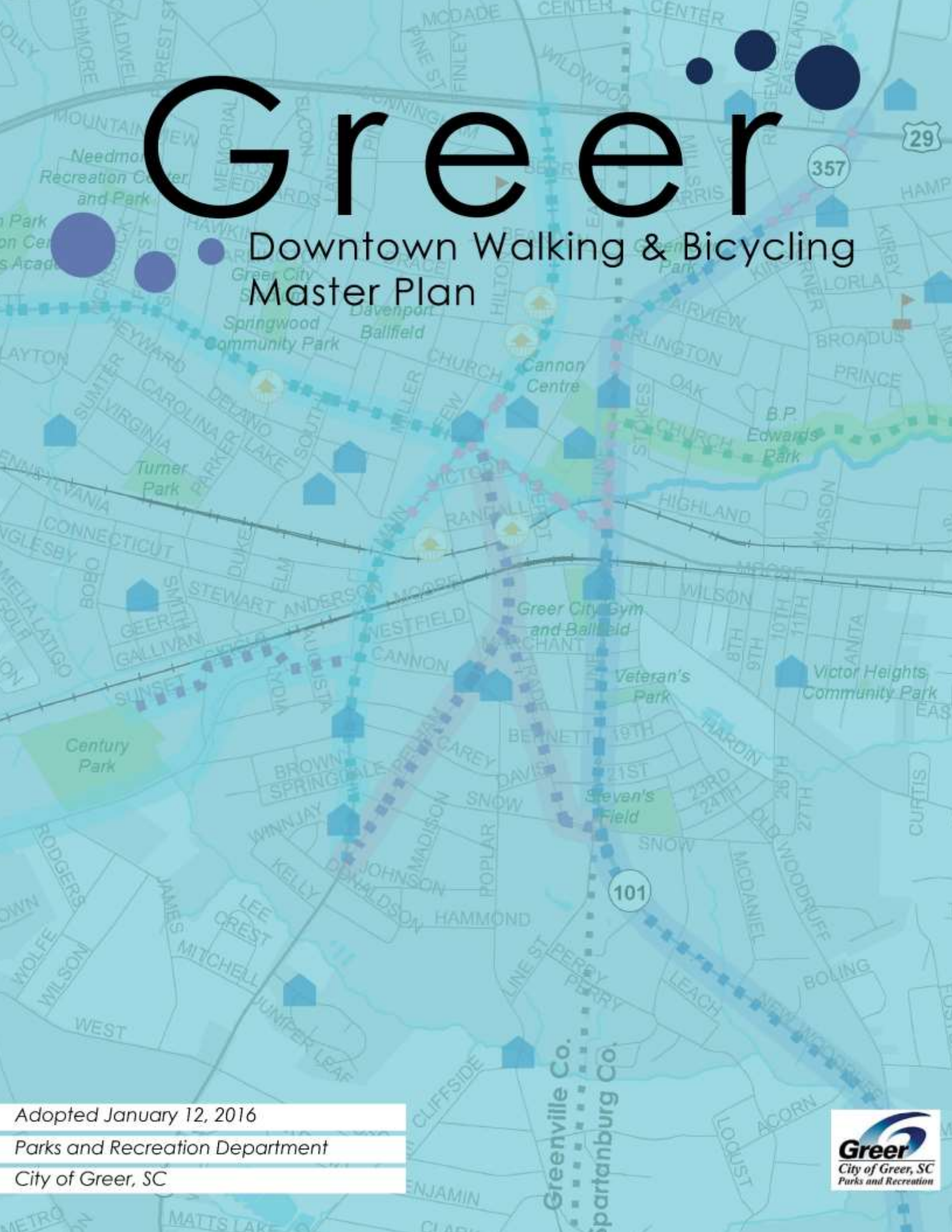


# Greer

## Downtown Walking & Bicycling Master Plan



Adopted January 12, 2016

Parks and Recreation Department

City of Greer, SC



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## Acknowledgements

City of Greer, South Carolina  
Downtown Walking & Bicycling Master Plan

The project team would like to recognize and express appreciation for the individuals who participated in the development of this Plan, including the citizens of Greer who attended public meetings and shared valuable insights. Special thanks is extended to the **City of Greer Parks and Recreation Department and Partnership for Tomorrow** for their contribution to the Plan and for their commitment to making Greer an active community where walking and bicycling are safe, convenient, fun, and normal daily activities.

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# 1 Introduction

## 1.1 Plan Overview

**The City of Greer is experiencing a renaissance within the heart of the community.** New businesses and investments in the community have resulted in residential growth, high-quality recreational and civic facilities, and a new energy throughout the downtown core. **A key element of this success has been, and will continue to be, improving the walking and bicycling environment for people of all ages and abilities.** Greer has shown its commitment to investing in a walk and bike-friendly community through recent projects like the **Greer Community Master Plan** and the **Highway 29 Corridor Study**. Through these efforts, the importance of bicycling and walking has emerged as a high priority for the community, both as an amenity that adds to the quality of life for Greer residents, and as an asset to attract tourism and stimulate economic development.

**The City of Greer Downtown Walking and Bicycling Master Plan builds upon these recent efforts and focuses on improvements to key corridors throughout the downtown area, where walking and bicycling is most likely, and investigates broader connections throughout the city.** This Plan focuses on targeted infrastructure improvements that will greatly enhance the safety, function, and appearance of the transportation network and public realm. By prioritizing recommended walkway and bikeway projects and providing implementation guidelines, this Plan will guide investments in active transportation as the City moves forward with new downtown investment.

