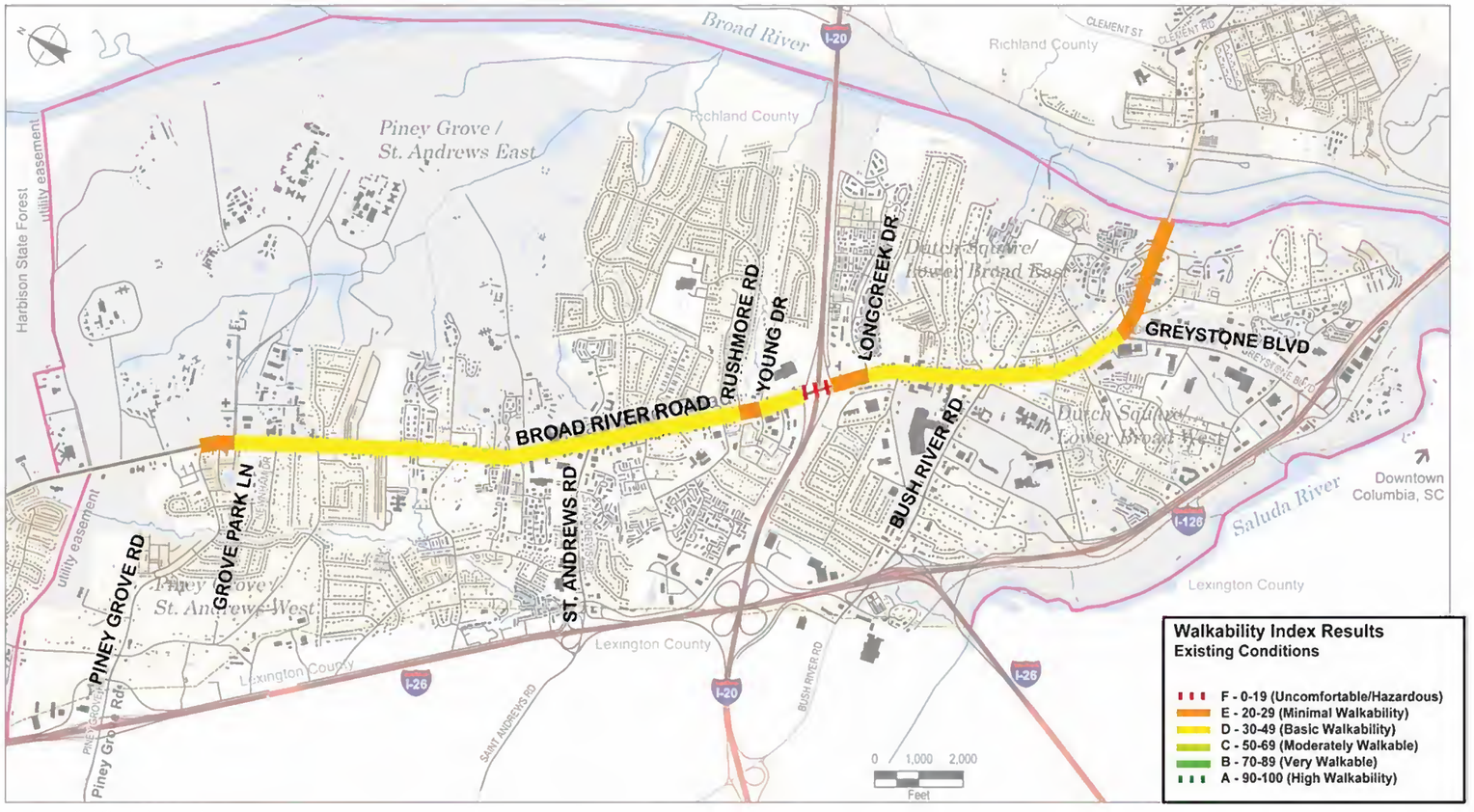


Figure 23: Walkability Index Results

The main design elements leading to this low level of walkability are narrow sidewalks, wide travel lanes, lack of building enclosure, minimal number of land uses. These elements all led to the observed high travel speeds, often in excess of 35mph, and are evident in nearly every segment of the study area.

These low scores negatively affect bicycling and transit ridership, as well. As noted earlier in the section, "walkability" is really a term used to describe the overall comfort of a thoroughfare to pedestrian, cyclists and transit users. Like pedestrians, bicyclists are more comfortable and safer in a setting with lower motor vehicle speeds, particularly when the cyclists are not greatly separated from motor vehicle traffic on a path. The lack of bicycle facilities along Broad River Road and high motor vehicle speeds on the thoroughfare itself lead to poor bicycling conditions.

Similarly, transit works best in locations where lots of pedestrians and bicyclists are present. Transit vehicles can really be characterized as a vehicle for moving groups of pedestrians. Transit stops and the area immediately surrounding them, therefore, must be walkable to encourage greater numbers of riders.

Pedestrian Crossings

Broad River Road has a number of actuated pedestrian crossings, which does minimally aid pedestrians in crossing the thoroughfare at key locations. With actuated crossings, pedestrians must activate a push-button to receive a "walk" and flashing "don't walk" indicator. They exist at the following intersections with Broad River Road (Figure 24):

- Greystone Boulevard
- Means Avenue
- Arrowwood Drive
- Bush River Road
- Omarest Drive
- Dutch Square Boulevard
- Longcreek Drive
- Marley Drive
- Seminole Road/Young Drive
- St. Andrews Parkway
- St. Andrews Road
- St. Andrews Terrace (non actuated/no signal)
- Shivers Road
- Piney Woods Road

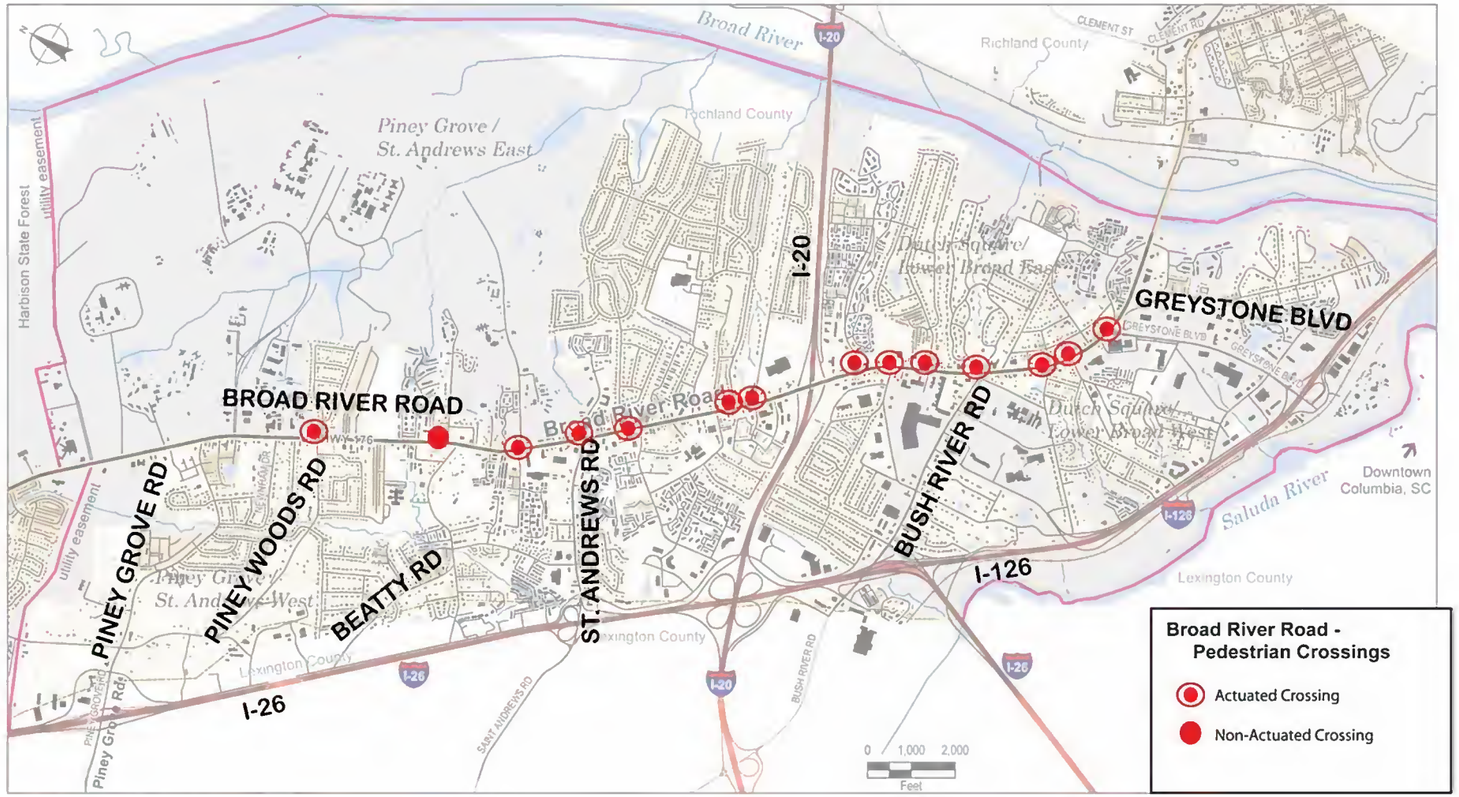


Figure 24: Pedestrian Crossings

TRANSIT ROUTES

Bus

Established in 2002, the Central Midlands Regional Transit Authority (CMRTA) provides bus transit in the Columbia area. Broad River Road and surrounding area is served by Routes 34-St. Andrews (shown in orange) and 36a/b – Crosstown (shown in light green), shown on Figure 25. Route 34 includes timed stops along Broad River Road at Bush River Road and St. Andrews Road with stops located in between. Route 36a/b has timed stops along Broad River Road at Bush River Road, St. Andrews Road and Piney Grove Road with stops in between.

Service operates on Route 34 between 5:49am and 8:40pm weekdays with headways of 60 minutes. Saturday service runs from 5:51am to 7:31pm with 60 minute headways.

Route 36A operates service from 7:35am to 6:28 during the week and on Saturdays with 60 minute headways. Route 36B operates from 8:20am to 7:09pm weekdays and on Saturdays with 60 minute headways.

None of these routes operate currently on Sunday.

CMRTA operates in a classic "hub and spoke" route system, focused on the downtown area. The system does have a dedicated transfer facility, however Route 36a/b does not always travel to the transfer facility, requiring users of that route to transfer along the street and the purchase of a Zone Pass.

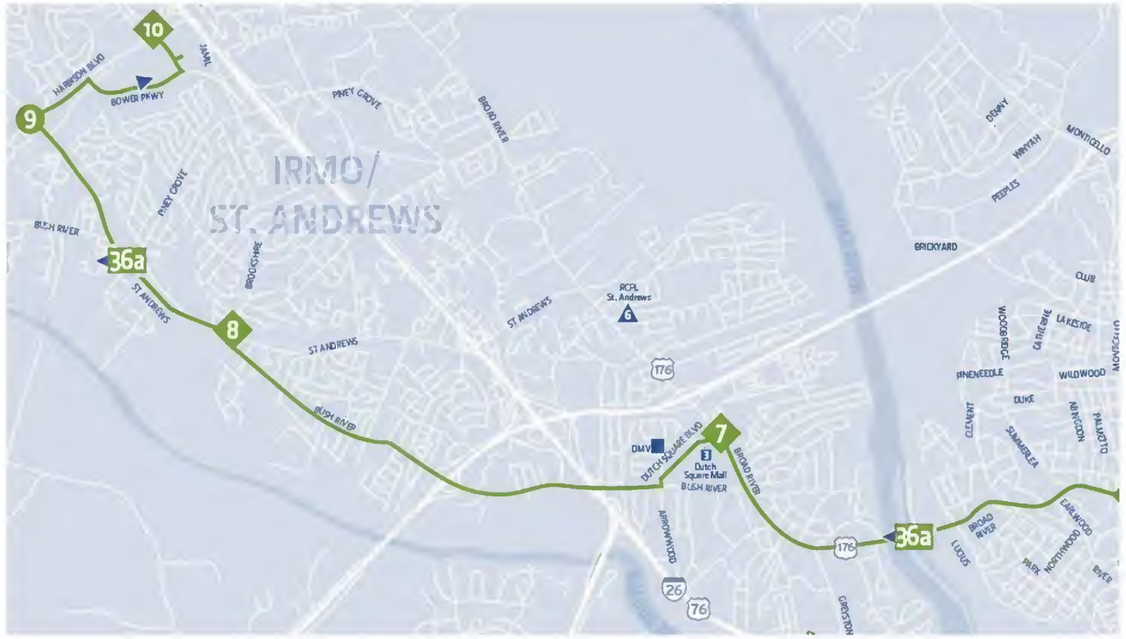


Figure 25b: CMRTA Broad River Road Area System Map – Route 36a

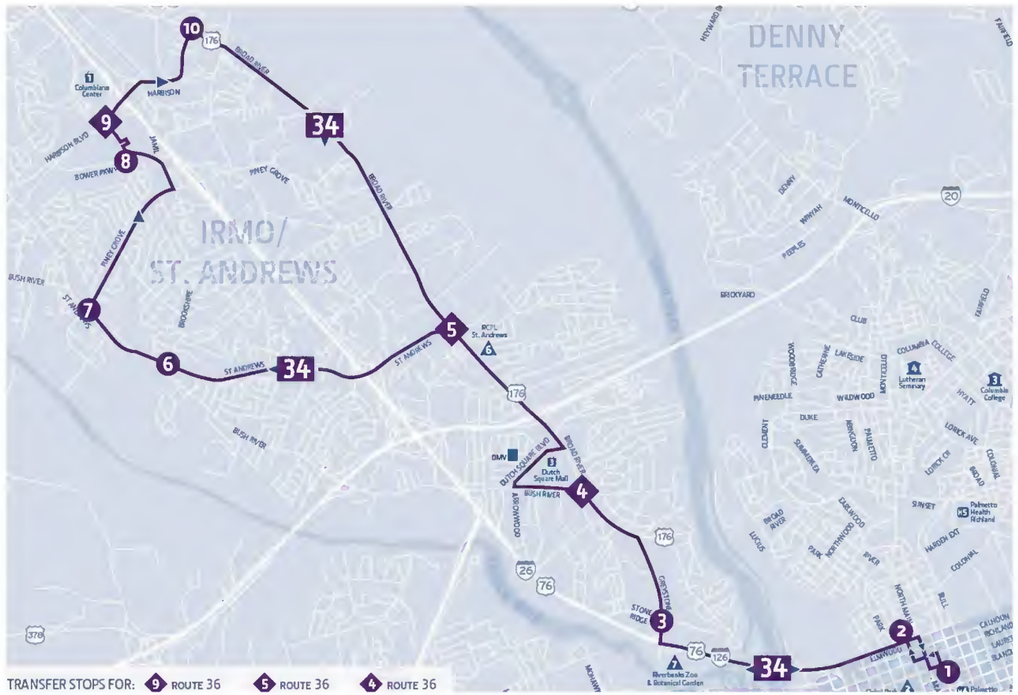


Figure 25a: CMRTA Broad River Road Area System Map – Route 34

Figure 25c: CMRTA Broad River Road Area System Map – Route 36b

There are a number of bus stops along Broad River Road and the surrounding area (see Figure 26).

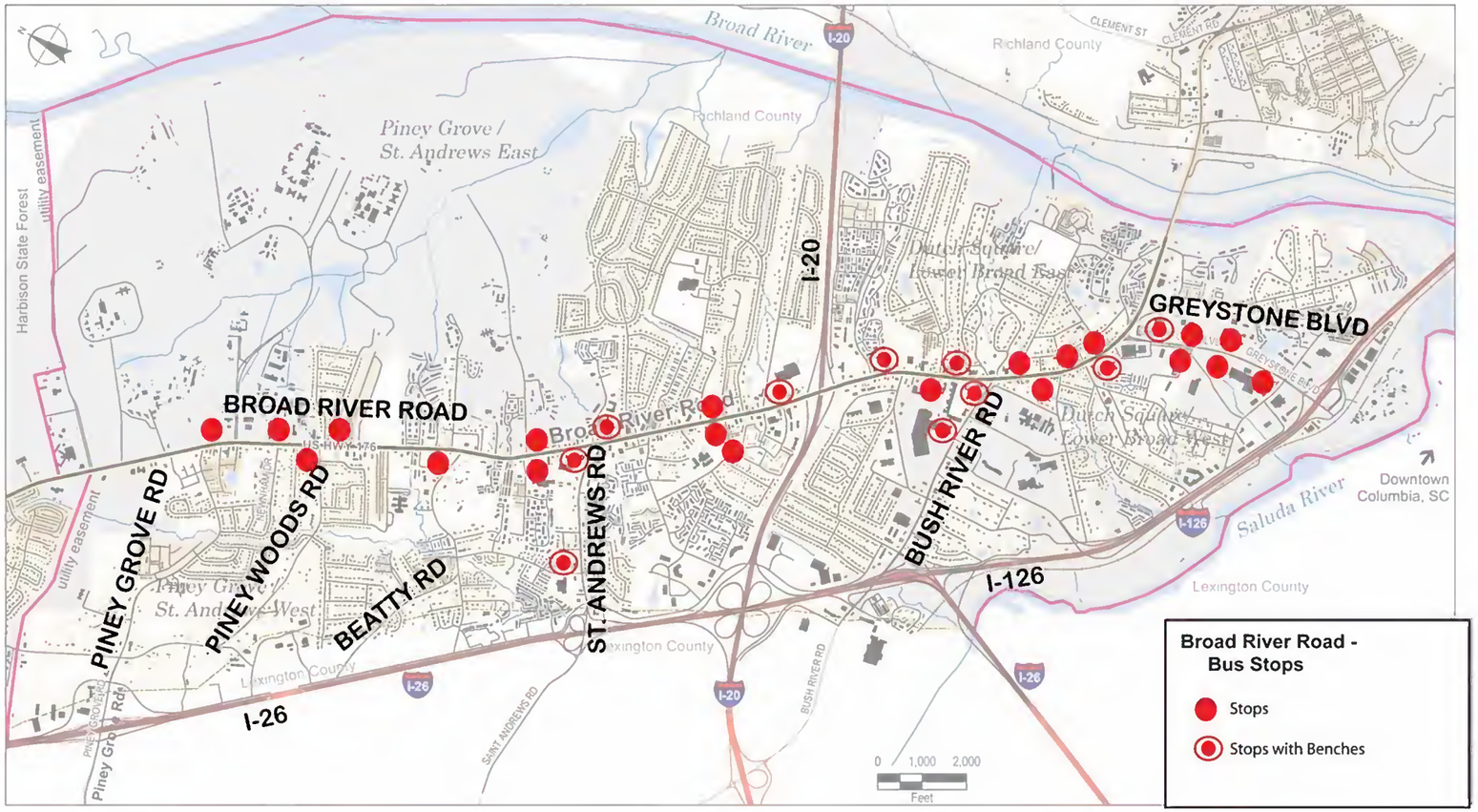


Figure 26: Bus Stop Locations

Westbound stops on Broad River Road are located at:

- Brevard Street
- Means Avenue
- Elm Abode Terrace
- Omarest Drive (with bench)
- Longcreek Drive (with bench)
- Marley Drive (with bench)
- Rushmore Road
- St. Andrews Road
- Shivers Road
- Piney Woods Road
- Newnham Drive
- Piney Grove Road

Eastbound stops on Broad River Road are located at:

- Brevard Street (with bench)
- Arrowwood Road
- Bush River Road (with bench)
- Omarest Drive
- Seminole Road
- St. Andrews Road
- Meetze Road
- Beatty Road
- Piney Woods Road

These bus stops provide minimal facilities and signage. Notice that only a few of those stops have benches and none are sheltered.

Completed in January 2010, the Comprehensive Operational Analysis (COA) indicated that CMRTA carries over 8,000 passengers each weekday, almost 4,000 every Saturday and almost 1,000 every Sunday. CMRTA had 2.4 million annual boardings, using a maximum of 36 standard buses. The COA noted a little over 500 weekday riders on Route 34 and 300 on Saturdays. Route 36a/b carries 400 weekday riders and about 260 Saturday riders.

The COA reviewed existing route service performance rankings for CMRTA's weekday, Saturday and Sunday service based on riders per bus-hour, riders per bus-mile and riders per bus trip. Route 34 ranked within the top quartile for all three service measures for weekday service. Route 36a/b ranked in the top quartile for only riders per bus trip for weekday and Saturday service.

The COA outlines recommendations for near-term, short-range and long-range service plans to increase usage among current riders, while attracting new riders. The near-term service plan focuses on improving reliability and is expected to increase ridership by 2%. Specific to the Broad River

Road study area routes, a near-term recommendation is to realign Route 34 to provide direct service between the Downtown Transfer Center (DTC) and the Columbiana/Harbison area. The COA proposes that Route 34's realignment is modified beginning on Broad River Road as follows: Broad River Road, Bush River Road, Arrowwood Road, Dutch Square Boulevard, Broad River Road, St. Andrews Road, Piney Grove Road, Bower Parkway, Park Terrace, Harbison Boulevard and Broad River Road. This proposed alignment provides a one-seat ride from the DTC to the Harbison area, and puts passengers on Broad River Road on a radial route.

The COA also provides near term recommendations for Route 36a/b. First, it recommends renaming Route 36a/b to Route 36 and realigns the portions of the route in the Broad River Road study area. It is proposed that the new Route 36 follow Harbison Boulevard, St. Andrews Road, Bush River Road, Arrowwood Road, and Dutch Square Boulevard to the proposed new Dutch Square transit center. This route would then continue via Broad River Road, Sunset Drive and Beltline Drive to Rosewood Drive. This realignment would provide two direction service along Bush River Road and St. Andrews Road and the existing Route 36 service on Broad River Road (north of St. Andrews Road) is replaced with the proposed new Route 34 service described above.