While infrastructure improvements are crucial to improving the walking and bicycling environment, non-infrastructure improvements are equally as important. This effort encourages the City of Greer and its partners to build off of this Plan and conduct efforts towards a “Six E’s” walk and bike-friendly community framework (described at the end of this chapter). The “Six E’s” approach includes **improvements in the areas of engineering, education, encouragement, enforcement, evaluation/planning, and equity.**

## 1.2 National Perspective

Many cities and towns across the nation are realizing the great impact that the relatively small investment in more livable transportation options and public spaces can have in their communities. While investments in active and livable communities are certainly not a panacea for the economic, health, and transportation safety issues that many communities face – it has been shown to have a significant impact on them. **The following sections describe some of the acute health, safety, and economic issues many cities face today, and the ways in which improved active transportation and recreation can have a positive impact.**

## Economy

### Issues

- **Traffic congestion in 2011 caused Americans in cities to travel an additional 5.5 billion hours, purchase an additional 2.9 billion gallons of fuel, and spend an additional \$121 billion in gas.** This means, on average, **each car commuter spends roughly 40 hours and over \$800 per year waiting in traffic.**

### Opportunities

- Reducing the number of vehicular lane-miles through road-diets and other methods decreases wear and tear from motor vehicles. Replacing these with pedestrian facilities, bicycling facilities, or transit increases transportation capacity with less investment.
- Reducing the dependence on personal motor vehicles decreases personal and family expenditures on autos, potentially saving thousands of dollars per family on an annual basis.
- Reports have shown that pedestrians and bicyclists spend more, on average, than motorists.
- Bikeways and trails across many regions and cities have been shown to have a major economic impact. For example, following the opening of the Greenville Health System Swamp Rabbit Trail in Greenville, South Carolina in 2011, **most businesses along the trail saw a 30%-50% increase in sales after the trail opened, and businesses that relocated to the trail observed a 30% to 90% increase in sales.**
- **Pedestrian and bicycle infrastructure projects create 8–12 jobs per \$1 million of spending.** Road infrastructure projects create 7 jobs per \$1 million of expenditures (Garrett-Peltier, 2011).
- Focusing investment in pedestrian and bicycle infrastructure improvements has proven to be more cost effective than vehicular infrastructure across the board.

## Health

### Issues

- **“Obesity costs American companies \$225.8 billion per year in health-related productivity losses.”**
- **“The estimated annual health care costs of obesity-related illness are a staggering \$190.2 billion or nearly 21% of annual medical spending in the United States.** Childhood obesity alone is responsible for \$14 billion in direct medical costs.”



## Opportunities

- A recent study shows that people who live within 0.6 miles of a pedestrian and bicycle path get 45 minutes more of exercise a week, on average.
- **“A 5% increase in walkability [has been found] to be associated with a per capita 32.1% increase in time spent in physically active travel, a 0.23-point reduction in body mass index, 6.5% fewer vehicle miles traveled, 5.6% fewer grams of oxides of nitrogen (NOx) emitted, and 5.5% fewer grams of volatile organic compounds (VOC) emitted.”**
- Studies have shown that increased amounts of physical exercise, including walking and bicycling, improves mental well-being.

## Safety

### Issues

- Higher traffic speeds result in reduced driver response times and increased crash severity. **The likelihood a pedestrian would survive if hit by a car travelling at 20 mph is 95%. This percentage of survival is reduced to 60% at 30mph and 20% at 40mph.**
- Nationally, there were over 33,500 traffic fatalities reported in 2012. **The Alliance for Bicycling and Walking reports that 14.9% of traffic fatalities were pedestrians or bicyclists, while only 11.4% of all trips were made either walking or bicycling.**

### Opportunities

- Increasing the number of pedestrians and bicyclists along a corridor, and network-wide, by itself creates a safer environment. Motorists expect the presence of these users and drive cautiously as a result.
- Complete Streets improvements that reduce crossing distances for pedestrians and bicyclists, highlight conflict zones, create dedicated roadway space for non-motorized users, reinforce safe roadway behavior, increase visual stimulation or a sense of enclosure, and/or actively reduce speeds through geometric roadway changes foster safer speeds and behavior among all roadway users.

## 1.3 Planning Process

The *City of Greer Downtown Walking and Bicycling Master Plan* was developed through an engaging planning process built on the analysis of critical data and the input of Greer residents, staff, and key community stakeholders.

### Data Collection and Analysis

Through geographic information systems (GIS) data, and on-the-ground field investigation, the project consultants identified opportunities and constraints for bicycle, pedestrian, and greenway facility development. Field research also included examining potential trail corridors, examining roadway conditions for the potential inclusion of sidewalks or on-street bikeways, and preparing a photographic inventory of opportunities and constraints in the community. A review of planning documents, policies, and bicycle and pedestrian access to existing cultural and recreational programs supplemented the analysis of the physical environment.

### Plan Development

The recommendations of the Downtown Walking and Bicycling Master Plan reflect the input from the public and Greer staff as well as national best practices for bicycle planning in communities of similar size and conditions. The Plan includes network and infrastructure recommendations for targeted pedestrian and bicycle infrastructure improvements that take into account issues such as safety, grades, route directness, barriers, and system connectivity. The *Implementation* chapter provides in-depth detail on priority walking and bicycle improvements in Greer including visualizations of improvements, project cost estimates, and design and implementation guidelines.

Example photo simulation of proposed infrastructure recommendations on Trade and Pelham Streets.



## 1.4 Vision, Goals, and Objectives

Input from Greer residents and community stakeholders on goals and desired outcomes of the Plan, as well as the insight gained during analysis of existing conditions, informed this Plan's vision statement:

The City of Greer Downtown Walking and Bicycling Master Plan **envisions a connected network of on- and off-street walkways, bikeways, and trails** that provide **safe and family-friendly access** between neighborhoods and community destinations **for all ages and abilities**. Implementing the recommendations described in **this Plan will complement, connect and enhance the existing assets of the community** such as Greer City Park, Century Park, Main Street, and downtown among others. **These recommendations could also better connect Greer with neighboring communities** such as Taylors, Duncan, and Greenville. **When realized, this Plan will enhance the economic vitality, cultural assets, and overall health and well-being of Greer and its residents.**

Specific objectives for the outcome of this Plan include:

- Create a community network of on- and off-street walkways, bikeways, and trails designed for all ages, abilities, and user groups.
  - Complete this plan's **top priority pedestrian and bicycle projects within five to ten years** of Plan adoption
- Capitalize on existing scenic natural resources, including City Park, recreation and historical amenities, and the attractiveness of Main Street.
  - Focus on improving bicycle and pedestrian connectivity in and around the City's core, eventually branching out to other neighborhoods.
  - Consider **non-motorized transportation friendly policies and regulations** ensuring that new development supports the bicycling and livability goals of the Greer community.
- Improve the safety and comfort of **walking and bicycling routes to destinations such as schools, parks, and the library**.
  - **Reduce the number of pedestrian and bicycle injuries and fatalities** by 20% in three years and by 40% in five years.
  - Strive to eliminate all pedestrian, bicycle, and vehicular crash fatalities within ten years.

## 1.5 The Six E's Approach to Pedestrian and Bicycle Planning

Research has shown that a comprehensive approach to improving conditions for walking and bicycling is more effective than a singular approach that would address infrastructure issues only.<sup>1</sup> Recognizing this, the national Bicycle Friendly Community program, administered by the League of American Bicyclists, and the Walk Friendly Community program, administered by the National Center for Walking and Bicycling, recommend a multi-faceted approach based on the following five 'E's: Engineering, Education, Encouragement, Enforcement, and Evaluation. For the purposes of this Plan, a sixth 'E', Equity, is included in order to fulfill the goals and vision of this Plan. While this Plan focuses on "Engineering" recommendations, the project team recognizes the value of programmatic and policy efforts of the City, County, and local nonprofit and community partners that are already occurring and that will be implemented moving forward.

### Engineering

Creating safe and convenient places to ride and park

### Education

Giving people of all ages and abilities the skills and confidence to ride

### Encouragement

Creating a strong bike culture that welcomes and celebrates bicycling

### Enforcement

Ensuring safe roads for all users

### Evaluation & Planning

Planning for bicycling as a safe and viable transportation option

### Equity

Ensuring



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<sup>1</sup> Pucher, J. Dill, J. and Handy, S. (2010). Infrastructure, programs, and policies to increase bicycling: An international review. *Preventative Medicine*, 50, S106-S125; Krizek, K., Forsyth, A., and Baum, L. (2009). *Walking and cycling international literature review*. Melbourne, Victoria: Department of Transport.

## 2 Existing Conditions Review

### 2.1 Characteristics & Demographics Overview

The City of Greer, situated in the Foothills of Upstate South Carolina along the border of Greenville and Spartanburg Counties, is located just 25 minutes northeast from the City of Greenville, 2.5 hours from Atlanta, and 1.5 hours from Charlotte. Originally a 200 acre farm owned by James Manning Greer, the city formed out of Greer's Station – a flag stop along the Richmond and Danville Air Line Railway. The station served as a transit and village center for textile and agricultural practices.

Modern transport developments such as the Greenville-Spartanburg Airport and I-85, have brought new economic opportunities to the area. The City of Greer and the surrounding area thrive on these connections to nearby markets and population centers, and have proven to be an opportunistic relocation site for new businesses, such as BMW.<sup>2</sup> New developments have also brought new growth – Greer's steadily growing population increased from an estimated 10,000 residents in 2000 to an estimated 26,000 residents in 2013, making the growth rate of Greer twice that of the Greenville-Spartanburg Combined Statistical Area (CSA).<sup>3</sup>

Greer is an ideally situated community for people that live, work, and play in the Upstate, as well as a leading tourist destination for those attracted to rich history and character, and a diverse array of recreational activities.

While only a small fraction of Greer residents walk or bike to work (an estimated 2.3%), a number of demographic indicators point to the need for bicycling and walking infrastructure.<sup>4</sup> For example, **2013 estimates reveal that more than one in three households in Greer have access to only one motor vehicle, and an additional 7% do not have access to a motor vehicle at all.**<sup>5</sup> Other population segments like seniors (65 and older), which represent an estimated 11% of the population, drive less frequently and often choose to walk to nearby destinations. **Children (age 14 and younger) account for 21.3% of the Greer population and rely heavily on walking and bicycling to travel to school, parks, friends' houses, and other local destinations.**<sup>6</sup>

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<sup>2</sup> City of Greer, South Carolina. History of Greer. [http://www.cityofgreer.org/visit/history\\_of\\_greer.php](http://www.cityofgreer.org/visit/history_of_greer.php); (June 4, 2015). City of Greer, South Carolina. Greer Station Master Plan. 1999.

<sup>3</sup> U.S. Census Bureau. Census 2000, Summary File 1, Table DP1, generated by Alta Planning + Design using American FactFinder, <http://factfinder2.census.gov>, (4 June 2015). City of Greer, South Carolina. Greer Community Master Plan. 2014.