Short-range service plan improvements include enhanced service connectivity, along with improved reliability, and are expected to increase ridership by 63% to 3.9 million annual boardings. The underlying concept of the short-range plan improvements is to envision a new transit plan that provides the level of service and connectivity that would make transit an attractive and dynamic option for existing and new riders. This effort will supplement the DTC with suburban connection points in high-density areas where transfers can occur and to which more direct service can be provided. The COA proposed a new non-downtown transfer center at the Dutch Square mall area, among others. These new transfer facility locations should consider bus and passenger amenity improvements such as bus pull-out lanes, passenger shelters and sidewalks.

In the short-range plan, the COA also recommends a significant restructuring of bus service that provides the CMRTA with the opportunity to "re-brand" its series. Specifically, the COA outlines the following route classifications:

- Local radial routes
- Local crosstown routes
- Community fixed routes
- Community flex routes
- Express and limited stop routes

Under these classification, Route 34 would be renamed local Route 19 and reclassified as a local radial route. Local radial routes are routes that provide radial service to/from the DTC with direct routing. Most of these routes provide 30-minute service frequencies. The new Route 19 (old Route 34) would operate on 30 minute headways for a longer portion of the day, including late evening hours and on Saturdays and Sundays.

Route 36, renamed Route 23, will continue to operate as a local crosstown route. This route generally follows the existing Route 36 alignment, providing crosstown service between Columbiana Center/ Harbison area and the Garners Ferry Road Wal-Mart. This route would begin at the proposed Harbison transit center and follow Harbison Boulevard, St. Andrews Road, Bush River Road, Arrowwood Road and Dutch Square Boulevard to the proposed Dutch Square transit center.

The long-range service plan will continue the improvements of previous efforts and will also increase accessibility to transit to more parts of the region, increasing ridership by 128% to 5.4 million annual boardings. The same concepts used to build the short-range plan are applied to the long-range plan, but at a more advanced level. Greater area coverage is provided, as well as increased service hours and frequencies to allow transit to truly compete for a wider range of trip needs. This plan also envisions a greater commitment to the transit hub network initiated in the short-range plan. New transfer centers are identified. No major changes are proposed for the new Routes 19 and 23 (old Routes 34 and 36a/b) from the short-range alignment, frequencies or service span, except for increasing Saturday frequencies on Route 19 from, 60- to 30-minutes.

On February 15, 2010, the CMRTA Board made two major decisions related to the COA. The first was to recommend to Richland County Council and Columbia City Council that the recommendations of the recently completed comprehensive analysis study, the park and ride study and the management performance review be implemented with funding to be decided upon by the Councils. The second was to draft a resolution to the County and City Councils for the use of stimulus funds and other existing funds to immediately implement the near-term recommendations.

Rail

A 2000 Rail Feasibility study commissioned by the CMCOG identified the following three corridors in the Columbia region that exhibited characteristics suitable for commuter rail investment, though not anticipated to be feasible in the near term:

- Newberry to Columbia
- Camden to Columbia and
- Batesburg-Leesville to Columbia

A more recent study was commissioned in 2006 to take a closer look at these three corridors to set priorities for investment in some type of transit and to establish an action plan in preparation for service when it is deemed to be feasible.

The Newberry to Columbia Corridor would affect the Broad River Road study area the most. This corridor is approximately 48 miles from Columbia to Newberry, running parallel to Interstate 26 on an active freight line track. An initial assessment of stops includes locations at Riverbanks Zoo and the St. Andrews area.

The 2006 study found that the Camden corridor should receive priority consideration, but that all corridors exhibit characteristics supporting the implementation of high capacity transit. The report provided a set of Action Items that should be implemented regionally in order to maximize the effectiveness of transit:

- "Support regional transit and secure stable local funding for transit;
- Adopt land use ordinances and policies encouraging transit-supportive development;
- Develop interim transit service in corridors;
- Establish a regional education program on the benefits of transit;
- Allocate resources to advance the planning process, including development of a regional transit model;
- Identify and preserve potential station sites;
- Coordinate on a continual basis with freight rail operators; and
- Seek a "champion to advocate for transit interests."

These steps will support and be supported by the redevelopment efforts of the Broad River Road Corridor area, specifically as it relates to potential high capacity transit between downtown Columbia and Newberry.

PARKING

Conventional/existing development patterns along Broad River Road today require separate parking lots for each land use. Even if land owners were willing to share parking lots, the distance between land uses is often too great to encourage walkability and customers would end up driving anyway. So, conventional parking standards require a certain number of parking spaces for each land use – a certain number of spaces per square foot, per number of tables, or per number of washing machines, for instance. These standards assume that each land use is stand-alone – i.e., that a customer doing laundry will require a parking space at the laundromat and will require another parking space at a restaurant if he/she decides to get a sandwich while waiting. So, the laundromat has a set of parking requirements, and the restaurant has an additional set. These assumptions are generally valid in a conventional, non-walkable location.

This practice has led to an overabundance of parking spaces and lots, often designed in the front of businesses along Broad River Road. The resulting landscape is one that is unwalkable and uninviting to pedestrians from Broad River Road's sidewalks.

Figure 27: Parking Lot

Figure 28: Parking Lot

HPE Walkability Index Technical Memo

HPE's Walkability Index – Quantifying the Pedestrian Experience

Richard A. Hall, P.E.

ABSTRACT

Walking continues to enjoy a renaissance as a serious mode of urban transportation. Its latest round of design innovation blends conventional transportation planning and engineering with urban design skills. Both sides of the Right-of Way line now receive the designers focus when walkable, liveable communities are established policy. This broadening of the considered pedestrian environment is vital to walking comfort, safety and increased activity. However, describing that environment is difficult. This paper outlines a new measure, based on ten evaluation criteria to determine thoroughfare segment walkability on a 100 point scale. HPE's Walkability Index draws from the best transportation and urban design thinking and experience regarding walking/biking. Physical elements of a given thoroughfare and block face are considered in determining walkability. Several criteria vary based on the context of the thoroughfare under study. The Walkability Index not only assesses a location's current level of walkability, but also provides suggestions for improvement. The Index serves as a richer alternate measure to the standard motor vehicle level of service, for use during project, corridor and urban design studies. Walkability Index application experience is summarized for several cities including Towson, Maryland; Savannah, Georgia; Portsmouth, Virginia and Sarasota, Florida.

INTRODUCTION

Since the 1992 designation of Bicycle and Pedestrian Coordinators within each State Department of Transportation, there have been significant advances in accommodating bicyclists and pedestrians as legitimate users of the transportation system. Most of these gains were designed within the agency Right-of-Way and on larger, arterial thoroughfares. The latest wave of this walking resurgence broadens the skill set applied to design of walkable thoroughfares and covers more compact collectors and locals. Procedures in use today augment conventional transportation skills by adding a strong focus on urban design in shaping the pedestrian experience. Some of these procedures focus broadly, on district, community or neighborhood scoring. Some utilize complex statistical algorithms to establish scoring procedures that can disassociate the design from the analysis. HPE's Walkability Index, on the other hand, achieves a block by block, pedestrian level of service score. It is easily understood, relates directly to design parameters and is easy to apply. A thoroughfare's context varies as its location shifts from center to edge of a given community. The index uses Transect zones to reflect surrounding context and thus adjust several individual criteria scores. The index has been successfully applied in several cities throughout the U.S. and is being refined based on experience.

INDEX APPROACH

For its index, HPE carefully selected ten walkability criteria to determine quality of the walkable environment. These combined parameters were observed to effectively yield walkable places in over 40 urban design "charrettes" or community design workshops performed during the last two decades:

1. **Vehicle Speed** - Non-peak hour free flow speed, measured with a speed gun; at least 10 samples recommended; posted speed used as a minimum procedure
2. **Thoroughfare Width** - Street width at each pedestrian crossing, measured curb face to curb face
3. **Street Parking** - Presence of on-street parking, percent of a block face where on-street parking is provided and in use
4. **Sidewalk Width** - Full width of paved sidewalk, sensitive to context, per Transect Zones
5. **Pedestrian Connectivity** - The distance between street intersections or mid-block crossings, a measure of network density
6. **Pedestrian Features** - Presence and quality of pedestrian features of high quality versus low quality
7. **Street Enclosure** - The ratio of building height to street width
8. **Land Use Mix** - The presence of different, pedestrian attractive land use types; also Transect sensitive
9. **Façade Design** - The number of doors and façade character per block face
10. **Transit/ Bicycle Features** - The presence of bus shelters, stops, bicycle lockers and bicycle racks

On the Index data sheet or form, walkability criteria are arranged in check-list style. After scoring in the field, results are tallied in a spreadsheet for comparison. Each criterion has a maximum score of 10, yielding a maximum score of 100 points. The following table shows total scores, graded per street segment.

90 - 100	High Walkability (A)
70 - 89	Very Walkable (B)
50 – 69	Moderately Walkable (C)
30 – 49	Basic Walkability (D)
20 – 29	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous to walking (F)

TRANSECT THEORY

The HPE Walkability Index utilizes the Transect theory to describe context zones, which organizes the natural, rural, suburban, and urban landscape into categories of density, complexity, and intensity. One operating principle of the Transect is that certain forms belong in certain environments; for example, an apartment building belongs in a more urban setting, and a house on a large lot belongs in a more rural setting. Some kinds of thoroughfares are urban (streets), and some are rural (roads). For the Walkability Index, HPE utilizes the Sub-urban (T3) to Urban Core (T6) zones for analysis purposes. These Transect zones are briefly described as the following:

- T3 Sub-urban consists of low density residential areas, adjacent to higher zones with some mixed use. Blocks may be large and the roads irregular to accommodate natural conditions.
- T4 General Urban consists of mixed use but primarily residential urban fabric and may have a wide range of building types: single, sideyard and rowhouses. Streets with curbs and sidewalks define medium-sized blocks.
- T-5 Urban Center Zone consists of higher density mixed used buildings that accommodate retail, offices, rowhouses and apartments. It has a tight network of streets, with wide sidewalks, steady street tree planting and buildings set close to the sidewalks.
- T-6 Urban Core Zone consists of highest density and height, with the greatest variety of uses, and civic buildings of regional important. It may have larger blocks, streets have steady street tree planting and buildings set close to the wide sidewalks. Typically only large towns and cities have an urban Core Zone.

CRITERIA DEFINED

The ten Walkability Index criteria are grouped according to their design focus as listed below:

- Thoroughfare Design – 30 points
- Sidewalk Design – 30 points
- Urban Design – 30 points
- Transit/Bicycle Facilities – 10 points

Thoroughfare Design

Contemporary planning and engineering have focused primarily on criteria related to design of the thoroughfare itself. The primary design measures influencing pedestrian comfort and safety include **vehicle speed, thoroughfare width and street parking**. Vehicle speed is vitally important to pedestrians and bicyclists due to the collision potential and severity of resulting crashes. Noise increases geometrically with speed; another key variable in pedestrian comfort. Total width of all lanes and parking have a direct influence on speed and are therefore included as criteria for the Index.

Vehicle Speed

The speed criterion is defined as the motor vehicle speed measured during a non-peak hour to capture free flow speed. It is primarily measured with a speed gun; with at least 10 samples recommended if study resources are scarce, posted speed may be substituted. Up to 10 points are awarded for Vehicle Speed.

Traffic speed of 25 mph or less is safe and comfortable for pedestrians and cyclists. Studies have shown a pedestrian struck by a vehicle travelling 20 mph has a 95% chance of survival; but hit at 40 mph, only a 10% chance of survival.[1] Studies also show drivers of vehicles travelling 20 mph or less will likely stop for a pedestrian, but probably will not stop if travelling over 35 mph[2].

For Walkability Index purposes, “non-peak hour free flow speed” is actual vehicular speed, measured with a speed gun during a period other than the AM, noon, or PM peak vehicular travel hours.

The score assigned to measured non-peak hour free flow speed is as follows:

Walkability Measure	Possible Points
≤ **15** mph	10
16-20 mph	8
21-25 mph	6
26-30 mph	4
>**30** mph	0

Thoroughfare Width

Width is determined at each pedestrian crossing and is measured curb face to curb face. Optimal walking widths receive up to 10 points.

According to pedestrian studies, most pedestrians walk in the neighborhood of 4.0 feet/second (about 3 mph), and elderly persons tend to walk more slowly at 3.0 feet/second (roughly 2 mph)[3]. The narrower the street, the less time a pedestrian is exposed to vehicular traffic and hot asphalt. While walkers can easily negotiate a two-lane, low speed roadway, crossing a wide multi-lane roadway increases exposure to danger and discomfort (Note for this measure: Subtract 10’ of width for angled parking).

The measure for pedestrian crossing width, measured from curb face to curb face is assigned the following score:

Walkability Measure	Possible Points
≤ 32’	10
33’ - 42’	8
43’ - 54’	6
55’ - 66’	4

>66'	0

Street Parking

Street Parking is measured as the percentage of a block face where on-street parking is provided and often utilized. Up to 10 Points are awarded for a thoroughfare with vehicles parked on both sides.

On-street parking (either parallel or angle parking) is important, not only to help distribute the parking load, but also to help manage traffic speed. Parked cars also generate more pedestrians, especially where turnover is frequent. The measure here is not only the presence of striped parking spaces, but of generally occupied parking spaces. If it is known that spaces are filled during peak parking periods, day in commercial and night in residential areas, then spaces on the block may be considered as parked.

The measure for peak occupied, on-street parking presence is scored according to the following table:

Walkability Measure	Possible Points
76% - 100% of the block face	5 each side = 10
51% - 75% of the block face	4 each side = 8
26% - 50% of the block face	3 each side = 6
10% - 25% of the block face	2 each side = 4
No on-street parking	0 each side = 0

Sidewalk Design

The presence and character of sidewalks are necessary features in ensuring a comfortable atmosphere for pedestrians. Sidewalks are not only where pedestrians are best located, but also serve as meeting places, further enhancing the walking experience. **Sidewalk width**, **connectivity** and **presence of pedestrian features** such as benches and shade trees all serve to improve pedestrian conditions.

Sidewalk width

To function properly, sidewalks should be sized to accommodate the walking environment and its context.

In an urban core, urban center or general urban Transect zone, sidewalks should typically be at least 8 feet wide—and, often, greater width is desirable. In a low density residential environment, a 4 foot wide sidewalk might be sufficient.

The measures for sidewalk width are scored according to the following table:

Walkability Measure				Possible Points
T3 Sub-Urban	**T4 General Urban**	**T5 Urban Center**	**T6 Urban Core**	
>5'	>6'	>12'	>20'	5 each side=10
>4' to 5'	>5' to 6'	>8' to 12'	>12' to 20'	3 each side=6
>3' to 4'	>4' to 5'	>5' to 8'	>8' to 12'	2 each side=4
≤3'	≤4'	≤5'	≤8'	0 each side=0

Pedestrian connectivity

A high-quality, connected, pedestrian network provides ease of walking and access through short (300' – 400') blocks and/or mid-block pedestrian alleys.

The measure for pedestrian connectivity is distance between intersections or cross-block passages and scored according the following table:

Walkability Measure	Possible Points
≤300'	5 each side=10
301' to 400'	4 each side=8
401' to 500'	3 each side=6
501' to 600'	2 each side=4
>600'	0 each side=0

Presence and quality of pedestrian features

This measure considers the presence---or lack of---high quality pedestrian features such as good sidewalk condition, lack of obstacles, ADA compliance, shade trees, and street furniture.

Walkability Measure	Possible Points
High quality (High presence of qualitative measures)	5 each side=10
Moderate quality (Qualitative measures are present, but not to a large extent)	3 each side=6
Low quality (Some, but not many, of the qualitative measures are present)	2 each side=4
Poor quality, or no pedestrian features	0 each side=0

Urban Design

The design of the built environment plays a vital role in how walkable a place may be, especially in terms of how inviting, safe and comfortable that design makes the pedestrian feel. Elements such as **street enclosure** help the pedestrian to determine if a place is appropriately scaled for people or cars; the former of which is much more

inviting and comfortable for pedestrians. A noticeable **mix of land uses** must also exist to invite pedestrians to the street, as well as interesting building **façades**, providing variety and attractive places to walk to and from.

Street enclosure

To provide a comfortable environment for pedestrians, the ratio of building height to street width (**measured from building face to building face**) should provide a feeling of "enclosure". In walkability literature, ideal minimum enclosure ratios range from 1:1 to 1:6.

Building height to street width ratios are scored according to the following table:

Walkability Measure	Possible Points
<1:1	10
1:1 to <1:3	8
1:3 to 1:6	6
>1:6	0

Land use mix

Walking is most likely when there is a specific, inviting and easily accessible place to go. The land use mix criterion considers the mix of different kinds of land uses on a block face, such as shopping, eating and drinking, hotel, and residential land uses. Land use mix is scored for the appropriate transect:

The measure for land use mix is the number of different types of land uses per block face and is scored according to the following table:

Walkability Measure			Possible Points
T4 General Urban	**T5 Urban Center**	**T6 Urban Core**	
3+	4+	4+	5 each side=10
2	3	3	3 each side=6
1	2	2	2 each side=4
N/A	1	1	0 each side=0

Façade design

Building facades that are varied, attractive and interesting are also attractive to pedestrians. Blank walls are daunting and tend to discourage walking.

Walkability Measure[4]	Possible Points
Small units; many doors (15-20 doors/block face); lots of character	5 each side=10
Small units; many doors (10-14 doors/block face); many details	4 each side=8
Mix of large and small units (6-9 doors/block face); few details	3 each side=6
Large units; little variation (2-5 doors/block face); few or no details	1 each side=2
Large units; few or no doors (0-1 doors/block face); uniform facade	0 each side=0

Transit/Bicycle Features

As the number of modal options increase, so too does the presence of pedestrians, who are more comfortable in an environment with ample **transit and bicycle facilities**. One could consider that since most transit and bicycle trips begin and end with walking, a larger number of pedestrians will exist in locations where they are accommodated.

Transit and/or bicycle features

Transit and bicycle features assure other non-automotive components of mobility are satisfied. A high-quality transit/bicycle environment will provide for safe travel via slow traffic speed (20 mph or less) and will have appealing transit/bicycle features, as shown scored in the table below:

Walkability Measure	Possible Points
Presence of bus stops and bicycle racks	10 points
Presence of bus stops and bicycle racks	5 points
No bus stops or bicycle racks	0 points

APPLICATION EXPERIENCE

HPE's Walkability Index has been applied successfully in several communities, and is in a constant state of refinement as lessons learned from each use are employed to make Index adjustments. Notable examples of Walkability Index experience to date include the following locations:

Towson, Maryland

The Walkability Index was used during Walkable Towson Plan preparation for Baltimore County, Maryland. Towson has a traditional downtown that once was thriving, but now is a "9 to 5" district dominated by office workers (sound familiar?). Walkable Towson is an effort to transform downtown into a vibrant, pedestrian friendly destination.

To gauge current walkability, Stu Sirota's TND Planning Group design team trained County staff to administer the index. Staff then scored street segments throughout the planning area. Total walkability scores ranged from 11 (uncomfortable/hazardous for walking) to 67 (moderately walkable).

During the Walkable Towson design charrette, the Index was used again to evaluate how recommended changes to land use and the transportation network would affect Walkability Index scores.

In both applications, after Index scores were tallied for each street segment the results were displayed on a map, with street segments colored coded from highest score (green) to lowest (red).

Savannah

HPE applied the Walkability Index to Savannah, Georgia's, Broughton Street. In this old section of the city with its extensive grid of pedestrian-oriented streets and appealing destinations, index scores ranged from 72 (very walkable) to 96 (high walkability).

Portsmouth

HPE applied the Walkability Index to Portsmouth, Virginia's High Street during a Downtown Revitalization charrette. Portsmouth has a fine-grained network of walkable streets. High Street is the commercial center of Portsmouth with many pedestrian-oriented features, scoring 59 (moderately walkable) to-74 (very walkable), along a six block analysis.

Sarasota

For the City's "Connecting Downtown to the Bayfront" study, TransAssociates applied the Walkability Index to a nineteen block section of US 41, a currently auto-dominant 45mph thoroughfare passing north-south through the heart of Sarasota. Scores ranged from 5 (uncomfortable/hazardous to walking) to 36 (basic walkability).

CONCLUSIONS

An easily applied walkability index can be a valuable assist to the urban design process. It demonstrates improvements that can be made to streets that are now unwalkable. It also aids by guiding the design of new streets to insure walkability.

ACKNOWLEDGMENTS

HPE would like to thank the Baltimore County, Maryland, planning staff for their assistance with walkability index application and refinement during the early days of development.

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REFERENCES

[1]Durkin, M and T. Pheby. "York: Aiming to be the UK's First Traffic Calmed City." PTRC Education and Research Services, Ltd., London, England, 1992; pp.73-90)

[2, 3] Florida Pedestrian Planning and Design Guidelines. (University of North Carolina Highway Safety Research Center; for the Florida Department of Transportation, May, 1996; pp. 21-23)

[4]Jan Gehl, Lotte Johansen, Kaefer and Solvejg Reigstad. "Close Encounters with Buildings." *Urban Design International*, No. 11, 2006.