<sup>4</sup> U.S. Census Bureau. American Community Survey 2009-2013 5-Year Estimates, Table B08301, generated by Alta Planning + Design using American Factfinder, <http://factfinder2.census.gov>; (May 26, 2015).

<sup>5</sup> U.S. Census Bureau. American Community Survey 2009-2013 5-Year Estimates, Table DP04, generated by Alta Planning + Design using American FactFinder, <http://factfinder2.census.gov>, (May 26, 2015).

<sup>6</sup> U.S. Census Bureau. American Community Survey 2009-2013 5-Year Estimates, Table DP05, generated by Alta Planning + Design using American FactFinder, <http://factfinder2.census.gov>, (May 26, 2015).



## 2.2 Review of Existing Planning Efforts

This section provides a summary of bicycle, pedestrian, and trail planning-related efforts in Greer, South Carolina. Seven relevant plans exist. The seven plans reviewed for this Plan are described in the following subsections.

### Key Findings

Overall, the documents reviewed below show a **growing interest in sidewalks, trails, bikeways, and active transportation planning in Greer and the surrounding area** dating back to the 1970's.

Key themes from the previous planning efforts reveal that:

- **Existing policies need to be strengthened** to improve accommodations for active transportation and recreation facilities.
- There is ample **opportunity for trail/greenway development** in the region.
- Utilize existing and develop new **partnership opportunities**. The need to form new partnerships and enhance existing partnerships stems from limited funding which stagnates the development of projects. Partners can support the implementation of these priority projects.
- Trails and greenways can serve an important function for both **transportation and recreation**.



## Summary Table of Documents Reviewed

Plan	Agency	Year
Greer Community Plan	City of Greer	2015
ULI South Carolina Technical Assistance Panel: Shaping a Transit-Ready Corridor	City of Greer/Upstate Forever	2015
Greenville-Pickens Area Transportation Study (GPATS) 2035 Long Range Transportation Plan (LRTP)	GPATS	2013
Parks Enhancement Plan	Spartanburg County Parks	2012
Transportation Improvement Program	Spartanburg Area Transportation Study (SPATS)	2010
Greenville County Trails and Greenways Master Plan	Greenville County	2010
Bicycle & Pedestrian Plan	Spartanburg Area Transportation Study (SPATS)	2009
Long Range Transportation Plan	Spartanburg Area Transportation Study (SPATS)	2008
Parks & Recreation Strategic/Master Plan	City of Greer/Clemson University	2008
Enhancement Master Plan	Spartanburg Area Transportation Study (SPATS)	2004

## Summary of Relevant Planning Efforts

### Greer Community Master Plan

**Year:** 2015

**Description:** Over the past decade Greer has been one of the fastest growing cities in South Carolina largely due to its location, transportation infrastructure, and land abundance. The purpose of this plan is to provide a strategy for sustaining the future growth of the City of Greer and the surrounding areas, as addressed in the mission statement:

*...environmentally sound and prudent management of growth and development to increase employment opportunity, provide available housing, offer abundant recreation, and preserve the historic charm of the city.*

This plan also addresses the community's desire to strengthen their physical environment, advance economic development, and retain cultural identity.

The Project Kick-Off Meeting identified five areas of interest, among those interests transportation/mobility, and parks and open space were identified as frameworks for the plan.

**Recommendations:**

- Use existing plans as guiding principles to extend upon, such as the 2010 Greer Comprehensive Plan's desire to improve bicycle and pedestrian facilities.
- The community identified pedestrian activity as an important component to be incorporated into downtown.
- Identified opportunities in the City of Greer and the surrounding area were:
  - Walking and biking paths that connect destinations
  - Greenways and blueways
  - Integrate parks with revised bicycle and pedestrian plan
  - Transit infrastructure improvements
  - A downtown interconnected street network
- Community input identified 10 topics to include in the plan. The following are relevant to this planning effort
  - Implementation of new parks, expansion of existing parks, and preservation of open space.
  - Development/redevelopment of walkable neighborhoods that provide a mixture of uses and appealing facilities to encourage live, work, and play environments.
  - Enhancement of transportation connectivity through implementation of small streets and trails.
  - Multimodal accessibility by walking, biking, and transit.
- Multimodal transportation infrastructure improvements were identified as multiuse trails, sidewalks, transit/bus systems, and bike facilities.

**ULI South Carolina Technical Assistance Panel: Shaping a Transit-Ready Corridor**

**Year:** 2015

**Description:** Highway 29 is a 23-mile corridor that includes a 10-mile-long section from Spartanburg's city limits to Greer, and a 13-mile-long section from the Greenville city limits to Greer. Presently the corridor is not in optimal operation, is visually unappealing, inefficient, and is hostile toward pedestrians, bicyclists, and transit riders. The Highway 29 TAP provides recommendations for housing development that supports transit and pedestrian/bicycle activity, retrofitting existing infrastructure to support transit, policy changes that will support mixed-use development and increase density, and prioritization system for infrastructure investments.



## **Recommendations:**

- Town centric nodal development with Highway 29 as a supporting piece.
- Investment in bike and pedestrian infrastructure to enhance safety for multimodal connectivity and accessibility along the entire corridor.
- Strategic interventions that provide dedicated and reliable connections from the town center to the highway and traffic calming measures for safe pedestrian crossings.
- Implementation of buffered bike lanes or parallel bike routes that connect points of interests.
- Development of a single master plan that commits all jurisdictions.

## **GPATS 2035 Long Range Transportation Plan**

**Year:** 2013

**Description:** The Greenville-Pickens Area Transportation Study (GPATS) Metropolitan Planning Organization (MPO) *2035 Long Range Transportation Plan* (LRTP) was last updated in November 2013.

**Recommendations:** Chapter 6 of the LRTP includes the following pertinent recommendations related to pedestrians and bicyclists:

- Creating better street, sidewalks, and trail connectivity whenever it is politically and financially possible.
- Provide connectivity to schools, parks, and commercial spaces from existing and developing neighborhoods by improving bicycling and walking conditions on existing roadway and greenway networks.
- Bike lanes connecting Greer to Travelers Rest along Tigerville, Jackson Grove, Lynn, and Locust Hill Roads.
- Bike facilities including 2-4 foot paved shoulders, bike lanes, and road diets to accommodate bicyclists.
- Highest priority for sidewalk facilities should be given to areas with the most dense existing or planned development, but regional connectivity is also highly valued.

## **Parks Enhancement Plan**

**Year:** 2012

**Description:** This plan's purpose is to present specific information on planned parks enhancements, with Council's insight incorporated. Those enhancements will create multi-purpose parks, designed to allow a high quality of maintenance. Investments for these enhancements will be considered over the next five to seven years – starting in fiscal year 2012/2013.

Mission: Spartanburg County Parks Department facilities and programs will be fun, safe, attractive, accessible and family friendly—offering both active and passive recreation opportunities—to promote an active, healthy lifestyle for people of all ages and abilities.

### **Recommendations:**

- Fund a trail system in the City of Woodruff and re-decking of a bike and pedestrian bridge in Edwin M. Griffin nature Preserve
- Look to the Trails Master Plan [this planning process] to provide guidance for future trail investments
- Berry Field- desirable investment includes pedestrian/bicycle access beneath Asheville Highway to Cleveland Park. Connection is feasible, and could be important linkage in an exercise path running from downtown, through neighborhoods, through Berry Field and Cleveland Park, and back to downtown.
- Cleveland Park-Glenn Park walking trail
- Park Standards Manual – includes in-park wayfinding
- Park Beautification/Landscaping Plan
- Criteria for trails investment identified (page 33)
- Donate \$15,000 to SPACE for re-decking of bicycle and pedestrian bridge in Edwin M. Griffin Nature Preserve

## **SPATS Project Funding Transportation Improvement Program, FY 2010–2015**

**Year:** 2010

**Description:** The SPATS Transportation Improvement Program (TIP) contains all approved federally funded transportation projects within the Spartanburg County urban area. This program is revised annually by the SPATS Policy Committee, the decision-making board of the Spartanburg Area Transportation Study. For the fiscal years 2010-2015, one SAFETEA\_LU Earmark Project – Hub City Connector, Bicycle and Pedestrian Improvements as part of the Palmetto Trail was identified, with an earmark of \$1,360,000.

## Greenville County Trails and Greenways Master Plan

Year: 2010

**Description:** The *Greenville County Trails and Greenways Master Plan* proposes to develop a broader framework for an interconnected system of pathways that will link together the various municipalities within Greenville County. Providing a network of greenways will provide access to multi-modal transportation options for commuting between residential, employment, recreational, cultural, and historic destinations. By supplementing existing transportation infrastructure while simultaneously serving to conserve Greenville County's many natural and scenic resources, greenways will serve as an important step in achieving sustainable and healthy economic growth.

### Recommendations:

- Enhance bicycle and pedestrian connectivity throughout the county by offering trail routes to daily destinations and mass transit centers.
- Expand on existing planning efforts to develop a safe and interconnected greenway network.
- Developing municipal connections to Greer through the Enoree River Corridor.

## SPATS Bicycle & Pedestrian Master Plan

Year: 2009

**Description:** In January 2009, SPATS, Spartanburg County, and the City of Spartanburg began developing a countywide comprehensive bicycle and pedestrian plan. This Plan seeks to build upon what has already been accomplished and create action towards implementation, project, program, and policy development. The plan addresses the entire county, including incorporated areas and non-incorporated areas.

### Recommendations:

- Building on the Enhancement Master Plan and amended with further recommendations, over 200 miles are recommended in the off-road greenway system (page 63)
- Map 4.1 Spartanburg County: Bicycle Recommendations (page 69) and Map 4.2 Metro Spartanburg Bicycle Recommendations (page 70) includes Enhancement Master Plan projects
- Ensure that regional connections and regional greenway corridors are established and enhanced (page 72)

- Map 5.1 Spartanburg County: Pedestrian Recommendations (page 76) and Map 5.2 Metro Spartanburg Pedestrian Recommendations (page 77) includes Enhancement Master Plan projects
- Map 6.1 and 6.2 identify the Top 25 priority bicycle and pedestrian recommendations, respectively, for the City of Spartanburg (pages 88-89)
- Policy Recommendations (page 139-147)
- Host a National Trails Day along the Palmetto Trail
- Develop a Greenway Master Plan to address the hundreds of miles of greenway recommended throughout the County as part of the Enhancement Plan (page 192)
- Create a sidewalk/bicycle lane/greenway request form for residents to use
- Greenway Trail design guidance (page 210-212)
- Section 10.3 Trail Design Standards (page 233-261)

## **SPATS Long Range Transportation Plan**

**Year:** 2008

**Description:** Completed in November 2008, the SPATS Long Range Transportation Plan is a multi-modal and fiscally constrained document that outlines transportation priorities and proposed projects to the year 2035. Project priorities are based upon growth patterns, population and employment projections, and a transportation model that forecasts traffic and transportation needs to the year 2035. The total projects costs within the plan cannot exceed what SPATS is expected to accumulate by the year 2035, and inclusion in the plan is a prerequisite before funding can be committed within the SPATS Transportation Improvement Program (TIP).