HPE Walkability Index Results for Broad River Road Corridor Existing Conditions

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: 2/8/2010

Begin Time: 1:00 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

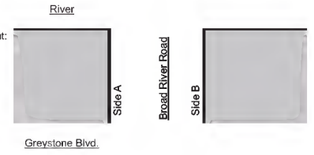
Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Transect Zone (Circle One):

T3 **T4** T5 T6

Street Segment:



WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 / T4 / T5 / T6				
>5' / >6' / >12' / >20'	5			0
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2	2	2	4
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 / T5 / T6				
3+ / 4+ / 4+	5	5		5
2 / 3 / 3	3		3	3
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	8
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3			0
Large units; little variation (2-5 doors/block face); few or no details	1	1		1
Large units; few or no doors (0-1 doors/block face); uniform façade	0		0	0
			Segment Total	1

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **26**

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: 2/8/2010

Begin Time: 1:15 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

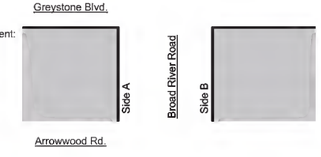
Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Transect Zone (Circle One):

T3 **T4** T5 T6

Street Segment:



WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 / T4 / T5 / T6				
>5' / >6' / >12' / >20'	5			0
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2	2	2	4
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 / T5 / T6				
3+ / 4+ / 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **33**

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: 2/8/2010

Begin Time: 1:30 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Arrowwood Rd. / Broad River Road / Bush River Rd. (Side A / Side B)

Transect Zone (Circle One):

T3 **T4** **T5** **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 **T4** **T5** **T6**				
>5' >6' >12' >20'	5			0
>4' to 5' >5' to 6' >8' to 12' >12' to 20'	3			0
>3' to 4' >4' to 5' >5' to 8' >8' to 12'	2	2	2	4
≤3' ≤4' ≤5' ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0	0		0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 **T5** **T6**				
3+ 4+ 4+	5	5	5	10
2 3 3	3			0
1 2 2	2			0
N/A 1 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5	5		5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **33**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: 2/8/2010

Begin Time: 1:45 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Bush River Rd. / Broad River Road / Omarest Dr. (Side A / Side B)

Transect Zone (Circle One):

T3 **T4** **T5** **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 **T4** **T5** **T6**				
>5' >6' >12' >20'	5			0
>4' to 5' >5' to 6' >8' to 12' >12' to 20'	3			0
>3' to 4' >4' to 5' >5' to 8' >8' to 12'	2	2	2	4
≤3' ≤4' ≤5' ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 **T5** **T6**				
3+ 4+ 4+	5	5	5	10
2 3 3	3			0
1 2 2	2			0
N/A 1 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **33**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: 2/8/2010

Begin Time: 2:00 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Omarest Dr. / Broad River Road / Bakersfield Rd. (Side A / Side B)

Transect Zone (Circle One):

T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5			0
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2	2	2	4
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **33**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: 2/8/2010

Begin Time: 2:15 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Bakersfield Rd. / Broad River Road / Longcreek Dr. (Side A / Side B)

Transect Zone (Circle One):

T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5			0
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2	2	2	4
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **33**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: 2/8/2010

Begin Time: 2:30 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Longcreek Dr. / Broad River Road / I-20 EB Offramp (Side A, Side B)

Transect Zone (Circle One):

T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5			0
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2	2	2	4
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3			0
Large units; little variation (2-5 doors/block face); few or no details	1	1	1	2
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	2
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **29**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: 2/8/2010

Begin Time: 2:45 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: I-20 EB Offramp / Broad River Road / I-20 WB Onramp (Side A, Side B)

Transect Zone (Circle One):

T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5			0
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2	2	2	4
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5			0
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0	0	0	0
			Segment Total	0
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3			0
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0	0	0	0
			Segment Total	0
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5			0
No bus stops or bicycle racks	0		0	0
			Segment Total	0

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **12**

Revised: March 20, 2007

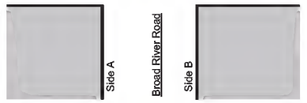
WALKABILITY INDEX DATA SHEET:

Broad River Road

I-20 WB Onramp

Date: 2/8/2010

Street Segment:



Begin Time: 3:00 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Marley Dr./Briargate Cr.

Transect Zone (Circle One):

T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 **T4** **T5** **T6**				
>5' >6' >12' >20'	5			0
>4' to 5' >5' to 6' >8' to 12' >12' to 20'	3			0
>3' to 4' >4' to 5' >5' to 8' >8' to 12'	2	2	2	4
≤3' ≤4' ≤5' ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 **T5** **T6**				
3+ 4+ 4+	5	5	5	10
2 3 3	3			0
1 2 2	2			0
N/A 1 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **33**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

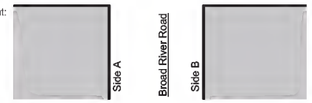
WALKABILITY INDEX DATA SHEET:

Broad River Road

Marley Dr./Briargate Cr.

Date: 2/8/2010

Street Segment:



Begin Time: 3:15 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Young Dr./Seminole Rd.

Transect Zone (Circle One):

T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 **T4** **T5** **T6**				
>5' >6' >12' >20'	5			0
>4' to 5' >5' to 6' >8' to 12' >12' to 20'	3			0
>3' to 4' >4' to 5' >5' to 8' >8' to 12'	2	2	2	4
≤3' ≤4' ≤5' ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 **T5** **T6**				
3+ 4+ 4+	5	5	5	10
2 3 3	3			0
1 2 2	2			0
N/A 1 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **33**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: 2/8/2010

Begin Time: 3:30 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Young Dr./Seminole Rd. — Broad River Road — Rushmore Rd.

Side A | Side B

Transect Zone (Circle One):

T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 / **T4** / **T5** / **T6**				
>5' / >6' / >12' / >20'	5			0
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2	2	2	4
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2	2	2	4
Over 600'	0			0
			Segment Total	4
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 / **T5** / **T6**				
3+ / 4+ / 4+	5			0
2 / 3 / 3	3		3	3
1 / 2 / 2	2	2		2
N/A / 1 / 1	0			0
			Segment Total	5
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3			0
Large units; little variation (2-5 doors/block face); few or no details	1	1	1	2
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	2
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT: 28

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: 2/8/2010

Begin Time: 3:45 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Rushmore Rd. — Broad River Road — St. Andrews Pkwy.

Side A | Side B

Transect Zone (Circle One):

T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 / **T4** / **T5** / **T6**				
>5' / >6' / >12' / >20'	5			0
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2	2	2	4
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 / **T5** / **T6**				
3+ / 4+ / 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT: 33

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: 2/8/2010

Begin Time: 4:00 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: St. Andrews Pkwy. / Broad River Road / St. Andrews Rd. (Side A / Side B)

Transect Zone (Circle One): **T3** **T4** **T5** **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 **T4** **T5** **T6**				
>5' >6' >12' >20'	5			0
>4' to 5' >5' to 6' >8' to 12' >12' to 20'	3			0
>3' to 4' >4' to 5' >5' to 8' >8' to 12'	2	2	2	4
≤3' ≤4' ≤5' ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0	0		0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 **T5** **T6**				
3+ 4+ 4+	5	5	5	10
2 3 3	3			0
1 2 2	2			0
N/A 1 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5	5		5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **33**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: 2/8/2010

Begin Time: 4:15 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: St. Andrews Rd. / Broad River Road / Huffstetler Dr. (Side A / Side B)

Transect Zone (Circle One): **T3** **T4** **T5** **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 **T4** **T5** **T6**				
>5' >6' >12' >20'	5			0
>4' to 5' >5' to 6' >8' to 12' >12' to 20'	3			0
>3' to 4' >4' to 5' >5' to 8' >8' to 12'	2	2	2	4
≤3' ≤4' ≤5' ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 **T5** **T6**				
3+ 4+ 4+	5	5	5	10
2 3 3	3			0
1 2 2	2			0
N/A 1 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **33**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: 2/8/2010

Begin Time: 4:30 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 45mph

Street Segment: Huffstetler Dr. / Broad River Road / Grove Park Ln. (Side A, Side B)

Transect Zone (Circle One): **T3** T4 T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5			0
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2	2	2	4
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0	0		0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5	5		5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **33**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: 2/8/2010

Begin Time: 4:45 PM A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 45mph

Street Segment: Grove Park Ln. / Broad River Road / Piney Grove Rd. (Side A, Side B)

Transect Zone (Circle One): **T3** T4 T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4			0
Over 30 mph	0		0	0
			Segment Total	0
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5			0
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2	2	2	4
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	4
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5			0
Moderate quality	3			0
Low quality	2	2	2	4
Poor quality or no features	0			0
			Segment Total	4
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5		5	5
2 / 3 / 3	3			0
1 / 2 / 2	2	2		2
N/A / 1 / 1	0			0
			Segment Total	7
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3			0
Large units; little variation (2-5 doors/block face); few or no details	1	1	1	2
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	2
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **26**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

BROAD RIVER ROAD (COLUMBIA) WALKABILITY INDEX RESULTS

Entry #	Street	Segment		Walkability Measures Summary										Total
				1	2	3	4	5	6	7	8	9	10	
		From	To	Speed	Pavement Width	On-Street Parking	Sidewalk Width	Connectivity	Pedestrian Features	Street Enclosure	Land Use Mix	Façade Design	Transit/ Bicycle	
1	Broad River Rd.	River	Greystone Blvd.	0	4	0	4	0	4	0	8	1	5	26
2	Broad River Rd.	Greystone Blvd.	Arrowwood Rd.	0	4	0	4	0	4	0	10	6	5	33
3	Broad River Rd.	Arrowwood Rd.	Bush River Rd.	0	4	0	4	0	4	0	10	6	5	33
4	Broad River Rd.	Bush River Rd.	Omarest Dr.	0	4	0	4	0	4	0	10	6	5	33
5	Broad River Rd.	Omarest Dr.	Bakersfield Rd.	0	4	0	4	0	4	0	10	6	5	33
6	Broad River Rd.	Bakersfield Rd.	Longcreek Dr.	0	4	0	4	0	4	0	10	6	5	33
7	Broad River Rd.	Longcreek Dr.	I-20 EB Offramp	0	4	0	4	0	4	0	10	2	5	29
8	Broad River Rd.	I-20 EB Offramp	I-20 WB Onramp	0	4	0	4	0	4	0	0	0	0	12
9	Broad River Rd.	I-20 WB Onramp	Marley Dr./Briargate Cr.	0	4	0	4	0	4	0	10	6	5	33
10	Broad River Rd.	Marley Dr./Briargate Cr.	Young Dr./Seminole Rd.	0	4	0	4	0	4	0	10	6	5	33
11	Broad River Rd.	Young Dr./Seminole Rd.	Rushmore Rd.	0	4	0	4	4	4	0	5	2	5	28
12	Broad River Rd.	Rushmore Rd.	St. Andrews Pkwy.	0	4	0	4	0	4	0	10	6	5	33
13	Broad River Rd.	St. Andrews Pkwy.	St. Andrews Rd.	0	4	0	4	0	4	0	10	6	5	33
14	Broad River Rd.	St. Andrews Rd.	Huffstetler Dr.	0	4	0	4	0	4	0	10	6	5	33
15	Broad River Rd.	Huffstetler Dr.	Grove Park Ln.	0	4	0	4	0	4	0	10	6	5	33
16	Broad River Rd.	Grove Park Ln.	Piney Grove Rd.	0	4	0	4	0	4	0	7	2	5	26
	Total Average	**River**	**Piney Grove Rd.**	**0**	**4**	**0**	**4**	**0**	**4**	**0**	**8.5**	**4.125**	**4.375**	**29**
				1	2	3	4	5	6	7	8	9	10	Total
				Speed	Pavement Width	On-Street Parking	Sidewalk Width	Connectivity	Pedestrian Features	Street Enclosure	Land Use Mix	Façade Design	Transit/ Bicycle	

HPE Walkability Index Results for Broad River Road Corridor After Phase I Streetscape-Only Improvements

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Transect Zone (Circle One):

T3 **T4** **T5** **T6**

Street Segment: River / Broad River Road / Greystone Blvd. (Side A, Side B)

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / >4' to 5' / >3' to 4' / ≤3'	5	5	5	10
T4 >6' / >5' to 6' / >4' to 5' / ≤4'	3			0
T5 >12' / >8' to 12' / >5' to 8' / ≤5'	2			0
T6 >20' / >12' to 20' / >8' to 12' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0	0	0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / 2 / 1 / N/A	5	5		5
T5 4+ / 3 / 2 / 1	3		3	3
T6 4+ / 3 / 2 / 1	2			0
	0			0
			Segment Total	8
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3			0
Large units; little variation (2-5 doors/block face); few or no details	1	1		1
Large units; few or no doors (0-1 doors/block face); uniform façade	0		0	0
			Segment Total	1
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **52**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Transect Zone (Circle One):

T3 **T4** **T5** **T6**

Street Segment: Greystone Blvd. / Broad River Road / Arrowwood Rd. (Side A, Side B)

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / >4' to 5' / >3' to 4' / ≤3'	5	5	5	10
T4 >6' / >5' to 6' / >4' to 5' / ≤4'	3			0
T5 >12' / >8' to 12' / >5' to 8' / ≤5'	2			0
T6 >20' / >12' to 20' / >8' to 12' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / 2 / 1 / N/A	5	5	5	10
T5 4+ / 3 / 2 / 1	3			0
T6 4+ / 3 / 2 / 1	2			0
	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **59**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Arrowwood Rd. / Broad River Road / Bush River Rd. (Side A, Side B)

Transect Zone (Circle One):

T3 | **T4** | **T5** | **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **59**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Bush River Rd. / Broad River Road / Omarest Dr. (Side A, Side B)

Transect Zone (Circle One):

T3 | **T4** | **T5** | **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **59**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Omarest Dr. / Broad River Road / Bakersfield Rd. (Side A / Side B)

Transect Zone (Circle One):

T3 | **T4** | **T5** | **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **59**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

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Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Bakersfield Rd. / Broad River Road / Longcreek Dr. (Side A / Side B)

Transect Zone (Circle One):

T3 | **T4** | **T5** | **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **59**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

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Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

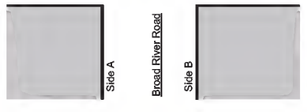
Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment:



Transect Zone (Circle One):

T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3			0
Large units; little variation (2-5 doors/block face); few or no details	1	1	1	2
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	2
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **55**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

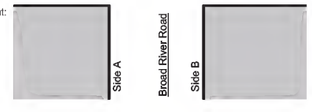
Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment:



Transect Zone (Circle One):

T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4		4	4
Over 30 mph	0			0
			Segment Total	4
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5			0
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0	0	0	0
			Segment Total	0
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3			0
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0	0	0	0
			Segment Total	0
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5			0
No bus stops or bicycle racks	0		0	0
			Segment Total	0

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **28**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

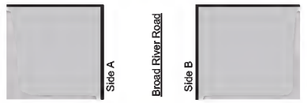
Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: I-20 WB Onramp — Broad River Road — Marley Dr./Briargate Cr.



Transect Zone (Circle One):

T3 | **T4** | T5 | T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4		4	4
Over 30 mph	0			0
			Segment Total	4
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 **T4** **T5** **T6**				
>5' >6' >12' >20'	5	5	5	10
>4' to 5' >5' to 6' >8' to 12' >12' to 20'	3			0
>3' to 4' >4' to 5' >5' to 8' >8' to 12'	2			0
≤3' ≤4' ≤5' ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0	0		0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 **T5** **T6**				
3+ 4+ 4+	5	5	5	10
2 3 3	3			0
1 2 2	2			0
N/A 1 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **49**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

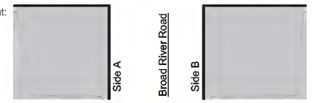
Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Marley Dr./Briargate Cr. — Broad River Road — Young Dr./Seminole Rd.



Transect Zone (Circle One):

T3 | **T4** | T5 | T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4		4	4
Over 30 mph	0			0
			Segment Total	4
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 **T4** **T5** **T6**				
>5' >6' >12' >20'	5	5	5	10
>4' to 5' >5' to 6' >8' to 12' >12' to 20'	3			0
>3' to 4' >4' to 5' >5' to 8' >8' to 12'	2			0
≤3' ≤4' ≤5' ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 **T5** **T6**				
3+ 4+ 4+	5	5	5	10
2 3 3	3			0
1 2 2	2			0
N/A 1 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **49**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Young Dr./Seminole Rd. / Broad River Road / Rushmore Rd.

Side A | Side B

Transect Zone (Circle One):

T3 | **T4** | **T5** | **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4		4	4
Over 30 mph	0			0
			Segment Total	4
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 / **T4** / **T5** / **T6**				
>5' / >6' / >12' / >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0	0		0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 / **T5** / **T6**				
3+ / 4+ / 4+	5			0
2 / 3 / 3	3		3	3
1 / 2 / 2	2	2		2
N/A / 1 / 1	0			0
			Segment Total	5
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3			0
Large units; little variation (2-5 doors/block face); few or no details	1	1	1	2
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	2

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **40**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Rushmore Rd. / Broad River Road / St. Andrews Pkwy.

Side A | Side B

Transect Zone (Circle One):

T3 | **T4** | **T5** | **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4		4	4
Over 30 mph	0			0
			Segment Total	4
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 / **T4** / **T5** / **T6**				
>5' / >6' / >12' / >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 / **T5** / **T6**				
3+ / 4+ / 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **49**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: St. Andrews Pkwy. / Broad River Road / St. Andrews Rd.

Transect Zone (Circle One): T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 **T4** **T5** **T6**				
>5' >6' >12' >20'	5	5	5	10
>4' to 5' >5' to 6' >8' to 12' >12' to 20'	3			0
>3' to 4' >4' to 5' >5' to 8' >8' to 12'	2			0
≤3' ≤4' ≤5' ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 **T5** **T6**				
3+ 4+ 4+	5	5	5	10
2 3 3	3			0
1 2 2	2			0
N/A 1 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **59**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: St. Andrews Rd. / Broad River Road / Huffstetler Dr.

Transect Zone (Circle One): T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 **T4** **T5** **T6**				
>5' >6' >12' >20'	5	5	5	10
>4' to 5' >5' to 6' >8' to 12' >12' to 20'	3			0
>3' to 4' >4' to 5' >5' to 8' >8' to 12'	2			0
≤3' ≤4' ≤5' ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 **T5** **T6**				
3+ 4+ 4+	5	5	5	10
2 3 3	3			0
1 2 2	2			0
N/A 1 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **59**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 45mph

Transect Zone (Circle One): **T3** T4 T5 T6

Street Segment: Huffstetler Dr. / Broad River Road / Grove Park Ln. (Side A / Side B)

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4		4	4
Over 30 mph	0			0
			Segment Total	4
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0	0		0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5	5		5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **49**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 45mph

Transect Zone (Circle One): **T3** T4 T5 T6

Street Segment: Grove Park Ln. / Broad River Road / Piney Grove Rd. (Side A / Side B)

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4		4	4
Over 30 mph	0			0
			Segment Total	4
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5		5	5
2 / 3 / 3	3			0
1 / 2 / 2	2	2		2
N/A / 1 / 1	0			0
			Segment Total	7
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3			0
Large units; little variation (2-5 doors/block face); few or no details	1	1	1	2
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	2

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **42**

Revised: March 20, 2007

BROAD RIVER ROAD (COLUMBIA) WALKABILITY INDEX RESULTS

Entry #	Street	Segment		Walkability Measures Summary										Total
				1	2	3	4	5	6	7	8	9	10	
		From	To	Speed	Pavement Width	On-Street Parking	Sidewalk Width	Connectivity	Pedestrian Features	Street Enclosure	Land Use Mix	Façade Design	Transit/ Bicycle	
1	Broad River Rd.	River	Greystone Blvd.	6	4	8	10	0	10	0	8	1	5	52
2	Broad River Rd.	Greystone Blvd.	Arrowwood Rd.	6	4	8	10	0	10	0	10	6	5	59
3	Broad River Rd.	Arrowwood Rd.	Bush River Rd.	6	4	8	10	0	10	0	10	6	5	59
4	Broad River Rd.	Bush River Rd.	Omarest Dr.	6	4	8	10	0	10	0	10	6	5	59
5	Broad River Rd.	Omarest Dr.	Bakersfield Rd.	6	4	8	10	0	10	0	10	6	5	59
6	Broad River Rd.	Bakersfield Rd.	Longcreek Dr.	6	4	8	10	0	10	0	10	6	5	59
7	Broad River Rd.	Longcreek Dr.	I-20 EB Offramp	6	4	8	10	0	10	0	10	2	5	55
8	Broad River Rd.	I-20 EB Offramp	I-20 WB Onramp	4	4	0	10	0	10	0	0	0	0	28
9	Broad River Rd.	I-20 WB Onramp	Marley Dr./Briargate Cr.	4	4	0	10	0	10	0	10	6	5	49
10	Broad River Rd.	Marley Dr./Briargate Cr.	Young Dr./Seminole Rd.	4	4	0	10	0	10	0	10	6	5	49
11	Broad River Rd.	Young Dr./Seminole Rd.	Rushmore Rd.	4	4	0	10	0	10	0	5	2	5	40
12	Broad River Rd.	Rushmore Rd.	St. Andrews Pkwy.	4	4	0	10	0	10	0	10	6	5	49
13	Broad River Rd.	St. Andrews Pkwy.	St. Andrews Rd.	6	4	8	10	0	10	0	10	6	5	59
14	Broad River Rd.	St. Andrews Rd.	Huffstetler Dr.	6	4	8	10	0	10	0	10	6	5	59
15	Broad River Rd.	Huffstetler Dr.	Grove Park Ln.	4	4	0	10	0	10	0	10	6	5	49
16	Broad River Rd.	Grove Park Ln.	Piney Grove Rd.	4	4	0	10	0	10	0	7	2	5	42
	Total Average	**River**	**Piney Grove Rd.**	**5.75**	**4**	**7**	**10**	**0**	**10**	**0**	**8.5**	**4.125**	**4.375**	**53.75**
				1	2	3	4	5	6	7	8	9	10	Total
				Speed	Pavement Width	On-Street Parking	Sidewalk Width	Connectivity	Pedestrian Features	Street Enclosure	Land Use Mix	Façade Design	Transit/ Bicycle	

HPE Walkability Index Results for Broad River Road Corridor After Phase II Streetscape Improvements & Long-term Urban Design Changes/ Redevelopment

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

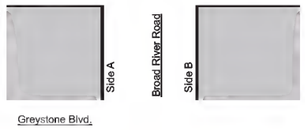
Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Transect Zone (Circle One): T3 **T4** T5 T6

Street Segment:



WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / >4' to 5' / >3' to 4' / ≤3'	5	5	5	10
T4 >6' / >5' to 6' / >4' to 5' / ≤4'	3			0
T5 >12' / >8' to 12' / >5' to 8' / ≤5'	2			0
T6 >20' / >12' to 20' / >8' to 12' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4	4	4	8
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0			0
			Segment Total	8
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8		8	8
1:3 to 1:6	6			0
>1:6	0			0
				8
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / 2 / 1 / N/A	5	5	5	10
T5 4+ / 3 / 2 / **1**	3			0
T6 4+ / 3 / 2 / **1**	2			0
	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0		0	0
			Segment Total	6

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **75**

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

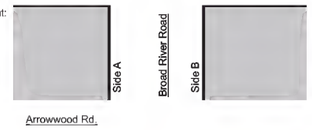
Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Transect Zone (Circle One): T3 **T4** T5 T6

Street Segment:



WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / >4' to 5' / >3' to 4' / ≤3'	5	5	5	10
T4 >6' / >5' to 6' / >4' to 5' / ≤4'	3			0
T5 >12' / >8' to 12' / >5' to 8' / ≤5'	2			0
T6 >20' / >12' to 20' / >8' to 12' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4	4	4	8
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0			0
			Segment Total	8
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8		8	8
1:3 to 1:6	6			0
>1:6	0			0
				8
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / 2 / 1 / N/A	5	5	5	10
T5 4+ / 3 / 2 / 1	3			0
T6 4+ / 3 / 2 / **1**	2			0
	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0		0	0
			Segment Total	6

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **75**

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Arrowwood Rd. / Broad River Road / Bush River Rd. (Side A, Side B)

Transect Zone (Circle One): T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 / **T4** / **T5** / **T6**				
>5' / >6' / >12' / >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4	4	4	8
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0			0
			Segment Total	8
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8		8	8
1:3 to 1:6	6			0
>1:6	0			0
				8
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 / **T5** / **T6**				
3+ / 4+ / 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0		0	0
			Segment Total	6

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **75**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Bush River Rd. / Broad River Road / Omarest Dr. (Side A, Side B)

Transect Zone (Circle One): T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 / **T4** / **T5** / **T6**				
>5' / >6' / >12' / >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4	4	4	8
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0			0
			Segment Total	8
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8		8	8
1:3 to 1:6	6			0
>1:6	0			0
				8
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 / **T5** / **T6**				
3+ / 4+ / 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0		0	0
			Segment Total	6

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **75**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Omarest Dr. / Broad River Road / Bakersfield Rd. (Side A / Side B)

Transect Zone (Circle One):

T3 | **T4** | **T5** | **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 / **T4** / **T5** / **T6**				
>5' / >6' / >12' / >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4	4	4	8
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0			0
			Segment Total	8
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8		8	8
1:3 to 1:6	6			0
>1:6	0			0
				8
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 / **T5** / **T6**				
3+ / 4+ / 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0		0	0
			Segment Total	6

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **75**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Bakersfield Rd. / Broad River Road / Longcreek Dr. (Side A / Side B)

Transect Zone (Circle One):

T3 | **T4** | **T5** | **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 / **T4** / **T5** / **T6**				
>5' / >6' / >12' / >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4	4	4	8
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0			0
			Segment Total	8
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8		8	8
1:3 to 1:6	6			0
>1:6	0			0
				8
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 / **T5** / **T6**				
3+ / 4+ / 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0		0	0
			Segment Total	6

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **75**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Longcreek Dr. / Broad River Road / I-20 EB Offramp — Side A / Side B

Transect Zone (Circle One):

T3 | **T4** | **T5** | **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4	4	4	8
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0			0
			Segment Total	8
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8		8	8
1:3 to 1:6	6			0
>1:6	0			0
				8
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0		0	0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **75**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: I-20 EB Offramp / Broad River Road / I-20 WB Onramp — Side A / Side B

Transect Zone (Circle One):

T3 | **T4** | **T5** | **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4		4	4
Over 30 mph	0			0
			Segment Total	4
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5			0
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0	0	0	0
			Segment Total	0
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3			0
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0	0	0	0
			Segment Total	0
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5			0
No bus stops or bicycle racks	0		0	0
			Segment Total	0

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **28**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

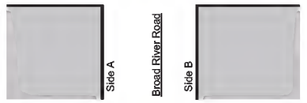
Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: I-20 WB Onramp — Broad River Road — Marley Dr./Briargate Cr.



Transect Zone (Circle One):

T3 | **T4** | T5 | T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4		4	4
Over 30 mph	0			0
			Segment Total	4
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 **T4** **T5** **T6**				
>5' >6' >12' >20'	5	5	5	10
>4' to 5' >5' to 6' >8' to 12' >12' to 20'	3			0
>3' to 4' >4' to 5' >5' to 8' >8' to 12'	2			0
≤3' ≤4' ≤5' ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 **T5** **T6**				
3+ 4+ 4+	5	5	5	10
2 3 3	3			0
1 2 2	2			0
N/A 1 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **49**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

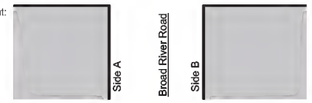
Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Marley Dr./Briargate Cr. — Broad River Road — Young Dr./Seminole Rd.



Transect Zone (Circle One):

T3 | **T4** | T5 | T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4		4	4
Over 30 mph	0			0
			Segment Total	4
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 **T4** **T5** **T6**				
>5' >6' >12' >20'	5	5	5	10
>4' to 5' >5' to 6' >8' to 12' >12' to 20'	3			0
>3' to 4' >4' to 5' >5' to 8' >8' to 12'	2			0
≤3' ≤4' ≤5' ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 **T5** **T6**				
3+ 4+ 4+	5	5	5	10
2 3 3	3			0
1 2 2	2			0
N/A 1 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **49**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Young Dr./Seminole Rd. / Rushmore Rd. — Side A / Broad River Road / Side B

Transect Zone (Circle One):

T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4		4	4
Over 30 mph	0			0
			Segment Total	4
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 **T4** **T5** **T6**				
>5' >6' >12' >20'	5	5	5	10
>4' to 5' >5' to 6' >8' to 12' >12' to 20'	3			0
>3' to 4' >4' to 5' >5' to 8' >8' to 12'	2			0
≤3' ≤4' ≤5' ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0	0		0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 **T5** **T6**				
3+ 4+ 4+	5			0
2 3 3	3		3	3
1 2 2	2	2		2
N/A 1 1	0			0
			Segment Total	5
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3			0
Large units; little variation (2-5 doors/block face); few or no details	1	1	1	2
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	2
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **40**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: Rushmore Rd. / St. Andrews Pkwy. — Side A / Broad River Road / Side B

Transect Zone (Circle One):

T3 **T4** T5 T6

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4		4	4
Over 30 mph	0			0
			Segment Total	4
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 **T4** **T5** **T6**				
>5' >6' >12' >20'	5	5	5	10
>4' to 5' >5' to 6' >8' to 12' >12' to 20'	3			0
>3' to 4' >4' to 5' >5' to 8' >8' to 12'	2			0
≤3' ≤4' ≤5' ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 **T5** **T6**				
3+ 4+ 4+	5	5	5	10
2 3 3	3			0
1 2 2	2			0
N/A 1 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **49**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

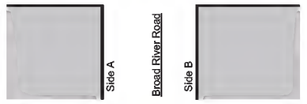
Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: St. Andrews Pkwy. / Broad River Road / St. Andrews Rd.



Transect Zone (Circle One):

T3 | **T4** | **T5** | **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 / **T4** / **T5** / **T6**				
>5' / >6' / >12' / >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4	4	4	8
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0			0
			Segment Total	8
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8		8	8
1:3 to 1:6	6			0
>1:6	0			0
				8
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 / **T5** / **T6**				
3+ / 4+ / 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0		0	0
			Segment Total	6

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **75**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

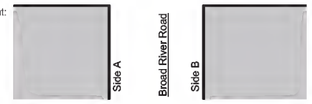
Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 40mph

Street Segment: St. Andrews Rd. / Broad River Road / Huffstetler Dr.



Transect Zone (Circle One):

T3 | **T4** | **T5** | **T6**

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6		6	6
30 mph	4			0
Over 30 mph	0			0
			Segment Total	6
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4	4	4	8
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
			Segment Total	8
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 / **T4** / **T5** / **T6**				
>5' / >6' / >12' / >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4	4	4	8
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0			0
			Segment Total	8
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8		8	8
1:3 to 1:6	6			0
>1:6	0			0
				8
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 / **T5** / **T6**				
3+ / 4+ / 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0		0	0
			Segment Total	6

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **75**

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 45mph

Transect Zone (Circle One): **T3** T4 T5 T6

Street Segment: Huffstetler Dr. / Broad River Road / Grove Park Ln. (Side A, Side B)

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4		4	4
Over 30 mph	0			0
			Segment Total	4
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5	5	5	10
2 / 3 / 3	3			0
1 / 2 / 2	2			0
N/A / 1 / 1	0			0
			Segment Total	10
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3	3	3	6
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	6
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **49**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

WALKABILITY INDEX DATA SHEET:

Broad River Road

Date: Jun-10

Begin Time: _____ A.M. P.M. (Circle One)

Completed by: Tracy Hegler

Representing: Central Midlands COG

Posted Speed of Street/Road: 45mph

Transect Zone (Circle One): **T3** T4 T5 T6

Street Segment: Grove Park Ln. / Broad River Road / Piney Grove Rd. (Side A, Side B)

WALKABILITY MEASURE

Criterion	Value	Score Side A	Score Side B	Total Score
STREET DESIGN (MAXIMUM SCORE 30 POINTS)				
1 **Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**				
[Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]				
≤15 mph	10			0
20 mph	8			0
25 mph	6			0
30 mph	4		4	4
Over 30 mph	0			0
			Segment Total	4
2 **Pavement Width---curb face to curb face---at Pedestrian Crossing**				
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4		4	4
Over 66'	0			0
			Segment Total	4
3 **Presence of On-Street Parking (Parallel or Angle Parking)**				
76% - 100% of Block Face	5			0
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0	0	0	0
			Segment Total	0
SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)				
4 **Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**				
T3 >5' / **T4** >6' / **T5** >12' / **T6** >20'	5	5	5	10
>4' to 5' / >5' to 6' / >8' to 12' / >12' to 20'	3			0
>3' to 4' / >4' to 5' / >5' to 8' / >8' to 12'	2			0
≤3' / ≤4' / ≤5' / ≤8'	0			0
			Segment Total	10
5 **Pedestrian Connectivity: Distance between intersections or mid-block crossings**				
300' or less	5			0
301' to 400'	4			0
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0	0	0	0
			Segment Total	0
6 **Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**				
High quality	5	5	5	10
Moderate quality	3			0
Low quality	2			0
Poor quality or no features	0			0
			Segment Total	10
URBAN DESIGN (MAXIMUM SCORE 30 POINTS)				
7 **Street Enclosure: Ratio of building height to street width [building face to building face]**				
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6			0
>1:6	0		0	0
				0
8 **Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**				
T4 3+ / **T5** 4+ / **T6** 4+	5		5	5
2 / 3 / 3	3			0
1 / 2 / 2	2	2		2
N/A / 1 / 1	0			0
			Segment Total	7
9 **Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians***				
Small units; many doors (15-20 doors/block face); lots of character	5			0
Small units; many doors (10-14 doors/block face), many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3			0
Large units; little variation (2-5 doors/block face); few or no details	1	1	1	2
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
			Segment Total	2
TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)				
10 **Transit and/or Bicycle Features**				
Presence of bus stops and bicycle racks	10			0
Presence of bus stops or bicycle racks only	5		5	5
No bus stops or bicycle racks	0			0
			Segment Total	5

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

TOTAL SCORE, THIS STREET SEGMENT **42**

*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

Revised: March 20, 2007

BROAD RIVER ROAD (COLUMBIA) WALKABILITY INDEX RESULTS

Entry #	Street	Segment		Walkability Measures Summary										Total
				1	2	3	4	5	6	7	8	9	10	
		From	To	Speed	Pavement Width	On-Street Parking	Sidewalk Width	Connectivity	Pedestrian Features	Street Enclosure	Land Use Mix	Façade Design	Transit/ Bicycle	
1	Broad River Rd.	River	Greystone Blvd.	6	4	8	10	8	10	8	10	6	5	75
2	Broad River Rd.	Greystone Blvd.	Arrowwood Rd.	6	4	8	10	8	10	8	10	6	5	75
3	Broad River Rd.	Arrowwood Rd.	Bush River Rd.	6	4	8	10	8	10	8	10	6	5	75
4	Broad River Rd.	Bush River Rd.	Omarest Dr.	6	4	8	10	8	10	8	10	6	5	75
5	Broad River Rd.	Omarest Dr.	Bakersfield Rd.	6	4	8	10	8	10	8	10	6	5	75
6	Broad River Rd.	Bakersfield Rd.	Longcreek Dr.	6	4	8	10	8	10	8	10	6	5	75
7	Broad River Rd.	Longcreek Dr.	I-20 EB Offramp	6	4	8	10	8	10	8	10	6	5	75
8	Broad River Rd.	I-20 EB Offramp	I-20 WB Onramp	4	4	0	10	0	10	0	0	0	0	28
9	Broad River Rd.	I-20 WB Onramp	Marley Dr./Briargate Cr.	4	4	0	10	0	10	0	10	6	5	49
10	Broad River Rd.	Marley Dr./Briargate Cr.	Young Dr./Seminole Rd.	4	4	0	10	0	10	0	10	6	5	49
11	Broad River Rd.	Young Dr./Seminole Rd.	Rushmore Rd.	4	4	0	10	0	10	0	5	2	5	40
12	Broad River Rd.	Rushmore Rd.	St. Andrews Pkwy.	4	4	0	10	0	10	0	10	6	5	49
13	Broad River Rd.	St. Andrews Pkwy.	St. Andrews Rd.	6	4	8	10	8	10	8	10	6	5	75
14	Broad River Rd.	St. Andrews Rd.	Huffstetler Dr.	6	4	8	10	8	10	8	10	6	5	75
15	Broad River Rd.	Huffstetler Dr.	Grove Park Ln.	4	4	0	10	0	10	0	10	6	5	49
16	Broad River Rd.	Grove Park Ln.	Piney Grove Rd.	4	4	0	10	0	10	0	7	2	5	42
	Total Average	**River**	**Piney Grove Rd.**	**5.75**	**4**	**7**	**10**	**7**	**10**	**7**	**8.75**	**5.25**	**4.375**	**69.125**
				1	2	3	4	5	6	7	8	9	10	Total
				Speed	Pavement Width	On-Street Parking	Sidewalk Width	Connectivity	Pedestrian Features	Street Enclosure	Land Use Mix	Façade Design	Transit/ Bicycle	

Appendix C

Demographic Data

SOCIO-ECONOMIC PROFILE

STUDY OVERVIEW

The Study Area for the Broad River Road Corridor and Community is bounded by the Broad River to the North and East, the Saluda River to the Southeast, I-26/126 to the Southwest and Piney Grove Rd/Harbison State Forest to the Northwest.

Saint Andrews

Most of the Study Area falls within an area referred to by the United States Department of Commerce as the St. Andrews Designated Census Area. The designation of this area as "St. Andrews" has become the brand name of the study area. Area residents and businesses use it as a location identifier and the COG uses its name as Planning Area 5a.

Population and Household Trends

The Study Area had an estimated population of 24,657 according to 2000 Census estimates provided by Claritas, Inc. This represented an increase of only 721 new residents over the ten (10) year, 1990-2000, period. Likewise, the study area contained 10,537 occupied dwelling units (households) as of 2000, an increase of 1,714 households. The difference between the increase in population and housing is largely due to smaller household populations.

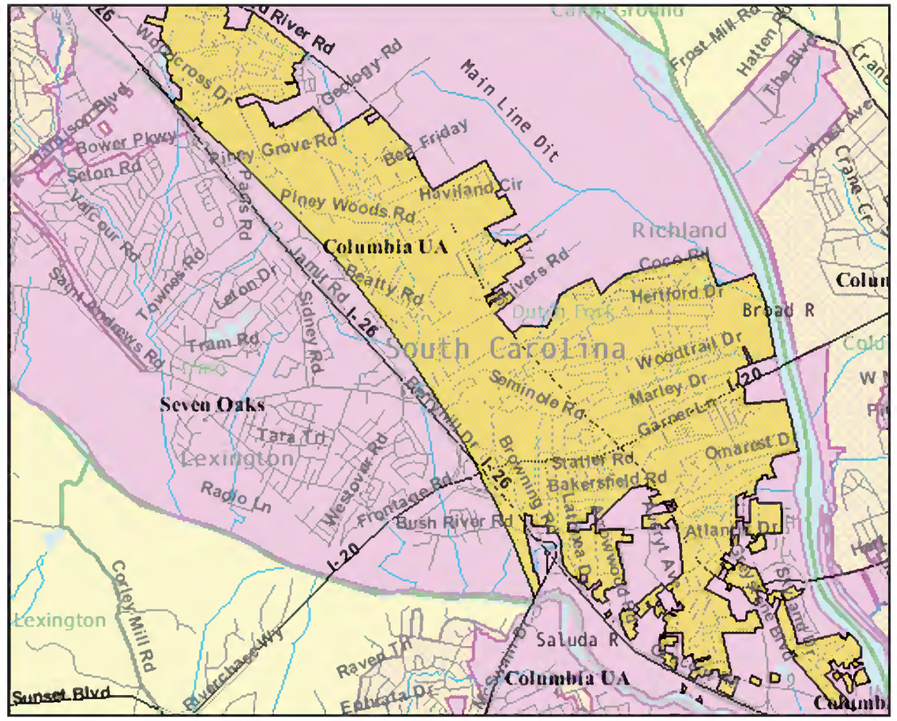


Figure 3. St. Andrews Designated Census Area
Note: Area in gold is the St. Andrews Designated Census Area

Description	Broad River Study Area
Population	
2000 Census	24,657
1990 Census	23,936
Growth 1990-2000	3.01%
Households	
2000 Census	12,251
1990 Census	10,537
Growth 1990-2000	16.27%

Table 1. Population and Household Trends
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

Population and Household Characteristics

Overall Study Area

The study area has a diverse ethnicity with a Black or African Americans representing 51% of its population, Whites 44% and 5% others. According to the 2000 Census, the area had only 469 Hispanic residents which represents only 2 % of the overall residents.

The area households are primarily rentals. As of the 2000 Census the Study Area's households were 30% owner occupied and 70% rentals.

In 2005, the COG prepared a detail transportation study of the area which included detailed demographic and economic surveys. This baseline data is considered reliable and demonstrate demographic and economic changes in the area between 2000 and 2005.

The 2005 Transportation study divided the area into four (4) zones. According to the study, the Study Area contained 25,052 residents and 12,619 households. The Study Area also contains major corrections institutions which had an estimated population of approximately 5,000 (in group quarters). This represents a population increase of only 395 new residents over the five year 2000-2005 time-period.

Description	Broad River Study Area
Population	
2000 Census	24,657
1990 Census	23,936
Growth 1990-2000	3.01%
Households	
2000 Census	12,251
1990 Census	10,537
Growth 1990-2000	16.27%

Table 2. Ethnicity of St. Andrews, 2000
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

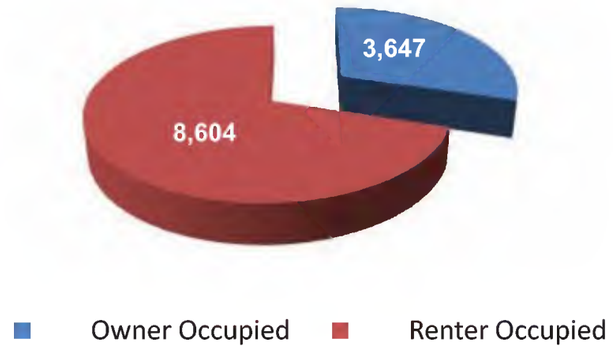


Figure 5. Rental and Ownership Housing, 2000
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

TAZ 2005	Population In Households	Households	Population in Group Quarters
Dutch Square - Lower Broad East	5,018	3,085	0
Piney Grove - St. Andrews East	6,223	2,385	4,983
Piney Grove - St. Andrews West	10,337	5,270	50
Dutch Square - Lower Broad West	3,474	1,879	35
Grand Total	**25,052**	**12,619**	**5,068**

Table 3. Population and Housing, 2005
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

St. Andrews Designated Census Tract

While the boundaries of the Study Area and the St. Andrews Designated Census Tract are not identical; they are close enough that the St. Andrews Designated Census Tract data trends can be used to identify trends within the Study Area.

The study area is undergoing a major change in its ethnicity. According to Census figures, the area has reversed its ethnicity, with Blacks growing from 36% in 1990 to 64% in 2008 and Whites declining from 62% in 1990 to 29% in 2008.

The area experienced a significant growth between 1980 and 1990 where it gained over 10,000 new residents, a growth of 66%, but has significantly slowed since 1989. Housing has changed over the same 26/28 year period. Through 2000, the area's housing was increasingly rental, which peaked at 64% in 2000. Since that time, and probably due to the housing bubble, the area experienced a small increase in owner occupied households.

	1990	2000	2008
White	62.5%	44.1%	28.8%
Black	35.8%	52.2%	63.8%

Table 4. Ethnicity, 1990, 2000 and 2008
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

St. Andrews Census Delineated Area				
Date	**Population**	**Households**	**Rentals**	**% Rentals**
1980	15,509	7,960	3,812	47.89%
1990	25,692	10,696	6,820	63.76%
2000	21,814	10,497	6,742	64.23%
2006/8	21,360	11,397	6,742	59.16%

Table 5. St. Andrews Designated Census Area Demographics
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

2009/2014 Demographic and Household Trends

SPG commissioned a special demographic and housing trend report from Claritas, Inc. The analysis shows the overall socio economic trends of the Study Area between 2000, 2009 and projected 2014 estimates.

Claritas estimated a slight population decrease between 2000 and 2009; but a small increase in population by 2014. In 2000, the Study Area had an estimated 1,158 housing units vacant (8.6%).