Of the Goals identified in the LRTP, Goals 3, 4 and 6 are most relevant.

- *Goal 3: Increase Accessibility and Mobility Options.*
  - Objectives include: Maintain, enhance, and expand existing multi-use trails and bicycle facilities, with emphasis on developing an interconnected network of pedestrian and bicycle facilities.
- *Goal 4: Enhance Intermodal Connectivity and Integration*
  - Objectives include: Facilitate the development of integrated multi-modal transportation system.
- *Goal 6: Protect and Enhance the Environment*
  - Objectives include: Identify ways to improve air quality; develop strategies to reduce emissions, ensure equity in the benefits of transportation system, protect recreational and other environmentally sensitive areas, and

promote consistency of transportation improvements with state and local plans.

Section 2 of the document also includes 26 pages on the SPATS Active Community Story. This story describes the strategy SPATS took in developing an active community, and lists existing plans and programs that promote active living. The term “active community” is defined as providing access, quality, safety, and educational/event programs for active living – achieved by implementation of:

- Sidewalks
- Pedestrian crosswalks
- Bike lanes
- Walking trails
- Parks and other active recreational green space
- Educational or bike rental programs

**Recommendations:**

- Spartanburg County Existing Bikeways and Recommendations WORKING DRAFT MAP (page 116)
- SPATS 2005 Walkable Community Workshop Plans with project priorities (page 118-124)

**Parks and Recreation Strategic/Master Plan**

**Year:** 2008

**Description:** The City of Greer contracted Clemson University to develop the Parks and Recreation Strategic/Master plan. It is intended that this plan be included in the City of Greer’s comprehensive plan. In this study a needs assessment survey, focus group interviews, identification of future growth, and assessment of existing plans and facilities were used to develop a vision and mission plan for the advancement of Greer’s parks and recreation facilities. The vision for this plan is to ‘create community through people, parks, and programs’ to promote health and wellness, sustainable use of natural resources, economic development and strengthen the community image.

**Recommendations:**

- The public response to the needs assessment survey revealed that 31.5% think that Greer currently has adequate recreational facilities, 44.8% feel that there are not adequate recreation facilities, the remaining 23.6% were undecided.
- The top 5 facility needs identified in the by citizens in the survey assessment were:
  - Trails/Greenways
  - Walking/Jogging Paths

- Outdoor Community Pools
- Fitness/Recreation Centers
- Indoor Aquatics Center
- 71.7% of the survey respondents prefer that parks and recreational facilities and programs be funded through a combination of taxes and user fees.
- The plan concluded that of the six recommended facility developments the development of interconnected, city-wide system of trails, greenways, walking paths, and jogging paths were the highest priority.

### **SPATS Enhancement Master Plan**

**Year:** 2004

**Description:** The Long-Range Enhancement Master Plan provides Spartanburg Area Transportation Study (SPATS) recommendations for alternate mobility solutions as well as beautification opportunities. SPATS initiated the Master Plan as a tool to coordinate alternative mobility and enhancement projects on the basis of anticipated Federal funds.

The purpose of this Master Plan was to identify and prioritize alternative mobility opportunities using natural resources, overland connectors and abandoned rail-lines, and landscape enhancement projects within primary gateways, roadways, corridors, landmarks, and open spaces throughout the County. The Vision statement for Alternate Mobility is "To work with the community at large to provide safe, accessible bike and pedestrian accommodations for recreation and transportation throughout Spartanburg County while promoting mutual respect of each mode."

The purpose and objectives of the mobility element of the Plan were further defined to apply to pedestrian and bicycle "trails" that are, for the most part, located outside of the rights-of-way of the County's roadway system. In other words, the intent was defined to focus on a "greenways" trail system to the extent possible.

The initial guidelines for identifying potential corridors for trail development were as follows (in no particular order):

- Utilize natural features, such as rivers and streams, where possible
- Utilize utility easements, such as power lines and gas lines, where possible
- Create connections to cultural amenities such as schools and universities
- Create an interconnected system throughout the entire study area
- Build on connections to existing parks/trails, recreation centers, and preserves
- Create linkages to residential, shopping, and employment area

The overall goal of the trail network is to improve the quality of life for the citizens and visitors of the Spartanburg area by increasing recreational opportunities and promoting economic development, while at the same time endorsing the area's unique heritage. Trail and greenways also seek to preserve open space and improve environmental quality of life. With this in mind, the interconnected system of trails and greenways would provide a basis for connecting the area's population centers, as well as linking diverse cultural and natural resources.

### **Recommendations:**

- Alternate Mobility Master Plan Map (page 1-4/page 6-5) identifies 30 Greenways/trails (total length = 154 miles), with 12 identified as High Priority/Feasibility
- Alternate Mobility Opportunities Map (page 6-2)
- Evaluation Criteria (page 6-3)
- Table 6-1 Greenway/Trail Priority List (page 6-4)
- Trail surfacing types (page 6-6)
- Trail description sheets (page 6-8 through 6-42) for all 30 Greenways/Trails identified on map
- Establish a local committee to lead the community in the implementation of the trail/greenway system

## **Summary of Other Relevant Planning Efforts**

### **Palmetto Trail**

The Palmetto Trail is South Carolina's Mountains-to-the-Sea Trail and the signature project of the statewide nonprofit, the Palmetto Conservation Foundation. Once complete, the trail will extend roughly 425 miles from Awendaw, South Carolina at the Intracoastal Waterway to Oconee State Park at the trail's northern terminus, passing through the heart of Spartanburg County. Completed sections of the Palmetto Trail passing through Spartanburg include the Blue Wall Passage, the Mary Black Foundation Rail Trail, the South Carolina School for the Deaf and Blind Braille Trail, and portions of trails within Croft State Natural Area. In aggregate, the trails are dubbed the "Hub City Connector." The Palmetto Conservation Foundation continues to advance trail development within Spartanburg County to connect the Palmetto Trail segments.

### **City Parks & Recreation Plan**

In 2007, the City completed a Parks & Recreation Master Plan which was never adopted by Council, but serves as a useful inventory of existing facilities (at the time of the Plan). The Plan provides a menu of potential improvements to existing facilities.

## 2.3 Opportunities and Constraints

### Citywide Opportunities and Constraints

Greer has a great foundation for walking and bicycling with its walkable downtown and Greer City Park area, relatively dense development, and connected street network. However, walkability and connectivity diminish moving away from the downtown core. There are several constraints city-wide that will have to be addressed as Greer and its partners work to implement the recommendations of this Plan. The following sections present overarching opportunities and constraints for walking and bicycling in Greer:

#### Opportunities

- **Previous planning efforts**, which stress the importance of pedestrian-friendly development, improving bicycle and pedestrian facilities, enhancing recreation amenities, and improving quality of life indicate a climate of support for walking and bicycling in Greer.
- **The Greer community is engaged in making the town a better place.** There are a number of community groups such as the Greer Development Corporation and Partnership for Tomorrow that could be potential partners in program or infrastructure recommendations.
- Many **major roadway corridors are wider than needed** for the traffic volumes they serve, such as Main Street, Poinsett Street, and Line Street. This presents an opportunity to reconfigure and “resize” roadways to add on-street bicycle facilities.
- **There is a robust recreation culture in Greer** with twelve active and passive parks and recreation facilities, and recreation programming facilitated in collaboration with LiveWell! Greenville. Existing park facilities can provide a basis for creating a seamless bicycle and pedestrian network.
- There is a silver-level partnership<sup>7</sup> between **Safe Routes to School**<sup>8</sup> and Riverside Middle School in Greer which has the potential to spur planning grants and funds to construct bicycle and pedestrian infrastructure.
- The community already has a **good sidewalk network** around the downtown core.
- **Downtown Greer already has a walkable character** with its street lighting, landscaping, street furniture, curb extensions at crosswalks, and buildings with

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<sup>7</sup> There are four partnership achievement levels that build towards establishing a long-term, sustainable SRTS program: Bronze, Silver, Gold, and Platinum. These rankings are based off the amount/level of education, planned activities/events, programs, team development, planning, identification of safe routes provided to students and faculty.

<sup>8</sup> An SC DOT program that encourages more walking and biking to school - for all children - through education and promotional activities, as well as engineering improvements to create a safer walking and biking environment



short setbacks from the street. Future development within downtown Greer and throughout the city should strive to mimic this walk-friendly design.

- **Future long-term planned improvements** such as the expansion of Tyger River Sports Complex will further enhance Greer's recreational facilities. There may also be opportunities to piggyback pedestrian or bicycle improvements on transit improvements proposed in the 2015 Greenville County TIGER grant application.

## Constraints

- **Some intersections in Greer**, especially those along South Main Street, Poinsett Street, and Line Street **can be barriers to bicyclists and pedestrians**. These intersections could benefit from reduced turning radii, high-visibility crossing markings, pedestrian refuge islands, reduced crossing distances for pedestrians, ADA-compliant curb ramps, and improved signalization for both pedestrians and bicyclists.
- Many key roadways in Greer are **SCDOT jurisdiction roads**. Changes to SCDOT roadways will require additional coordination with SCDOT. Further, some roads intersect rail right-of-ways, presenting additional coordination challenges with the respective railroad company.
- There are **few people currently bicycling for transportation** in Greer. It will take time and intentional efforts to build a culture where bicycle transportation is normalized.
- There are currently **no formalized bicycle or shared-use path facilities** in Greer, which makes it more challenging for those desiring to bike to be able to do so.
- **Some areas of existing sidewalks are poorly maintained**, or do not meet current safety and ADA accessibility standards. These issues pose a barrier for people with mobility issues. In addition, ADA non-compliance can be a liability for the City.
- While sidewalk connectivity is good in the core of Greer, **sidewalk connectivity dissipates as one moves away from the City center**. This presents an unsafe and difficult environment for pedestrians. Continuous sidewalks are needed along all major roadways to facilitate pedestrian connectivity to key destinations.

## Site Specific Opportunities and Constraints

The following photo inventory presents opportunities and constraints identified during field work. Observed opportunities are shown with **GREEN** borders and constraints are shown with **RED** borders. A base map of existing transportation conditions and potential walking and bicycling points of interest in Greer is provided following the opportunities and constraints photo inventory. This map also identifies available bicycle and pedestrian crash data from 2010-2014, SCDOT Average Daily Traffic volumes data from 2013, and roadways under SCDOT jurisdiction.



1. Trade Street near Greer City Park in the **downtown has walk and bike-friendly elements**. This is an opportunity to build upon existing successes to attract even more people to the core of town.



2. There are plans to **expand programming and facilities** at the Tyger River Sports Complex. This creates an opportunity to create a pedestrian and bicycle connection between the facility and Greer.