Description	2000 Census	2009 Estimate	%Change 2000-2009	2014 Projection	%Change 2009-2014
Population	24,657	24,602	-0.22%	25,082	1.95%
Households	12,251	12,776	4.29%	13,284	3.98%
Families	5,320	5,300	-0.38%	5,418	2.23%
Housing Units	13,409	14,304	6.67%	14,866	3.93%
Average Household Size	1.97	1.88	-4.57%	1.84	-2.13%
Income Totals					
Aggregate($MM) Household Income	475	558	17.47%	621	11.29%
Per Capita($)	19,601	22,919	16.93%	25,006	9.11%

Table 6. Demographics and Housing, 2000 to 2014
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

The overall median and average age of area residents continues to grow older as shown below.

Description	2000 Census	%	2009 Estimate	%	2014 Projection	%
Median Age	29.69		32.09		33.59	
Average Age	32.18		33.86		35.19	
Population by Sex	24,657		24,602		25,082	
Male	11,697	47.44%	11,689	47.51%	11,975	47.74%
Female	12,960	52.56%	12,913	52.49%	13,108	52.26%
Male/Female Ratio	0.90		0.91		0.91	

Table 7. Median Age, 2000-2014
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

The following graphic shows the relative demographic changes by age for the 2000-2014 time period. The peak 18-34 age cohorts represent the greatest declines during the time period.

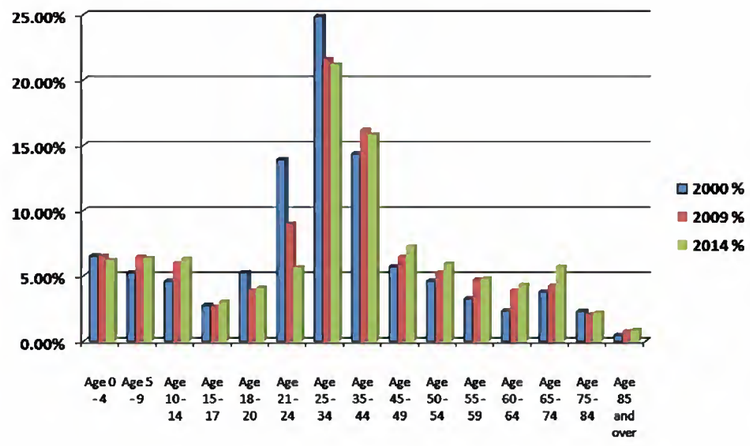


Figure 6. Age Distribution, 2000-2014
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

In 2000, approximately 50% of the households were headed by persons within the under 25-34 age cohort. Claritas has projected a significant decline in the under 25 age cohort by 2014; which represents the college age residents living within the Study Area.

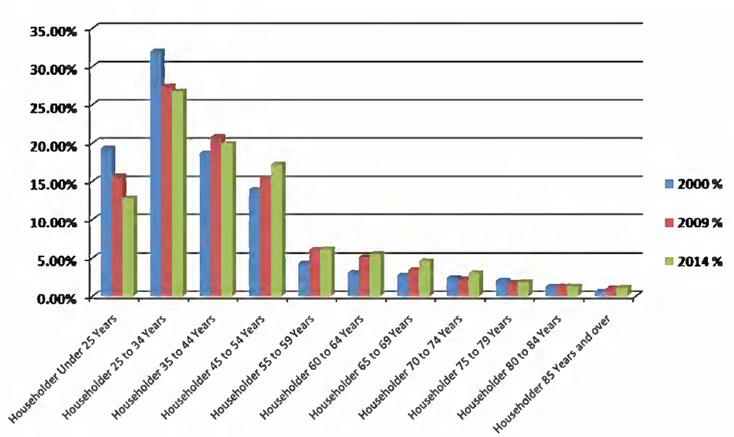


Figure 7. Householders Age, 2000-2014
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

In 2000, approximately 57% of the households were non-family households and 43% were family households. This trend is projected to increase to 59% non-family household by 2014. The majority of non-family households are, and are projected to be, one-person households. While a lower percentage; the majority of family households are two person households.

Description	2000 Census	%	2009 Estimate	%	2014 Projection	%
Households by Household Type and Size						
Nonfamily Households	6,931	56.57%	7,476	58.52%	7,866	59.21%
1-person household	5,267	75.99%	5,983	80.03%	6,460	82.13%
2-person household	1,421	20.50%	1,287	17.22%	1,218	15.48%
3-person household	191	2.76%	164	2.19%	152	1.93%
4-person household	43	0.62%	31	0.41%	25	0.32%
5-person household	5	0.07%	5	0.07%	5	0.06%
6-person household	3	0.04%	4	0.05%	5	0.06%
7 or more person household	1	0.01%	1	0.01%	1	0.01%
Family Households	5,320	43.43%	5,300	41.48%	5,418	40.79%
2-person household	2,642	49.66%	2,782	52.49%	2,921	53.91%
3-person household	1,431	26.90%	1,408	26.57%	1,417	26.15%
4-person household	813	15.28%	748	14.11%	736	13.58%
5-person household	305	5.73%	264	4.98%	254	4.69%
6-person household	88	1.65%	75	1.42%	69	1.27%
7 or more person household	43	0.81%	24	0.45%	22	0.41%

Table 8. Type of Households, 2000-2014
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

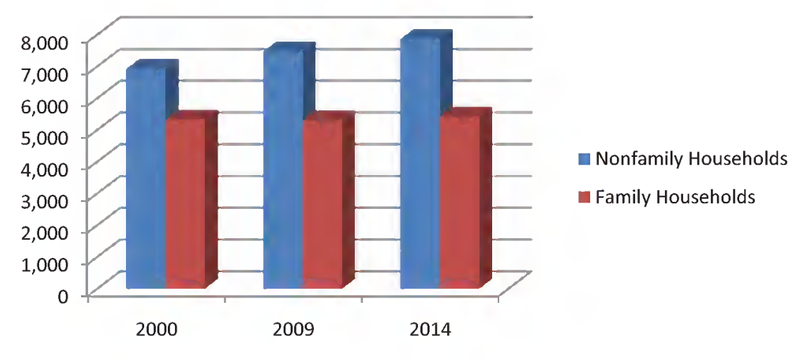


Figure 8. Family and Non Family Households, 2000-2014
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

St. Andrews Household Profile (PRIZM)

Claritas, Inc. has developed a typology to define a neighborhood or community's lifestyle segmentation. Understanding lifestyle segmentation is important because people choose to live in neighborhoods that offer affordable and compatible lifestyles and these neighborhoods can be grouped into clusters that exhibit similar demographic and behavioral characteristics. Claritas has identified 67 different segments. Most communities are comprised of only a hand full of different segments but St. Andrews contains 26 different segments demonstrating that it is in a state of transition. The top segments are listed in order to size below:

1. City Start Ups – 24.9%
2. New Beginnings – 16.3%
3. Boomtown Singles – 12.4%
4. Young Influentials – 7.8%
5. Suburban Sprawl – 5.5%

City Start Ups

Low Income, Younger w/o Kids

In City Startups, young, multi-ethnic singles have settled in neighborhoods filled with cheap apartments and a commercial base of cafés, bars, laundromats, and clubs that cater to twentysomethings. One of the youngest segments in America--with ten times as many college students as the national average--these neighborhoods feature low incomes and high concentrations of African-Americans.

New Beginnings

Downscale, Younger Family Mix

Filled with young, single adults, New Beginnings is a magnet for adults in transition. Many of its residents are twentysomething singles and couples just starting out on their career paths--or starting over after recent divorces or company transfers. Ethnically diverse--with nearly half its residents Hispanic, Asian, or African-American--New Beginnings households tend to have the modest living standards typical of transient apartment dwellers.

Boomtown Singles

Lower-Mid, Middle Age w/o Kids

Affordable housing, abundant entry-level jobs, and a thriving singles scene--all have given rise to the Boomtown Singles segment in fast-growing satellite cities. Single, and working-class, these residents pursue active lifestyles amid sprawling apartment complexes, bars, convenience stores, and laundromats.

Young Influencials

Midscale, Younger w/o Kids

Once known as the home of the nation's yuppies, Young Influentials reflects the fading glow of acquisitive yuppiedom. Today, the segment is a common address for younger, middle-class singles and couples who are more preoccupied with balancing work and leisure pursuits. Having recently left college dorms, they now live in apartment complexes surrounded by ball fields, health clubs, and casual-dining restaurants.

Suburban Sprawl

Midscale, Older w/o Kids

Suburban Sprawl is an unusual American lifestyle: a collection of midscale, older singles and couples living in the heart of suburbia. Typically members of the Baby Boom generation, they hold decent jobs, own older homes and condos, and pursue conservative versions of the American Dream. Among their favorite activities are jogging on treadmills, playing trivia games, and renting videos.

Multi-Family Housing

As discussed, one unique feature of the housing within the Study Area is the percentage of housing that is multi-family (rental and owner). According to a recent COG study, the Study Area contained 8,700 multi-family housing units in 2008. This indicates that approximately 61% of the study area housing units are multi-family units.

Type	Units
Apartments	7,379
Rental Subsidized	149
Condominiums	1,030
Combined	155
Total	8,713

Table 9. Types of Multi Family Housing
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

Income Trends

According to 2000 Census estimates, the average household income for the Study Area was approximately $38,900 and an average household income of slightly over $32,900. The per capital income was estimated at $19,601. Household income was significantly lower in St. Andrews than for the region or even Richland County.

Description	Broad River Study Area
2000 Average Household Size	1.97
2000 Average Household Income	$38,893
2000 Median Household Income	$32,945
2000 Per Capita Income	$19,601

Table10. Household Size and Income, 2000
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

Description	Broad River Study Area	%
2000 Tenure of Occupied Housing Units	12,251	
Owner Occupied	3,647	29.77
Renter Occupied	8,604	70.23
2000 Households by Household Income	12,210	
Income Less than $15,000	1,919	15.72
Income $15,000 - $24,999	2,387	19.55
Income $25,000 - $34,999	2,264	18.54
Income $35,000 - $49,999	2,463	20.17
Income $50,000 - $74,999	2,002	16.40
Income $75,000 - $99,999	767	6.28
Income $100,000 - $149,999	317	2.60
Income $150,000 - $249,999	80	0.66
Income $250,000 - $499,999	11	0.09
Income $500,000 or more	0	0.00

Table 11. Household Tenure and Income, 2000
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

2009/2014 Income Trends

Claritas has projected continued growth in income throughout the time period; however the amount of increase shows little growth when inflation is taken into account. By 2014 average household income will exceed $46,700.

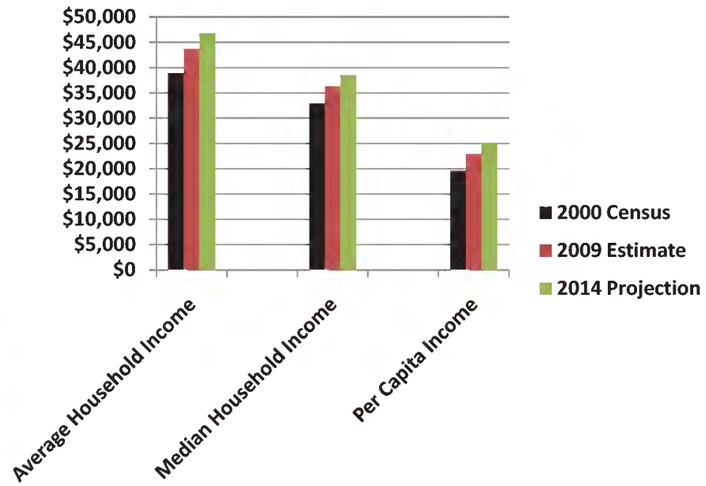


Figure 9. Average, Median and Per Capita Income, 2000-2014
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

The distribution of household income between 2000 and 2014 is shown below. It is important to note the lack of households with incomes over $75,000.

Description	2000 %	2009 %	2014 %
Households by Household Income			
Income Less than $15,000	15.72%	14.57%	13.93%
Income $15,000 - $24,999	19.55%	15.54%	13.84%
Income $25,000 - $34,999	18.54%	18.10%	17.37%
Income $35,000 - $49,999	20.17%	21.04%	20.68%
Income $50,000 - $74,999	16.40%	17.67%	18.77%
Income $75,000 - $99,999	6.28%	7.46%	8.12%
Income $100,000 - $149,999	2.60%	4.48%	5.73%
Income $150,000 - $249,999	0.66%	0.97%	1.28%
Income $250,000 - $499,999	0.09%	0.16%	0.21%
Income $500,000 or more	0.00%	0.02%	0.06%

Table 12. Household Income Distribution, 2000-2014
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

Employment Trends

The best current measure of employment within the Study Area is data from the 2005 Transportation Study. That study shows that the area had 22,073 employees in 2005.

TAZ 2005	Total Employment
Dutch Square - Lower Broad East	1,039
Piney Grove - St. Andrews East	5,607
Piney Grove - St. Andrews West	5,351
Dutch Square - Lower Broad West	10,076
Grand Total	**22,073**

Table 13. Employment, 2005
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

Claritas estimates that the Study Area contains 28,268 employees as of 2009 and increase of 6,195 jobs since 2005. SPG feels, given the current, current employment levels have probably declined to 2005 levels. It is important to note that the majority of employment within St. Andrews is traditional white collar management oriented jobs not service or retail employment.

Description	Broad River Study Area	%
Executive and Professional	9,122	32.3%
Administration and Support	10,410	36.8%
Service Personnel	4,482	15.9%
Trade and Labor	4,254	15.0%
Total Employment	**28,268**	

Table. 14. Types of Employment, 2009
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

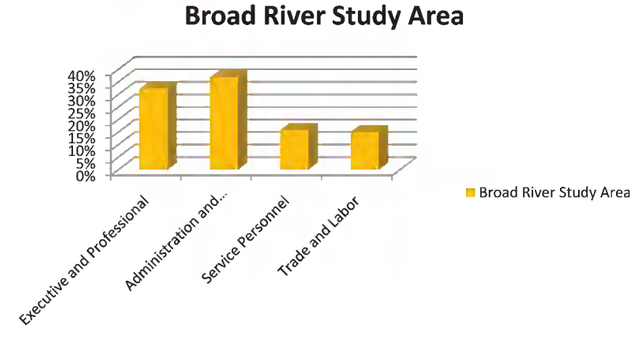


Figure 10. Types of Employment
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

Building Permit Activity

St. Andrews was largely built-out by the late 1970s, so building permit activity has been relatively light when compared to the COG region. The Study Area averages around 1% of the region's building permit activity.

	Housing Permits		
	St. Andrews	COG	%
1998	72	4,987	1.44%
1999	23	5,725	0.40%
2000	17	4,504	0.38%
2001	12	4,515	0.27%
2002	35	4,965	0.70%
2003	41	5,963	0.69%
2004	17	6,007	0.28%
2005	53	6,763	0.78%
2006	140	9,119	1.54%
2007	39	6,924	0.56%
2008	275	5,160	5.33%
	724	64,632	1.12%

Table 15. Housing Permits
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

During the period from 2000 through 2008, the Study Area issued permits for approximately $90 million dollars of construction of which approximately 40% was residential permits.

	Permit Value	
	Residential	Non Residential
2000	$929,357	$11,773,014
2001	$907,584	$6,053,646
2002	$2,069,890	$9,342,919
2003	$3,133,654	$2,381,801
2004	$1,633,846	$1,491,203
2005	$4,319,804	$6,299,538
2006	$10,002,175	$5,533,774
2007	$2,442,276	$7,596,499
2008	$10,682,078	$3,098,132
	$36,120,664	$53,570,526

Table 16. Building Permit Value
Source: Claritas, Inc. 2009; Strategic Planning Group, Inc. 2010

TAZ 2035	Population In Households	Households	Population in Group Quarters
Dutch Square - Lower Broad East	4,898	3,116	0
Piney Grove - St. Andrews East	6,384	2,434	5,388
Piney Grove - St. Andrews West	10,628	5,371	75
Dutch Square - Lower Broad West	4,476	2,311	50
Grand Total	**26,386**	**13,232**	**5,513**

Table 17. Population and Household Projections, 2035
Source: Central Midlands COG,. 2009; Strategic Planning Group, Inc. 2010

TAZ 2035	Employment
Dutch Square - Lower Broad East	1,375
Piney Grove - St. Andrews East	6,435
Piney Grove - St. Andrews West	7,693
Dutch Square - Lower Broad West	12,170
Grand Total	**27,673**

Table 18. Employment Projections, 2035
Source: Central Midlands COG,. 2009; Strategic Planning Group, Inc. 2010

MARKET STUDY INTRODUCTION

One of the most important elements of any redevelopment effort is to determine a realistic assessment of where a redevelopment area fits in relative to the overall market and how it will change. As important as pass-by traffic (and it is large within the study area) is, the role of the surrounding neighborhoods/communities in terms of population, income, growth and levels of access is critical. Not only does one want to measure the existing trade area but most importantly any overlaps that exist with other retail or office markets and how those other trade areas impact the growth or redevelopment of this area.

Location/Development Aspects of the Study Area

The St. Andrews community is ideally located at the convergence of three Interstate systems: 1-26, I-20, and I-126. Opened in the beginning of the 1960s, these interstate highway systems transformed this rural area into a moderately dense suburban community, and a major office and retail employment hub for the region.

St. Andrews represents some of the first suburbanization of the City of Columbia. Today, much of the regional growth is still moving to the west but now into Lexington County; although there is increased demand into northeast Richland County.

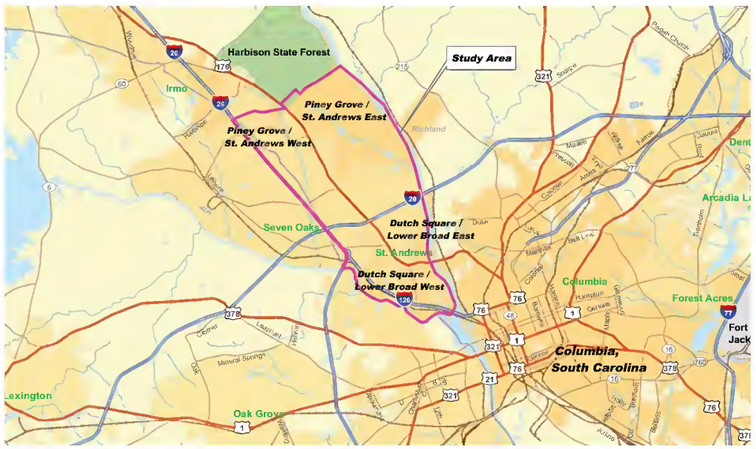


Figure 13. Regional Location Map

The study area is an area of transitions. The southern third of St. Andrews (South of I-20) can be divided into three distinct districts. The western part is predominately residential both older single family and a large number of multi-family family. The southwest district is bisected by Greystone Boulevard which is anchored by back office type employment (Wachovia and SC Baptist Convention) and automotive dealerships in between, and the zoo. The northwest district is bisected by Bush River Road, the older regional retail hub and to a lesser extent by Colonial Life Boulevard (which was built to service the Colonial Life Insurance campus). This area contains some of the larger redevelopment opportunities including:

- Dutch Square Center
- Boozer Shopping Center
- Intersection Center (Service Merchandise)

Figure 14. Dutch Square, Boozed and Intersection Center

The second major area lies between I-20 (forming the southern boundary) and St. Andrews Road to the north. This district contains mostly residential uses to the north of Broad River Road (and Columbia High School), while the west part is heavily residential (single and multi-family with major employment centers facing I- 26.

The third area lying north of St. Andrews and south of Piney Woods Road is still largely rural suburban. This portion of the Study Area is dominated by South Carolina Correctional Facilities which lie to the north/east of Broad River Road, while the area west of Board River Road is largely residential (except for the immediate St. Andrews corridor and the employment centers facing I-26, along Fernandina Road).

Targeted Growth Industries

There have been at least three economic development studies designed to target or identify clusters of industries that are most compatible with Richland County. Most of the clusters or targets associated with manufacturing are not particularly suited to the Study area (with the possible exception of Printing, which is already here). However the following identified targets are suitable:

- Health Care
- Finance and Insurance
- Retail Trade
- Communications
- Professional Services
- Information
- Tourism

Market Demand Analysis

The overall market demand analysis focuses on four major sectors: office, retail, automotive, and housing. Because retail uses usually follow roof tops (residential units) and office space while not dependent on residential, likes to locate where access to workforce is excellent, this study first analyzes the housing sector within the St. Andrews.

Housing

St. Andrews grew rapidly from 1970 to 1990 (80% of the housing was built between 1960 and 1989) but as slowed down due in large part to lack of additional developable space. The median year built of owner occupied homes in 2000 was 1973, meaning they are now approaching 37 years old; while rental housing median was 1982, making them over 28 years old.

According to the 2000 Census, 64% of all housing contained 2 or less bedrooms, indicating that the housing stock is largely multi-family housing.

Year Built	%
1999 to March 2000	1.5%
1995 to 1998	4.2%
1990 to 1994	7.5%
1980 to 1989	32.8%
1970 to 1979	33.5%
1960 to 1969	13.2%
1940 to 1959	6.9%
1939 or earlier	0.5%

Table 19. Year Housing Built
Source: US Census, 2000; Strategic Planning Group, Inc., 2010

Multi-Family Housing

As discussed in Section 2, the Study Area contains approximately 13,400 housing units of which 8,713 or 65 percent are multi-family units (condominium, townhomes and apartments). The area has the largest concentration of apartments (7,600+) in the Columbia region. Rental units comprise almost 60% of all housing . Apartments (1, 2 and 3 Bedrooms) are all averaging slightly lower lease rates than the regional average. Based on Census and interviews, the local apartment market has a high percentage of students residing in St. Andrews.

The majority of apartments are now 20+ years old. Some new condominium construction as well as conversions occurred during the housing bubble but on large most of the multifamily housing is approached their life cycle end. The aging housing stock helps explain the lower lease rates which in turn explains that large number of college/university residents.

	Rents		Vacancy	
	Region	St. Andrews	Region	St. Andrews
1-BR	$603	$555	10.4%	7.9%
2-BR	$683	$667	13.3%	9.6%
3-BR	$850	$779	13.5%	11.7%

Table 20. Rents and Vacancies
Source: Central Midlands COG, 2009; Strategic Planning Group, Inc., 2010

Single Family Housing

Single family subdivisions are spread throughout the Study Area but the largest concentration is north/east of Broad River Road. Some new construction is occurring in the northern third of the Study primarily along Piney Grove Road.

Most of the subdivisions are 30+ years old. Furthermore, a majority of the single family lots are not on central sewer systems and therefore not within City boundaries.

According to Realtytrac.com; the median home value within Columbia region is $126,548 as of October 2009 and the average home value within the Study Area was $105,343. Zillow.com reported that the housing prices (all types) averaged $126,100 compared to $96,600 within St. Andrews.

Using Zillow's home value index, SPG analyzed value change in St. Andrews over the July 2009 to January 2010 period. As can be seen below, values have increased significantly especially for housing with 4 or more bedrooms. Units with 4 or more bedrooms are assumed to be single family as few if any multi-family units have more than 3-bedrooms.

It is important to note the impact that foreclosure and short sells have on average housing sale prices. A shown in the figure below, Realtytrac.com has tracked the sales price of housing within St. Andrews (zip code 29210) which shows the large divergence between normal sale prices and foreclosures within the Study Area.

Single family home sales averaged $129,100 for the region in 2009 according to Zillow.com while St. Andrews average $119,800 in January 2010 and condominiums averaged $71,700.

	Jul-09	Jan-10
2-BR	$76,600	$80,000
3-BR	$100,400	$109,500
4-BR	$113,500	$150,000
4+-BR	$134,100	$177,000

Table 21. Recent Housing Sales Values
Source: Zillow.com, 2010; Strategic Planning Group, Inc., 2010

Demand

As discussed in Section 2, St. Andrews contains a large employment base but a large percentage of the employment base does not live in St. Andrews. According to the 2000 Census, only 30% of the workforce appears to live in the area. It should be noted that in 2000, almost 30% of local residents worked outside of Richland County. Furthermore, 25% of those aged 16+ were not in the workforce (again verifying the large number of university/college studies residing in St. Andrews).

Given the excellent access and job opportunities with St. Andrews, the demand for housing should be high. However, the aging housing stock and limited new construction (product) has impacted the area. Residential absorption, as measured by its lower vacancies, shows that St. Andrews still can be viewed as a strong market for some cohorts. However, access and product are only part of the explanation of why people choose certain locations to reside. For families, schools play an important location factor, and St. Andrews schools have not graded well in recent years (discussed later in this report). Schools, the declining ambiance and sense of crime could and should have a negative impact on the local housing market.

Retail

As discussed earlier, St. Andrews was "the retail hub" of the region during the 1970-80s. The earlier successes mirror the ability of the Bush River Road Corridor to capture the growing suburban expansion of Columbia. However, with the opening of the Columbiana Mall in 1990 and its ability to attract other retailers and power centers, effectively diminished St. Andrews market share.

Because the decline in retail played an important role in the decline of the entire St. Andrews community, a brief discussion of retailing is warranted. St. Andrews retail sector grew as a destination event. When Dutch Square Mall opened it opened as "the largest mall in the Carolinas" and drew from the entire region. The next section discusses the new types of destination retail and provides an understanding of where St. Andrews might go.

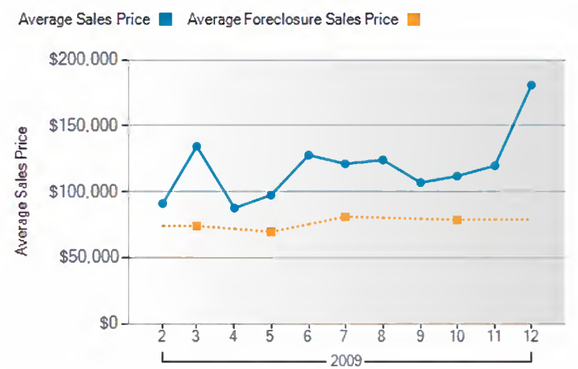


Figure 15. Foreclosures within St. Andrews
Source: Realtyrac.com, 2010; Strategic Planning Group, Inc. 2010

Current St. Andrews Retail Market

Retail demand for space within the Columbia region has been hard hit during the current recession with a host of major retailers leaving the market (Goody's, Ashley Furniture, Linens 'N Things, Dillards, Circuit City, Steve and Berry's, etc.).

As shown on the following page, the new Columbiana retail hub is located within six miles of Dutch Square Center and its market shed dominates the St. Andrews community.

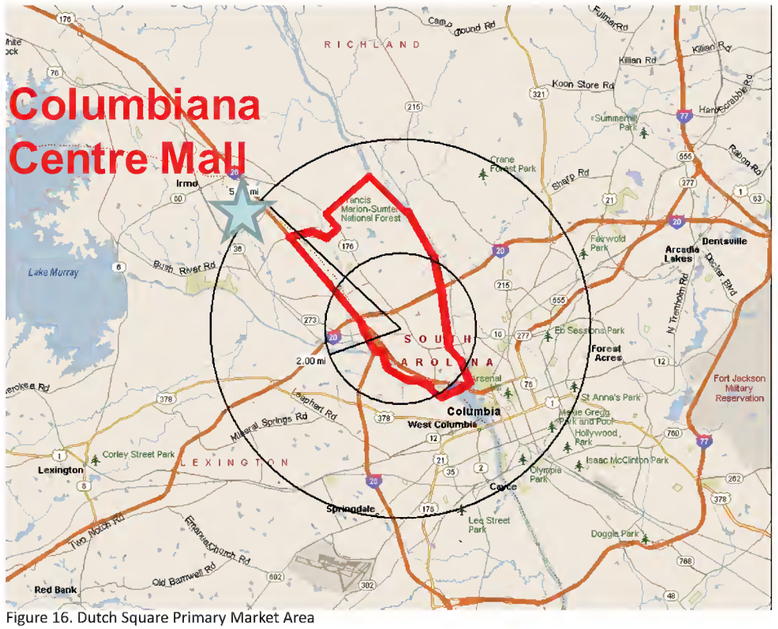


Figure 16. Dutch Square Primary Market Area

According to the latest COG report, retail space is spread fairly evenly round the region, which is not unusable given that retail follows or its dependent on residential developments (rooftops). St. Andrews contains 2.2 million square feet of retail space or slightly over 100 square feet per resident compared to a regional average of 34 square feet of retail per capita. The COG reports a 13.2% vacancy rate even given the area's low lease rates. The lease rates are competitive however, the structures for the most part are old and the surround ambiance declining.

- **Concentrated in 7 areas**
  - East Columbia – 19.2%
  - Dutch Fork/ Irmo – 18.8%
  - Richland Northeast – 16.3%
  - Lexington – 9.9%
  - South Columbia – 9.8%
  - St. Andrews – 9.7%
- **St. Andrews**
  - ✓2.2 million square feet
  - ✓13.2% vacancy (3rd highest)
  - ✓$12.00 per square foot (region $16.76)

Figure 17. Retail Concentrations and St. Andrews

Grubb & Ellis which maintain a separate retail inventory, show St. Andrews with a 10% vacancy rate. Given the competitive market shed of Columbiana and the aging retail inventory within St. Andrews, at 100 square feet per capita, even give its excellent access, the retail market is over retailed as described below.

Retail Gap Analysis

SPG commissioned a special retail consumption model analysis of the retail shed of Dutch Square, Boozer, Intersection Center. The model calculates the retail sales potential of the area, then compares the potential opportunity (demand) with existing sales (supply). If an areas has less sales within it market area than opportunities, then there exists a surplus; or that the area might be able to support more stores.

SPG analyzed the Dutch Square, Boozer, Intersection Center market sheds at 3, 6 and 9 mile radii. Each radii tend to support a specific type of retail. For example, 3 mile radii is the typical primary market shed for a neighborhood center including groceries; while a 6 mile shed supports more of a community level shopping center and a 9 mile is more indicative of specialized shopping at a regional level.

SPG sorted the GAP analysis controlling for the 9 mile regional shed, which compares to the Dutch Square traditional market. A 9 mile market shed shows that the market can only support 13 retail store types (all other store types showed that supply exceeds demand). The biggest demand is an additional Department Store (s), Nursery/Garden Center, Convenience stores, Sporting Goods, Household Appliances, Computer and Hobby stores, for example.

Yet, if one looks at the 3 mile market shed, the area has adequate household appliance stores and hardware stores.

	3 mile	6 mile	9 mile
Retail Stores	Opportunity Gap/Surplus	Opportunity Gap/Surplus	Opportunity Gap/Surplus
Department Stores Excl Leased Depts-4521	3,523,123	50,971,973	109,453,553
Nursery and Garden Centers-44422	4,182,295	10,848,716	23,880,769
Convenience Stores-44512	1,515,356	6,123,938	13,562,851
Sporting Goods Stores-45111	88,795	(1,412,617)	11,310,706
Household Appliances Stores-443111	(1,666,669)	3,093,197	10,478,658
Hardware Stores-44413	(2,649,151)	(369,193)	10,308,905
Computer and Software Stores-44312	1,691,361	3,458,078	8,702,189
Hobby, Toys and Games Stores-45112	2,631,078	1,432,854	7,534,939
Other Gasoline Stations-44719	13,833,332	(18,097,943)	6,890,980
Cosmetics, Beauty Supplies, Perfume Stores-44612	655,490	614,213	3,745,412
Sew/Needlework/Piece Goods Stores-45113	728,622	1,536,953	1,910,761
Camera and Photographic Equipment Stores-44313	685,177	601,394	1,797,643
Luggage and Leather Goods Stores-44832	381,562	469,236	1,630,404
Prerecorded Tapes, CDs, Record Stores-45122	(890,352)	105,229	(79,830)
Childrens, Infants Clothing Stores-44813	1,359,641	(2,067,788)	(163,636)

Table. 25. Summary Retail Store GAP Analysis
Source: Claritas, Inc., 2010; Strategic Planning Group, Inc., 2010

Table 26 shows the more detail GAP analysis at the 9 mile market shed. It provides consumer expenditures and retail sales within the 9 mile shed and identified opportunities (which appear as a positive number).

Retail Stores	2009 Demand Consumer Expenditures	2009 Supply (Retail Sales)	Opportunity Gap/Surplus
Total Retail Sales Incl Eating and Drinking Places	4,738,758,725	6,252,362,235	(1,513,603,510)
Motor Vehicle and Parts Dealers-441	749,948,192	1,170,810,426	(420,862,234)
Automotive Dealers-4411	626,085,030	978,208,519	(352,123,489)
Other Motor Vehicle Dealers-4412	54,609,947	109,149,133	(54,539,186)
Automotive Parts/Accsrs, Tire Stores-4413	69,253,215	83,452,774	(14,199,559)
Furniture and Home Furnishings Stores-442	98,565,993	132,222,459	(33,656,466)
Furniture Stores-4421	53,341,806	73,565,755	(20,223,949)
Home Furnishing Stores-4422	45,224,187	58,656,704	(13,432,517)
Electronics and Appliance Stores-443	118,758,556	136,264,966	(17,506,410)
Appliances, TVs, Electronics Stores-44311	88,412,015	116,418,256	(28,006,241)
Household Appliances Stores-443111	20,243,338	9,764,680	10,478,658
Radio, Television, Electronics Stores-443112	68,168,677	106,653,576	(38,484,899)
Computer and Software Stores-44312	25,412,898	16,710,709	8,702,189
Camera and Photographic Equipment Stores-4431	4,933,644	3,136,001	1,797,643
Building Material, Garden Equip Stores -444	503,908,082	869,836,657	(365,928,575)
Building Material and Supply Dealers-4441	464,751,604	849,602,913	(384,851,309)
Home Centers-44411	191,650,777	379,480,636	(187,829,859)
Paint and Wallpaper Stores-44412	10,140,909	14,622,702	(4,481,793)
Hardware Stores-44413	40,469,639	30,160,734	10,308,905
Other Building Materials Dealers-44419	222,490,279	425,338,840	(202,848,561)
Building Materials, Lumberyards-444191	86,673,881	166,398,905	(79,725,024)
Lawn, Garden Equipment, Supplies Stores-4442	39,156,478	20,233,744	18,922,734
Outdoor Power Equipment Stores-44421	5,884,958	10,842,993	(4,958,035)
Nursery and Garden Centers-44422	33,271,520	9,390,751	23,880,769
Food and Beverage Stores-445	596,391,944	697,913,273	(101,521,329)
Grocery Stores-4451	545,569,439	635,055,653	(89,486,214)
Supermarkets, Grocery (Ex Conv) Stores-4451	518,455,433	621,504,498	(103,049,065)
Convenience Stores-44512	27,114,006	13,551,155	13,562,851
Specialty Food Stores-4452	15,738,133	17,424,808	(1,686,675)
Beer, Wine and Liquor Stores-4453	35,084,372	45,432,812	(10,348,440)
Health and Personal Care Stores-446	284,147,026	365,319,751	(81,172,725)
Pharmancies and Drug Stores-44611	246,556,779	297,240,807	(50,684,028)
Cosmetics, Beauty Supplies, Perfume Stores-4461	10,435,505	6,690,093	3,745,412
Optical Goods Stores-44613	8,865,653	21,334,445	(12,468,792)
Other Health and Personal Care Stores-44619	18,289,088	40,054,407	(21,765,319)
Gasoline Stations-447	558,494,816	758,742,000	(200,247,184)
Gasoline Stations With Conv Stores-44711	417,480,471	624,618,635	(207,138,164)
Other Gasoline Stations-44719	141,014,345	134,123,365	6,890,980
Clothing and Clothing Accessories Stores-448	218,143,180	321,821,872	(103,678,692)
Clothing Stores-4481	155,274,461	232,198,418	(76,923,957)
Men's Clothing Stores-44811	9,484,577	16,558,125	(7,073,548)
Women's Clothing Stores-44812	39,271,897	65,593,265	(26,321,368)
Childrens, Infants Clothing Stores-44813	8,687,003	8,850,639	(163,636)
Family Clothing Stores-44814	83,564,367	122,487,278	(38,922,911)
Clothing Accessories Stores-44815	3,758,905	5,482,268	(1,723,363)
Other Clothing Stores-44819	10,507,713	13,226,843	(2,719,130)
Shoe Stores-4482	31,244,307	46,655,914	(15,411,607)
Jewelry, Luggage, Leather Goods Stores-4483	31,624,411	42,967,541	(11,343,130)
Jewelry Stores-44831	29,163,005	42,136,539	(12,973,534)
Luggage and Leather Goods Stores-44832	2,461,406	831,002	1,630,404
Sporting Goods, Hobby, Book, Music Stores-451	98,460,232	111,535,482	(13,075,250)
Sportng Goods, Hobby, Musical Inst Stores-4511	67,200,396	50,543,728	16,656,668
Sporting Goods Stores-45111	34,417,021	23,106,315	11,310,706
Hobby, Toys and Games Stores-45112	21,421,011	13,886,072	7,534,939
Sew/Needlework/Piece Goods Stores-45113	5,140,575	3,229,814	1,910,761
Musical Instrument and Supplies Stores-45114	6,221,790	10,321,527	(4,099,737)
Book, Periodical and Music Stores-4512	31,259,836	60,991,754	(29,731,918)
Book Stores and News Dealers-45121	22,104,694	51,756,782	(29,652,088)
Book Stores-451211	21,076,725	50,082,782	(29,006,057)
News Dealers and Newsstands-451212	1,027,969	1,674,000	(646,031)
Prerecorded Tapes, CDs, Record Stores-45122	9,155,142	9,234,972	(79,830)
General Merchandise Stores-452	638,541,966	754,185,135	(115,643,169)
Department Stores Excl Leased Depts-4521	313,713,730	204,260,177	109,453,553
Other General Merchandise Stores-4529	324,828,236	549,924,958	(225,096,722)
Miscellaneous Store Retailers-453	108,924,105	179,394,251	(70,470,146)
Florists-4531	8,443,177	9,785,891	(1,342,714)
Office Supplies, Stationery, Gift Stores-4532	48,383,283	72,498,527	(24,115,244)
Office Supplies and Stationery Stores-45321	27,479,328	45,322,075	(17,842,747)
Gift, Novelty and Souvenir Stores-45322	20,903,955	27,176,451	(6,272,496)
Used Merchandise Stores-4533	10,561,005	14,118,922	(3,557,917)
Other Miscellaneous Store Retailers-4539	41,536,640	82,990,911	(41,454,271)
Non-Store Retailers-454	312,093,586	100,558,594	211,534,992
Foodservice and Drinking Places-722	452,381,046	653,757,368	(201,376,322)
Full-Service Restaurants-7221	202,319,603	301,575,222	(99,255,619)
Limited-Service Eating Places-7222	190,622,566	267,059,133	(76,436,567)
Special Foodservices-7223	38,410,842	60,223,460	(21,812,618)
Drinking Places -Alcoholic Beverages-7224	21,028,036	24,899,553	(3,871,517)
GAFO *	1,220,853,210	1,528,528,442	(307,675,232)
General Merchandise Stores-452	638,541,966	754,185,135	(115,643,169)
Clothing and Clothing Accessories Stores-448	218,143,180	321,821,872	(103,678,692)
Furniture and Home Furnishings Stores-442	98,565,993	132,222,459	(33,656,466)
Electronics and Appliance Stores-443	118,758,556	136,264,966	(17,506,410)
Sporting Goods, Hobby, Book, Music Stores-451	98,460,232	111,535,482	(13,075,250)
Office Supplies, Stationery, Gift Stores-4532	48,383,283	72,498,527	(24,115,244)

Table 26. Detailed 9 mile radii Market Shed GAP Analysis
Source: Claritas, Inc. 2010; Strategic Planning Group, Inc. 2010

GAFO in the table above, refers to General Merchandise, Apparel, Furniture and Other sales normally sold in Department Stores, Retail Demand within St. Andrews boundaries SPG also analyzed the retail supply/demand relationship of only St. Andrews itself. A complete analysis is contained in the Appendix. The analysis shows that within the boundaries of St. Andrews, the local expenditures only exceed retail supply in the following retail types.

- Home Centers $10.2 million opportunity
- Family Clothing $3.9 million
- Limited Service Eating Places $2.3 million
- Beer, Wine and Liquor $2.2 million
- Other Merchandise $1.8 million
- Nursery and Garden Center $1.7 million
- Other Misc. Stores Retailser $1.2 million
- Specialty Food Store $1.1 million
- Hobby, Toys $0.8 million
- Convenience Store $0.7 million
- Other Health and Personal Care $0.6 million
- Children, Infant Clothing $0.6 million
- Sporting Goods $0.5 million
- Clothing Accessories $0.3 million
- Camera Stores $0.3 million
- Outdoor Power Equipment $0.3 million
- Sew, Needleworks $0.3 million
- Florists $0.3 million
- Luggage and Leather Goods $0.2 million

Retail Stores	3 mile Opportunity Gap/Surplus	6 mile Opportunity Gap/Surplus	9 mile Opportunity Gap/Surplus
Total Retail Sales Incl Eating and Drinking Places	(278,662,661)	(1,460,806,630)	(1,513,603,510)
Motor Vehicle and Parts Dealers-441	(243,980,371)	(473,459,616)	(420,862,234)
Automotive Dealers-4411	(201,385,713)	(394,837,336)	(352,123,489)
Other Motor Vehicle Dealers-4412	(40,551,615)	(57,829,315)	(54,539,186)
Automotive Parts/Accsrs, Tire Stores-4413	(2,043,043)	(20,792,965)	(14,199,559)
Furniture and Home Furnishings Stores-442	(4,328,206)	(36,987,900)	(33,656,466)
Furniture Stores-4421	(1,163,461)	(15,597,169)	(20,223,949)
Home Furnishing Stores-4422	(3,164,745)	(21,390,731)	(13,432,517)
Electronics and Appliance Stores-443	(2,121,459)	(13,225,927)	(17,506,410)
Appliances, TVs, Electronics Stores-44311	(4,497,998)	(17,285,398)	(28,006,241)
Household Appliances Stores-443111	(1,666,669)	3,093,197	10,478,658
Radio, Television, Electronics Stores-443112	(2,831,329)	(20,378,597)	(38,484,899)
Computer and Software Stores-44312	1,691,361	3,458,078	8,702,189
Camera and Photographic Equipment Stores-4431	685,177	601,394	1,797,643
Building Material, Garden Equip Stores -444	(9,697,618)	(295,728,796)	(365,928,575)
Building Material and Supply Dealers-4441	(14,690,970)	(301,856,328)	(384,851,309)
Home Centers-44411	18,489,875	(73,067,223)	(187,829,859)
Paint and Wallpaper Stores-44412	(1,703,227)	(5,863,253)	(4,481,793)
Hardware Stores-44413	(2,649,151)	(369,193)	10,308,905
Other Building Materials Dealers-44419	(28,828,467)	(222,556,660)	(202,848,561)
Building Materials, Lumberyards-444191	(11,310,662)	(87,440,077)	(79,725,024)
Lawn, Garden Equipment, Supplies Stores-4442	4,993,352	6,127,533	18,922,734
Outdoor Power Equipment Stores-44421	811,057	(4,721,184)	(4,958,035)
Nursery and Garden Centers-44422	4,182,295	10,848,716	23,880,769
Food and Beverage Stores-445	(3,350,376)	(39,301,926)	(101,521,329)
Grocery Stores-4451	(8,405,001)	(17,378,313)	(89,486,214)
Supermarkets, Grocery (Ex Conv) Stores-4451	(9,920,356)	(23,502,252)	(103,049,065)
Convenience Stores-44512	1,515,356	6,123,938	13,562,851
Specialty Food Stores-4452	2,011,342	(1,800,170)	(1,686,675)
Beer, Wine and Liquor Stores-4453	3,043,282	(20,123,443)	(10,348,440)
Health and Personal Care Stores-446	(32,408,368)	(67,515,525)	(81,172,725)
Pharmancies and Drug Stores-44611	(31,924,649)	(42,792,285)	(50,684,028)
Cosmetics, Beauty Supplies, Perfume Stores-4461	655,490	614,213	3,745,412
Optical Goods Stores-44613	(590,718)	(10,582,089)	(12,468,792)
Other Health and Personal Care Stores-44619	(548,491)	(14,755,365)	(21,765,319)
Gasoline Stations-447	15,287,430	(201,413,754)	(200,247,184)
Gasoline Stations With Conv Stores-44711	1,454,098	(183,315,811)	(207,138,164)
Other Gasoline Stations-44719	13,833,332	(18,097,943)	6,890,980
Clothing and Clothing Accessories Stores-448	(2,789,905)	(49,995,030)	(103,678,692)
Clothing Stores-4481	227,392	(31,581,286)	(76,923,957)
Men's Clothing Stores-44811	250,114	(8,048,942)	(7,073,548)
Women's Clothing Stores-44812	(6,744,288)	(16,321,354)	(26,321,368)
Childrens, Infants Clothing Stores-44813	1,359,641	(2,067,788)	(163,636)
Family Clothing Stores-44814	6,186,080	(1,266,651)	(38,922,911)
Clothing Accessories Stores-44815	227,637	(1,215,709)	(1,723,363)
Other Clothing Stores-44819	(1,051,793)	(2,660,843)	(2,719,130)
Shoe Stores-4482	(129,610)	(7,477,556)	(15,411,607)
Jewelry, Luggage, Leather Goods Stores-4483	(2,887,688)	(10,936,188)	(11,343,130)
Jewelry Stores-44831	(3,269,250)	(11,405,424)	(12,973,534)
Luggage and Leather Goods Stores-44832	381,562	469,236	1,630,404
Sporting Goods, Hobby, Book, Music Stores-451	(3,133,661)	(29,191,784)	(13,075,250)
Sportng Goods, Hobby, Musical Inst Stores-4511	1,750,033	(1,867,677)	16,656,668
Sporting Goods Stores-45111	88,795	(1,412,617)	11,310,706
Hobby, Toys and Games Stores-45112	2,631,078	1,432,854	7,534,939
Sew/Needlework/Piece Goods Stores-45113	728,622	1,536,953	1,910,761
Musical Instrument and Supplies Stores-45114	(1,698,462)	(3,424,866)	(4,099,737)
Book, Periodical and Music Stores-4512	(4,883,695)	(27,324,107)	(29,731,918)
Book Stores and News Dealers-45121	(3,993,343)	(27,429,336)	(29,652,088)
Book Stores-451211	(3,662,266)	(26,819,399)	(29,006,057)
News Dealers and Newsstands-451212	(331,076)	(609,938)	(646,031)
Prerecorded Tapes, CDs, Record Stores-45122	(890,352)	105,229	(79,830)
General Merchandise Stores-452	17,892,492	(66,693,104)	(115,643,169)
Department Stores Excl Leased Depts-4521	3,523,123	50,971,973	109,453,553
Other General Merchandise Stores-4529	14,369,369	(117,665,077)	(225,096,722)
Miscellaneous Store Retailers-453	(16,954,484)	(61,328,157)	(70,470,146)
Florists-4531	141,983	(1,210,224)	(1,342,714)
Office Supplies, Stationery, Gift Stores-4532	(9,483,913)	(17,584,099)	(24,115,244)
Office Supplies and Stationery Stores-45321	(8,409,052)	(11,611,358)	(17,842,747)
Gift, Novelty and Souvenir Stores-45322	(1,074,861)	(5,972,741)	(6,272,496)
Used Merchandise Stores-4533	(2,582,329)	(3,838,970)	(3,557,917)
Other Miscellaneous Store Retailers-4539	(5,030,225)	(38,694,865)	(41,454,271)
Non-Store Retailers-454	19,115,889	75,651,380	211,534,992
Foodservice and Drinking Places-722	(12,194,022)	(201,616,491)	(201,376,322)
Full-Service Restaurants-7221	(14,328,177)	(96,575,151)	(99,255,619)
Limited-Service Eating Places-7222	14,102,738	(71,927,375)	(76,436,567)
Special Foodservices-7223	(10,720,452)	(23,579,470)	(21,812,618)
Drinking Places -Alcoholic Beverages-7224	(1,248,131)	(9,534,495)	(3,871,517)
GAFO *	(3,964,653)	(213,677,843)	(307,675,232)
General Merchandise Stores-452	17,892,492	(66,693,104)	(115,643,169)
Electronics and Appliance Stores-443	(2,121,459)	(49,995,030)	(103,678,692)
Clothing and Clothing Accessories Stores-448	(2,789,905)	(36,987,900)	(33,656,466)
Sporting Goods, Hobby, Book, Music Stores-451	(3,133,661)	(13,225,927)	(17,506,410)
Furniture and Home Furnishings Stores-442	(4,328,206)	(29,191,784)	(13,075,250)
Office Supplies, Stationery, Gift Stores-4532	(9,483,913)	(17,584,099)	(24,115,244)

Table 27. Detail GAP Summary at 3, 6, 9 mile Radii
Source: Claritas, Inc. 2010; Strategic Planning Group, Inc. 2010

Table 27 on the following pages shows the detail GAP summary of all retail at the 3, 6 and 9 mile radii market sheds.

But for a few exceptions, the existing retail market shed is over retailed. As can be seen throughout the St. Andrews, many older strip centers have high vacancy rates, and many retail centers now have non retail leases. The recent closure of the Super Kmart store is another example of declining retail market. To grow, the area will need to improve the wealth/ household income within St. Andrews, create more housing (and at prices more indicative of the region) and target specific market niches; like mixed use retail/housing if becomes viable.

Automotive

St. Andrews does contain a unique retail sector; automobile sales which are concentrated on Greystone Boulevard (and South Broad River Road) with a second concentration on Fernandina Road, adjacent to 1-26. The automotive industry has been particularly hard hit during the current recession and prior to the its full impact there is some movement of dealership away from this area. However, dealerships, much like department stores in Malls, like to co-locate. While they do not generate much employment, they do generate significant sales taxes. Given the ease of access, and concentration of dealerships in the area, SPG feels that at least in the short term, this market segment should remain within the region. The exception to this, maybe the dealerships along Fernandina Road (mostly in Lexington County); which might choose to move to Greystone if space and financing were available.

As will be discussed later in this report, the main question for the redevelopment of St. Andrews, is whether it can revitalize itself given the old automobile dominate paradigm or will a more transient oriented/ mixed use development paradigm be its future. If it is the later, than automobile dealerships might not fit into its future.

Appendix D

Funding Sources

FUNDING SOURCES

FUNDING SOURCE	FUNDING PROGRAM	PROGRAM DESCRIPTION	ADDITIONAL INFORMATION
		WATERFRONT DEVELOPMENT/ LAND ACQUISITION	
		FEDERAL	
Partnership for Sustainable Communities: **US Department of Housing and Urban Development** **US Department of Transportation** **US Environmental Protection Agency**	TIGER II Discretionary Grant Program/ HUD Community Challenge Grant Program	The TIGER II Discretionary Grant Program is a $600 million competitive grant program for surface transportation projects. Individual awards can be $10-200 million, with up to 80% of project costs eligible for federal funding. $140 million is reserved for projects in rural areas, where 100% of project costs are eligible for funding and project awards can be as low as $1 million. Up to $150 million is available to support TIFIA financing, and up to $35 million is available for transportation planning grants. Applicants may apply for capital grants, TIFIA financing or planning grants, though applicants for capital grants may be awarded TIFIA financing or a planning grant, if it is determined that is the most appropriate award. DOT and HUD are requesting comments on a proposal to solicit and evaluate applications for TIGER II transportation planning grants and HUD's $40 million in Community Challenge Grants jointly. Activities eligible for HUD's grants are corridor or station-area plans, revisions to zoning or building codes and creating or preserving affordable housing for low-income families near transit.	
US Department of the Interior, National Park Service	Land and Water Conservation Fund (LWCF)	The LWCF program provides matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities. The program is intended to create and maintain a nationwide legacy of high quality recreation areas and facilities and to stimulate non-federal investments in the protection and maintenance of recreation resources across the United States. The funding that is allocated to each state, or "stateside" funding, is administered by that state. Through the LWCF, the Florida Department of Parks and Recreation provides funds for statewide planning, and for acquiring and developing outdoor recreation areas and facilities LWCF grant funds may be used for the acquisition and development of state and local facilities that provide active and/or passive recreation opportunities.	Federal funding of this program varies from year to year depending on appropriations. Florida's allocation for fiscal year 2006 is approximately $1.2 million. For program information, visit: http:// www.nps.gov/ ncrc/programs/flp/index.html
US Department of the Interior, National Park Service	Federal Lands to Parks (FLP)	The National Park Service's FLP Program conveys surplus federal land to communities, usually at no cost, for public park and recreation purposes. Over 1,400 properties, approximately 150,000 acres, have been transferred to state and local governments for parks and recreation areas since the program's inception in 1949. The Program also helps ensure continued public access and stewardship of resources.	Generally, resources are available on an on-going basis as properties become available. For more information on how to participate in this program, visit: http://www.nps.gov/ncrc/programs/flp/index.html
US Department of Agriculture (USDA) - Natural Resource Conservation District (NRCS)	Wetlands Reserve Program	WRP restores wetland, upland and riparian complexes to improve habitat for migratory birds. The objectives of this program are to purchase conservation easements from willing sellers, restore and protect wetlands in agricultural settings, and assist landowners with the restoration of wetland hydrology and wildlife habitat.	http://www.nrcs.usda.gov/programs/wrp/
US Department of Agriculture (USDA) - Natural Resource Conservation District (NRCS)	Wildlife Habitat Incentives Program (WHIP)	WHIP encourages the voluntary establishment of high quality wildlife habitat on private lands. WHIP offers technical and financial help for all private landowners or local units of government who wish to plan and develop upland, wetland, riparian, or aquatic habitat on their property.	http://www.nrcs.usda.gov/programs/whip/
US Department of Agriculture (USDA) - Natural Resource Conservation District (NRCS)	Watershed Protection and Flood Prevention	WPFP provides technical and financial assistance to state agencies and units of local government in planning and carrying out works of improvement and to protect, develop and utilize the land and water resources in small watersheds not exceeding 250,000 acres. This includes total resource management and planning to improve water quality and solve problems caused by flooding, erosion and sediment damage, conservation, development, utilization and disposal of water. The program emphasizes planning through interdisciplinary teams that include the sponsors, other agencies, and environmental groups in all stages of plan development.	http://www.nrcs.usda.gov/programs/watershed/

FUNDING SOURCE	FUNDING PROGRAM	PROGRAM DESCRIPTION	ADDITIONAL INFORMATION
		WATERFRONT DEVELOPMENT/ LAND ACQUISITION	
		STATE	
South Carolina Department of Parks, Recreation and Tourism	Recreational Trails Program (RTP)	The South Carolina Department of Park, Recreation and Tourism admisters this grant, which is funded by Federal Highway Administration. This is an 80-20 match grant, with a maximum award of $100,000 per project for the construction of public recreational trails and trailhead facilities.	http://www.scprt.com/our-partners/grants/trails.aspx
South Carolina Department of Parks, Recreation and Tourism	Parks and Recreation Development (PARD)	The PARD grant program is a non-competitive reimbursable grant program for eligible local government or special purposes district entities for the planning, development and renovation of park and recreational facilties. Eligible project costs will be reimbursed at a rate of 80%. The fund is to be used for permanent improvements to public park and recreation facilities. Each application must have the endorsement of its county legislative delegation members whose combined weight factor is more than 50%.	http://www.scprt.com/our-partners/grants/pard.aspx
South Carolina Department of Parks, Recreation and Tourism	Tourism Partmership Fund (TPF)	The mission of the TPF is advance the economic benefits of tourism throughout the state by providing financial assistance to qualified partners for tourism marketing initiatives that attract visitors to and encourage visitor spending in South Carolina. Destination marketing organizations may apply for up to $200,000, with a 2-1 match. Organizations marketing a specific attraction may apply for up to $30,000 with a 2-1 match. Organizations marketing a festival or event may apply for up to $5,000, with a 2-1 match.	http://www.scprt.com/our-partners/grants/tmpp.aspx
South Carolina Department of Parks, Recreation and Tourism	Land and Water Conservation Fund (LWCF)	LWCF is a federally funded reimbursable grant that is for acquisition or development of land for public outdoor recreational use purposes. The LWCF is limited to outdoor public recreation, and to indoor facilities which support adjacent outdoor public recreation activities. Acquistion and development projects are eligible for up to $250,000, with a 1-1 match. This is a reimbursement program, and the organization must finance 100% of the project costs in order to be reimbursed.	http://www.scprt.com/our-partners/grants/lwcf.aspx
South Carolina Department of Parks, Recreation and Tourism	Destination Specific Tourism Marketing Grant Program	The Destination Specific Tourism Marketing Grant requires a minimum $500,000 match for a minimum grant of $250,000. This program has been designed to assist in the funding of a marketing program for a specific tourist destination.	http://www.scprt.com/our-partners/grants/dstm.aspx
South Carolina Department of Transportation	Transportation Enhancement Program	The Transportation Enhancement Program facilitates and provides a greater opportunity for local governments to collaborate with the agency to pursue a broad range of non-traditional transportation related activities such as bicycle and pedestrian facilities, streetscaping, scenic and landscaping programs, and historic preservation.	http://www.scdot.org/community/tep.shtml
South Carolina Department of Commerce	Job Development Credit	A Job Development Credit (JDC) is a discretionary, performance-based incentive that rebates a portion of new employees' withholding taxes that can be used to address the specific needs of individual companies. JDCs are approved on a case-by-case basis by the S.C. Coordinating Council for Economic Development (CCED). To qualify, a company must meet certain business requirements and the amount a company receives depends on the company's pay structure and location.	http://sccommerce.com/locate-sc/grants-incentives/discretionary-incentives
South Carolina Department of Commerce	Economic Development Set-Aside Program	The Economic Development Set-Aside Program assists companies in locating or expanding in South Carolina through road or site improvements and other costs related to business location or expansion. Overseen by the Coordinating Council for Economic Development, it is the Council's primary business development tool for assisting local governments with road, water/sewer infrastructure, or site improvements related to business location or expansion.	http://sccommerce.com/locate-sc/grants-incentives/discretionary-incentives
South Carolina Department of Commerce	Enterprise Zone Retraining Credit Program	The Enterprise Zone Retraining Credit Program helps existing industries maintain their competitive edge and retain their existing workforce by allowing them to claim a Retraining Credit for existing production employees. If approved for the Enterprise Zone Retraining Credit, companies can reimburse themselves up to 50% of approved training costs for eligible production workers (not to exceed $500 per person per year). This program is also overseen by the Coordinating Council for Economic Development	http://sccommerce.com/locate-sc/grants-incentives/discretionary-incentives

FUNDING SOURCE	FUNDING PROGRAM	PROGRAM DESCRIPTION	ADDITIONAL INFORMATION
		WATERFRONT DEVELOPMENT/ LAND ACQUISITION	
		STATE	
South Carolina Department of Commerce	Port Volume Increase Credit	South Carolina provides a possible income tax credit to entities that use state port facilities and increase base port cargo volume by 5% over base-year totals. To qualify, a company must have 75 net tons of non-containerized cargo or 10 loaded TEUs transported through a South Carolina port for their base year. The Coordinating Council has the sole discretion in determining eligibility for the credit and the amount of credit that a company may receive. The total amount of tax credits allowed to all qualifying companies is limited to $8 million per calendar year. A company must submit an application to the Coordinating Council to determine its qualification for, and the amount of, any income tax credit it will receive.	http://sccommerce.com/locate-sc/grants-incentives/discretionary-incentives
South Carolina Department of Commerce	Tourism Infrastructure Development Grants	The Tourism Infrastructure Development Grant supports new or expanding tourism or recreation facilities or designated development areas primarily through infrastructure projects. This program is generated from a share of the state admissions tax on qualified tourism and recreation establishments and is overseen by the Coordinating Council for Economic Development	http://sccommerce.com/locate-sc/grants-incentives/discretionary-incentives

		LOCAL	
Richland County	Discretionary Grant Fund	Richland County Council sets aside $150,000 of the General Operating Fund each year for the Discretionary Grant Fund. This program is designed to provide financial support to organizations and agencies that carry out community-based programs and/or services throughout Richland County.	http://www.richlandonline.com/Departments/budget/discregrants.asp
City of Columbia, South Carolina	Community Development Block Grant (CDBG) Program	The CDBG program addresses the needs for affordable housing, economic development, and public services, primarily to the benefit low and moderate income (LMI) population (neighborhoods) within the City of Columbia. The CDBG entitlement amount for FY 2009 -2010 is $1,244,466.	http://www.columbiasc.net/communitydevelopment/91
		PRIVATE SECTOR/ NON- PROFITS	
River Network	Miscellaneous	River Network, a national non-profit organization, offers consulting, publications, acquisition of riverlands and small grants to help people raise money, build organizations, and monitor and protect rivers and watersheds. This organization offers assistance to: help people organize to protect and restore rivers and watersheds: support river conservationists at grass roots, state and regional levels; help build effective organizations to link them together to build a nationwide movement for rivers and watersheds; and acquire and conserve riverlands critical to wildlife, fisheries, and recreation.	http://www.rivernetwork.org/howcanwehelp/index.cfm?doc_id=130
Trust for Public Land (TPL)	Miscellaneous	TPL is interested in helping purchase one of the gravel pits in Sun Valley to support conversion to recreation, open space and water conservation. TPL finances the purchase and usually sells the land to a public agency for long-term management and operation.	http://www.tpl.org
Patagonia	Environmental Grants Program	Focus is on preservation of wild and scenic areas, biodiversity, limited funding for urban restoration. They are mostly interested in projects that identify and work on the root causes of problems and that approach issues with a commitment to long-term change. Grants range from $ 3,000 to $ 8,000 per project.	Deadlines are usually April 30 and August 31 each year. www.patagonia.com/enviro/grants_app.shtml
		HABITAT	
		FEDERAL	
National Oceanic and Atmospheric Administration (NOAA) Community-Based Restoration Program	Community-based Resoration Program: Individual Project Grants	Grassroots restoration Projects that will benefit marine resources and endangered and threatened species. $ 30,000 to 250,000 per project. Match not required, but recommended.	Typically September deadline. For updates: http: www.nmfs.noaa.gov/habitat/restoration/projects_programs/programs.html
National Oceanic and Atmospheric Administration (NOAA) Community-Based Restoration Program	Community-based RestorationProject: National and Regional Partnerships	Grassroots, community-based projects for restoring and conserving marine resources and their habitats. Typical grants range from $ 100,000 to $ 600,000.	http://www.nmfs.noaa.gov/habitat/restoration/projects_programs/progras.html
US Forest Service	Cooperative Forestry Assistance Programs	The program help State Foresters or equivalent agencies with forest stewardship programs intended to achieve ecosystem health and sustainability. Assistance is provided through the following programs: Forest Stewardship Program; Stewardship Incentive Program; urban & Community Forestry Program; and, Cooperative Fire Protection Program.	http://www.fs.fed.us/spf/coop/
US Department of Agriculture (USDA) - Natural Resource Conservation service (NRCS)	Farm Bill: Wetlands Reserve Program	WRP restores wetland, upland and riparian complexes to improve habitat for migratory birds. The objectives of this program are to purchase conservation easements from willing sellers, restore and project wetlands in agricultural settings, and assist landowners with the restoration of wetland hydrology and wildlife habitat.	http://www.nrcs.usda.gov/grograms/wip
US Department of Agriculture (USDA) - Natural Resource Conservation service (NRCS)	Farm Bill: Wildlife Habitat Incentives Program	WHIP encourages the voluntary establishment of high quality wildlife habitat on private lands. WHIP offers technical and financial help for all private landowners or local units of government who wish to plan and develop upland, wetland, riparian, or aquatic habitat on their property. Funding for up to 75% of the cost of the project. Technical assistance also provided.	Contact local NRCS office. http://www.nrcs.usda.gov/programs/whip
US Fish & Wildlife Service	North American Wetlands Conservation Act (NAWCA) - Standard Grants	$51,000-$1.0M to fund a 4-year plan of action supported by a NAWCA grant and partner funds to conserve wetlands and wetlands-dependent fish and wildlife through acquisition (including easements and title donations), restoration, and/or enhancement. Match must be non-Federal and at least equal to the grant request.	http://northamerican.fws.gov/NA

US Fish & Wildlife Service	North American Wetlands Conservation Act (NAWCA) - Small Grants	Up to $50,000 to fund a 4-year plan of action supported by a NAWCA grant and partner funds to conserve wetlands and wetlands-dependent fish and wildlife through acquisition (including easements and title donations), restoration, and/or enhancement. Match must be non-Federal and at least equal to the grant request.	http://northamerican.fws.gov/NAWCA/grants.htm
US Fish & Wildlife Service	Partners for Fish and Wildlife Program	Funding provided for work on private lands. Typical projects include (but not limited to) wetland and riparian habitat restoration and improvement for threatened or endangered species, anadromous fish, and exotic species control and removal. Typically in the range of $ 25,000 to $ 50,000 per project.	Applications accepted throughout the year. http:// partners.fws.gov
		PRIVATE SECTOR/ NON- PROFITS	
American Rivers (partner with National Oceanic & Atmospheric Administration (NOAA)	River Restoration Grants	$5,000 to $25,000 per project. Non-federal match not required. But encouraged. Grants provided to projects that are using dam removal or fish passage to restore and protect the ecological integrity of rivers and improve freshwater habitats for anadromous fish. State, local, and tribal governments, conservation groups, and other non-profits.	http://www.amrivers.org/dam removal/grantguidelines. htm
American Sportfishing Association and FishAmerica Foundation (partner with National Oceanic & Atmospheric Administration/ NOAA)	Restoration Grants	Projects that result in on-the-ground restoration in marine, estuarine and anadromous fish habitats - especially sportfish. Strong partnerships cooperation from local community groups and citizens are encouraged. Funding typically ranges from $ 5,000 to $30,000. Match not required, but encouraged.	Applications typically accepted twice each year (March and August). For updates, visit: http://www.fishamerica. org/content/conservation/fishamerica/faf_grant.cfm
The Conservation Fund (TCF)	Miscellaneous	The Conservation Fund is a national non-profit organization dedicated to preserving Americas land legacy by acquiring and protecting open space, wildlife habitat, and historic sites. The Fund also provides technical assistance, information, and small grants to assist with the greenway and trail projects across the nation.	http://www.conservationfund.org

Appendix E

Community Survey Results

Public involvement has been and will continue to be an important component of the planning process moving forward in the preparation of this master plan. The purpose of this citizen-led effort is to obtain insight into the issues and concerns of residents, business owners and property owners, and to determine their vision for the community. Additionally, staff meetings were scheduled to obtain input from the staff relating to the community's assets, critical issues associated with the project, existing planning efforts and proposed projects that would help define a clear scope for the initiative.

This section of the Inventory and Analysis Report synthesizes the community's feedback solicited during the stakeholder meetings and community presentation conducted by IBI Group and McCreary/ Snow Architects in December 2009. More than one hundred residents and stakeholders participated in the surveys handed out to participants in order to gain an understanding of their perceptions related to opportunities and constraints within the Study Area. The information gathered during these community and stakeholder driven meetings form the basis for the strategic recommendations and improvements proposed in the remainder of this planning study.

The participants of the first workshop were asked to answer the following questions:

1. *Do you recognize Broad River road area as the "St. Andrew Community" and would you favor designating it as such?*
2. *What are the things you like least about Broad River Road (St. Andrews) area?*
3. *What are the things you like most about Broad River Road (St. Andrews) area?*
4. *When you hear "Broad River Road", what immediately comes to mind?*
5. *What is unique about the Broad River Road community?*
6. *When you hear the word neighborhood what generally comes to mind?*
7. *What should be done to improve transit service in Broad River Road (St. Andrews) (includes buses, connections and bus stops)?*
8. *What should be done to improve roads and streets for automobiles and traffic?*
9. *What should be done in Broad River Road Study Area to make it easier and safer for people to walk or ride bikes?*
10. *What should be done, if anything, to improve parking in the Study Area?*
11. *How would you rate the importance of a trail system along the riverfronts that connects to Broad River Road and surrounding neighborhoods?*
12. *For those now renting, would you like to own a home or condominium in a Broad River Road neighborhood?*
13. *Would you favor living in an elevator accessible (3 floors or more) apartment or condominium located above retail or office?*
14. *How would you rate the garbage pick-up and other services provided by Richland County and the City of Columbia?*
15. *How would you rate the natural features of St. Andrews including; Broad River and Saluda riverfronts and Harbison State Forest?*
16. *Are you looking for recreation options? What are they? Would you use open outdoor plazas for sitting, dining and music and where should they be located?*

The following narrative provides a synopsis of the comments received from the 86 respondents that attended the first community presentation in December 2009.

Workshop Series 1 (all responses – all sessions)

NOTE: Not every question was answered on every form. Number of responses to that question are the denominator of the fraction.

1. Do you recognize Broad River road area as the "St. Andrew Community" and would you favor designating it as such?

1-30
Most responses are amenable to "St Andrews" community name. (23/28) Minority response is that St. Andrews applies only to St. Andrews Road. (5/28)

31-35
Respondents would all recognize BRRC as St. Andrews.

36-57
Most recognize the area as "St. Andrews" and would favor designating it that way. (17/22) A minority are bothered by the name, since part of St. Andrews now has recognition as a "bad neighborhood."

58-86
22/29 responses indicate yes. 7/29 say no, or think it is another place.

2. What are the things you like least about Broad River Road (St. Andrews) area?

1-30
The least liked elements of the area are traffic issues (14/30), quality of buildings and abandoned properties (7/30), crime issues (3/30), "undesirable" types of businesses (cash loans, clubs, adult businesses) (5/30), poor development controls (3/30), and youth issues (few opportunities or supervision).

31-35
Crime is No.1 (3/5), with Traffic and Ambience tied for No. 2 (2/5 each).

36-57
Where do we begin? There is a laundry list of complaints for this area. Traffic issues (12/20); crime issues (3/20); poor appearances (7/20); empty or undesirable (adult, check cashing, etc.) businesses (10/20); poor lighting (2/20); inability to access river or enough green space (2/20); need different mix of retail and restaurants (4/20).

58-86
Vacant and run down buildings -9/27
Traffic and congestion – 9/27
Decline of the area (visual-signage,ugly- and economic) 11/27
Adult businesses, fast check, used car businesses, trashy and transient – 6/27
Overabundance of apartments – 3/27
Parking lots – 1/27
Decline in shopping opportunities – 3/27
Crime and safety – 4/27
Lack of greenspace or community amenities – 3/27
Streets need maintenance/rebuilding/traffic lights – 3/27
Lack of pedestrian & biking opportunities – 2/27

3. What are the things you like most about Broad River Road (St. Andrews) area?

1-30
Most liked elements of Broad River area are #1, its convenient location, either for travel access or centrally convenient to many activities (20/30), variety of businesses and amenities, not high crime area, affordable, large lots and edge of town (typical suburbia).

31-35
There are many things to like about BRRC area – affordability (1/3), central location (1/3), amenities, and ease of access to interstate highways(1/3).

36-57
The central location and the convenience of BRRC is very important (11/19). Access to interstates is high on the list (6/19). Sufficient retail close by (3/19). Good and tenacious neighborhoods or home (4/19). River (2/19). It has possibilities (3/19)

58-86
Convenience – 10/25
Central location – 5/25
Access to specific areas (downtown, Irmo, Harbison, Vista) – 5/25
Access to interstates – 9/25
Quality of housing stock, nice neighborhoods, affordable – 5/25
Shopping – 5/25
Medical facilities – 2/25

4. When you hear "Broad River Road", what immediately comes to mind?

1-30
Congestion (4/24), run down buildings (3/24), adult businesses and payday lending (3/24), traffic issues take the honors in descriptions of the area (8/24). However, Dutch Square (4/24), Corrections (3/24), and the sense of their own Home and neighborhoods are also strong (3/24). Crime rates a fair amount of mention (4/24).

31-35
The general impressions of BRR are Traffic (2/4) and aging commercial area (2/4). Both impressions of "home" and crime rate 1 in 4 answers.

36-57
Immediate impressions of BRRC are traffic & congestion (8/19), Dutch Square (2/19), low income (4/19), unwanted businesses (night clubs, check cashing (2/19), run-down area (6/19), crime (2/19).

58-86
Home – 4/24
Slum, Run down – 6/24
Safety and security issues – 4/24
Unattractive and adult businesses – 3/24
Congestion & traffic – 2/24
Dutch Square and Boozer Shopping Center – 3/24
A beautiful area that is losing its charm, older area – 2/24
Affordable – 2/24

5. What is unique about Broad River Road and the surrounding area?"

1-30
Unique aspects of BRRC focus again on access to interstates and downtown, with the advantage of a strong base of neighborhoods. (13/25) Pride in location and diversity are also mentioned (2/25), as is Dutch Square Mall (1/25). There are development opportunities and proximity to natural features (Broad and Saluda Rivers and Harbison Forest). (3/25) The problems of the area also defined it with decline (3/25)

31-35
Connectivity, both from interstates and rivers are unique factors. Its appearance and traffic congestion are noted.

36-57
Off the roadway itself, the community is a fabric of residential neighborhoods (4/19), with many churches (2/19), access to rivers and green space (3/19) and with its own history. The diversity of the area is expressed in its growing multicultural population (1/19) and variety of housing options (3/19). Easy access to the interstates and downtown is appreciated (5/19), along with varied shopping opportunities (4/19) and there are schools in the area (1/19).

58-86
Central location- 8/20
Access to interstates – 6/20
Good qualities of neighborhoods – 5/20
Rivers and other natural elements – 3/20
Older apartments – 3/20
History – 1/20
Diversity of uses, especially stores – 7/20
Potential – 2/20
Decline – 3/20
Separates City from County – 1/20

6. When you hear the word "neighborhood" what generally comes to mind?

1-30
This question really brought out the best in people's sense of what their communities can be. Many of the responses focused on family activity (4/26), helpfulness (5/26), peace (2/26), diversity (2/26), people who look out for each other (4/26), cohesive groups (3/26), common vision, "safe environment to live, play & work."(4/26) Physical definitions of housing (3/26).
Negative connotations for BRRC area (1/26).

31-35
This group of respondents had a mixed reaction to "neighborhood." For some, the neighborhood feels unsafe, or a place where control is required(1/4). For others, it means family and friends (2/4) and a final response sees a diverse commercial and residential area (1/4).

36-57
"Neighborhood" brings out the best in us. Some indicated that it means their own particular neighborhood (3/21). Safe (4/21), peaceful or quiet (2/21), tree-shaded and sidewalks or greenspace (4/21), with diverse amenities (live/work/shop/family/church/school/recreation). Neighbors and community (9/21) who interact with each other (to observe and look out for each other, interact in friendly fashion). The physical attributes of neighborhood include houses, sidewalks, interconnection, trees, good lighting and where pride is taken in the homes.

58-86
Safe – 2/17
Where I live - 2/17
Single family residences or subdivision – 4/17
Sharing common concerns – 4/17
Live and work(business) – 3/17
Neighbors, friends – 3/17
Community – 2/17
Opportunity to form force to accomplish good – 1/17
Negative connotations – 2/17

7. What should be done to improve transit service in the Broad River Road area (includes buses, connections and bus stops)?

1-30
In responses to the question of transit service, many respondents did not know how they could have any sense of control to improve it (6/19). More bus stops (3/19) (and shelters, including indoors), increase in routes and frequencies (7/19), ideas for smaller buses or trolley (2/19). Emulate Metro (1/19).

31-35
This group saw more opportunity to improve transit. More transit opportunities (2/3), especially between neighborhoods, better signage and waiting areas (inexpensive improvements) (2/3).

36-57
The answers in this group are split between those who are aware of and use the transit system and those who do not. 12 of 22 did not have enough experience with the system to substantially comment. More bus stops, routes or greater frequency noted for 4/18. Fewer buses advocated by 2/18 and better bus stops, information or pullover lanes noted for 2/18. Other modalities (rail, pedestrian, HOV, bicycle) addressed by three respondents.

58-86
Expand/improve bus service - 4/13
Greater frequency – 1/13
Multi modal – 1/13
Shelters for bus stops – 2/13
Landscape (not trees) – 1/13
Keep Columbia out of transit – 1/13
Tear down and rebuild – 1/13
Other – 2/13
Add rail system – 1/13

8. What should be done to improve roads and streets for automobiles and traffic?

1-30
Pothole repair (maintenance in general) 6/22, better sidewalks 2/22, better timing of lights 4/22, improve interstate interchanges 2/22, widen or change roads 7/22.

31-35
Traffic light coordination/control (3/3) is the most important, with more lanes for rush hour traffic (1/3).

36-57
Fixing the existing road: potholes (4/13), traffic light timing (4/13), HOV lanes or other lane changes (2/13) and stopping traffic infractions (2/13). Widen the road (2/13).

58-86
More outlets to main highways from subdivisions – 1/4
Sidewalks – 1/4
Improve Atlantic Drive intersection – 1/4
Not sure – 1/4

9. What should be done in Broad River Road area (St. Andrews) to make it easier and safer for people to walk or ride bikes?

1-30
Most frequent ideas are better sidewalks (12/24), bike lanes (10/24), safer roads (4/24), remove attractions for gangs (1/24).

31-35
Separate bike trails or bike lanes are seen as important (2/5), with better sidewalks for walkers (2/5). To encorage biking and walking, the area needs to be safer (less crime, more lights, slower traffic) (3/5)

36-57
Improved or newly constructed sidewalks (10/17) and bike lanes (7/17) are seen as important elements. Getting rid of the cars, power poles and obstructions (3/17). Improved lighting (1/17).

58-86
Outlets from subdivisions to main highways – 1/4
Lighting – 1/4
Sidewalks in Riverside Forrest – 1/4
Bike trails – 1/4

10. What should be done, if anything, to improve parking in the Broad River Road area (St. Andrews Community)?

1-30
Perception that parking needs to be improved met with some blanks. Since much parking already is available (albeit in unattractive presentation) parking question was unclear to some. Most needed no changes (8/13). (3/13) noted changes for parking. An interesting note is that one person saw parking lots as areas for unsupervised youth activity.

31-35
Most respondents (4/5) did not have comments or did not know what to say. One felt it was inadequate.

36-57
Enhance existing parking or divert some (3/10). The existing parking is sufficient or nothing needs to be done (4/10) and if any is added, make it multi-level (1/10). Parking should have varied sizes for different vehicles (1/10).

58-86
Parking is not an issue to the respondents

11. How would you rate the importance of trail systems along both riverfronts that connect to Broad River Road and surrounding neighborhoods?

1-30
Most respondents liked the idea of trail systems and rated the idea highly, with the caveat that the safety (4/16) of the trail system should be important. (16/26) Remainder gave N/A or low priority (10/16) answers.

31-35
Trail systems are either seen as not top priority (2/4) or very high importance (2/4). There seems to be a substantial split between the two, with little middle ground.

36-57
Trail systems are seen as very important and high priority by a majority of respondents (13/17). Some view trails as potentially unsafe without monitoring (1/17) or so dangerous as to avoid altogether (1/17).

58-86
Importance of trail systems is low in this group of respondents (3/3).

12. For those now renting, would you like to own a home or condominium in a Broad River Road (St.Andrews Community) neighborhood?

1-30
Of the respondents, only one was not a homeowner and would like to own in the area.

31-35
No respondents were renters.

36-57
Of the respondents, one (1/14) is looking to buy in the near-term future. The others found the question not applicable or already own in the area.

58-86
N/A or no response on all.

13. Would you favor living in an elevator accessible (taller than 3 floors or more) apartment or condominium located above a shopping or office?

1-30
In keeping with the typical Columbia image, which is solidly suburban, 6 individuals would like a taller building to live in while 15 would not and 5 felt the question was not applicable to them. (25 answers)

31-35
No respondents were interested in this form of building for living.

36-57
4 of 19 would favor living in an apartment or condominium above shopping or office.

58-86
No – 1 in 3
N/A – 2 in 3

14. How would you rate garbage pick-up and other public services provided by Richland County and the City of Columbia?

1-30
The responses were generally favorable (25/29), with a few disgruntled customers. (4/29)

31-35
The responses were varied, with some "great or very good"(2/5), some non-users (2/5), and one "below average."

36-57
City and County services get a mixed reception from this group. 3 of 20 indicated very good, great or fine. 7 of 20 find it is good or okay. Four rate it fair/adequate/decent enough. Specific notes for poor response on water system, high hookup costs, and yard trash came from 4 neighbors.

58-86
Too expensive – 2/5
Fine – 1/5
Richland good – 1/5
Columbia bad – 1/5
4 (what scale?) – 1/5

15. How would you rate the natural features of St.Andrews including; Broad River and Saluda riverfronts and Harbison State Forest?

1-30
The respondent who said "I consider them hidden treasures" hit it on the nose, as many in the City are unaware of them or underutilize them. The group on this day had a high percentage of involvement with the natural features (21/26) and rated them from Beautiful to Good. One noted that the greenway was declining and another that Broad River near I-20 is poor.

31-35
The natural features are appreciated by most (4/5).

36-57
Residents in the area are aware of these natural features as beautiful, but there is some disconnect on how to access them or use them (under-utilized or undermarketed) (7/20). These green and natural areas have possibilities (4/20) or are perfect as they are (9/20). Some see the need for more safety and lighting (2/20).

58-86
Very good/great – 2/4
Great/love it – 2/4

16. Are you looking for active recreation options (parks with ball fields, tennis, etc.)? What are they? Would you use open outdoor plazas for sitting, dining and music and where should they be located?

1-30
Indoor and outdoor recreation would be appreciated, as well as pet parks. Good lighting and security are important. Development of outdoor exercise areas and of library facilities are seen as important in children's development. Out of 23 respondents 23 would like to see more recreation opportunities. Intersection of Greystone and intersection of St. Andrews mentioned for outdoor plazax, as well as Dutch Square Mall for recreation locations. Ball fields (2 mentions specificially) would need room to function.

31-35
Most respondents enjoy and use existing active recreation and would like more(4/5).

36-57
Positive responses were most frequent (14/20). Two respondents did not want to see or would not use outdoor recreation areas. Areas suggested were the current Dutch Squre is, the former Service Merchandise area, and trails to connect to Skyland, to Saluda River or Saluda Shoals. A wellness center such as the Harbison Rec Center was mentioned (3/20), as was an outdoor amphitheatre and tennis courts. Use areas along rivers to develop into parks.

58-86
Active recreation options (all positive responses)
Yes – 2/3
Use empty stores for something – 1/3

BROAD RIVER ROAD CORRIDOR AND COMMUNITY STUDY

Community Question and Response Form

Which of the concerns do you feel are the mot important for your Broad River Road community? On a scale of 1 to 5 please rate the level of importance for each neighborhood concern.

1. ☐ ☐ ☐ ☐ ☐ Adopt the name to "St. Andrews" to the community
2. ☐ ☐ ☐ ☐ ☐ Improve appearance of Broad River Road businesses
3. ☐ ☐ ☐ ☐ ☐ Reduce cross traffic on Broad River Road
4. ☐ ☐ ☐ ☐ ☐ Bring neighborhood shopping; i.e. grocery and drug stores
5. ☐ ☐ ☐ ☐ ☐ Bring more job opportunities to the community
6. ☐ ☐ ☐ ☐ ☐ Improve safety and security in neighborhoods
7. ☐ ☐ ☐ ☐ ☐ Improve Broad River Road sidewalks and crosswalks
8. ☐ ☐ ☐ ☐ ☐ Preserve important places and buildings
9. ☐ ☐ ☐ ☐ ☐ Find community uses for vacant buildings and lots
10. ☐ ☐ ☐ ☐ ☐ Use stricter rules for businesses, signs and parking lots
11. ☐ ☐ ☐ ☐ ☐ Fix broken sidewalks, stonewalls and light poles
12. ☐ ☐ ☐ ☐ ☐ Add brick sidewalks, benches and pedestrian lights.
13. ☐ ☐ ☐ ☐ ☐ Provide neighborhood parks for children and families
14. ☐ ☐ ☐ ☐ ☐ Add trail system connecting to local employment
15. ☐ ☐ ☐ ☐ ☐ Provide more bus service on existing routes
16. ☐ ☐ ☐ ☐ ☐ Better controls on large trucks
17. ☐ ☐ ☐ ☐ ☐ Lower speed limits on Broad River Road
18. ☐ ☐ ☐ ☐ ☐ Provide on-street parking
19. ☐ ☐ ☐ ☐ ☐ Reduce left turns to into businesses on Broad River Road
20. ☐ ☐ ☐ ☐ ☐ Home ownership programs for South Rome residents
21. ☐ ☐ ☐ ☐ ☐ Reduce number of driving lanes on Broad River Road
22. ☐ ☐ ☐ ☐ ☐ Taller buildings on Broad River Road at major intersections
23. ☐ ☐ ☐ ☐ ☐ Community celebrations with music/crafts
24. ☐ ☐ ☐ ☐ ☐ Outdoor plazas with music and eating
25. ☐ ☐ ☐ ☐ ☐ Provide a trail system for walking/bicycling to
26. ☐ ☐ ☐ ☐ ☐ Provide streetlights on Broad River Road and other streets
27. ☐ ☐ ☐ ☐ ☐ Remove overhead electric lines

Create a pedestrian and bicycle-friendly environment along Broad River Road

Questions with Boxes Results – By 4's & 5's

Rank	Question	Low 1	2	3	4	High 5
1 (T)	**Improve safety and security in neighborhoods**	1	1	1	**9**	**95**
1 (T)	**Improve appearance of Broad River Road businesses**	2	2	5	**29**	**75**
3	**Provide streetlights on Broad River Road and other streets**	1	2	6	**24**	**79**
4	**Fix broken sidewalks, stonewalls and light poles**	2	2	12	**24**	**72**
5	**Find community uses for vacant buildings and lots**	1	4	8	**24**	**69**
6	Bring more job opportunities to the community	4	4	10	**21**	**64**
7	Move vehicular traffic more quickly on Broad River Road	2	5	14	**23**	**61**
8	Bring more neighborhood shopping opportunities	2	4	16	**23**	**59**
9	Provide neighborhood parks for children and families	2	7	24	**26**	**51**
10 (T)	Use stricter rules for businesses, signs and parking lots	4	6	22	**18**	**56**
10 (T)	Make Broad River Road pedestrian/bicycle friendly	7	4	23	**27**	**47**
12	Add trail system connecting neighborhoods to shopping	7	8	23	25	45
13	Add brick sidewalks, benches and pedestrian lights	6	7	24	22	45
14	Preserve important places and buildings	3	16	22	22	44
15 (T)	Better controls on large trucks in the community	7	3	34	20	41
15 (T)	Community gathering areas in outdoor plazas w/ music & eating	4	16	22	24	37
17	Provide more bus and transit service on existing routes	5	9	40	24	35
18	Slow down vehicular traffic on Broad River Road	11	14	27	24	31
19	Adopt the name to "St. Andrews" to the community	19	15	20	16	37
20	Remove overhead electric lines	7	5	35	11	39
21	Provide an inter-connecting trail system for everyday use	8	17	31	18	23
22	Reduce the number of left turns on Broad River Road	21	28	30	10	14
23	Reduce left turns to into businesses on Broad River Road	30	22	33	13	9
24	Taller buildings on Broad River Road at major intersections	37	23	26	7	10
25	Provide on-street parking on Broad River Road	54	23	12	8	6
26	Reduce number of driving lanes on Broad River Road	53	23	15	9	3