3. Across Greer there are **pronounced gaps within the sidewalk network**. While sidewalk coverage is fairly good near City Hall, sidewalks are less prevalent as one moves away from downtown, especially in some neighborhoods where there is a high prevalence of walking.



4. Where sidewalks do exist, there are a number of locations where existing **sidewalk facilities are substandard** or in disrepair. This presents a **hazard for pedestrians**, especially those with mobility issues, and a liability for the city and property owners.



5. Railroad crossings, even those at-grade, can be a **hazardous barrier**. Continuing sidewalks and bicycle infrastructure seamlessly across railroad-owned property also presents additional coordination challenges.



6. There are large, existing setbacks which **lack sidewalks on many of the major thoroughfares**. The space above, for example, could include a planting strip to buffer pedestrians from vehicle traffic and sidewalks making a safer and more comfortable environment for all users.



7. There is a **growing community of young people and young families** who desire safe walking and bicycling environments. This population could be an asset when developing volunteer walk and bike encouragement and education programs.



8. On Poinsett Street from Main St. to W Wade Hampton Blvd., the number of roadway lanes does not warrant the relatively low volume of traffic the roadway sees. Furthermore, **four-lane roadway configurations are more susceptible to rear-end and lane-change collisions**. This is an opportunity reconfigure the roadway and add bicycle facilities, helping to calm traffic speeds and improving the walking and bicycling environment.



9. The existing trails at Wards Creek Park could be extended as a greenway to Sunnyside Dr. and Ben Edward Park. Beyond this extent, there is an **opportunity to include sidewalks and on-street bicycling infrastructure** to reach the Cannon Centre.

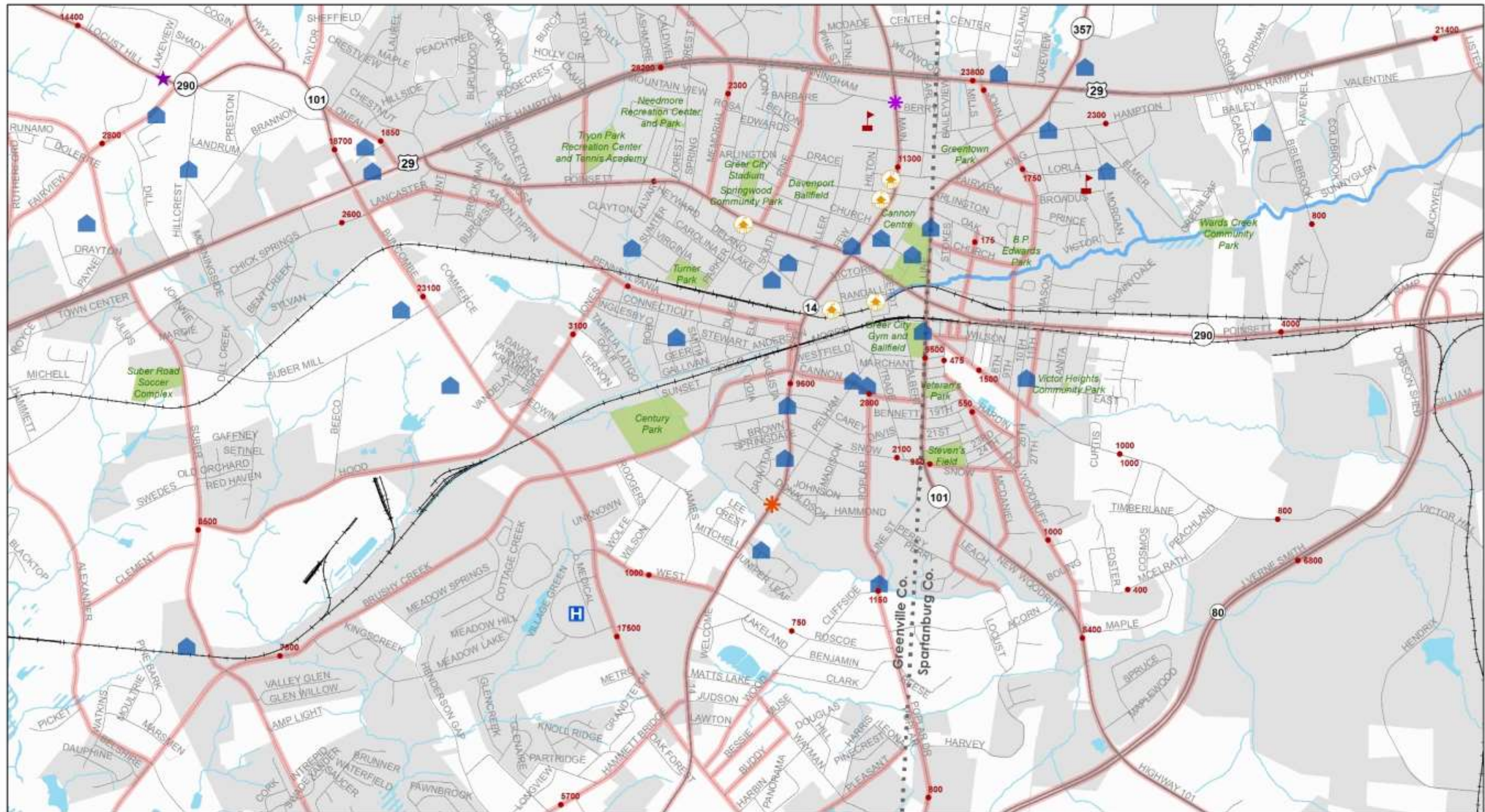


10. There is a great deal of **pavement width that could be repurposed** for bicycle facilities, pedestrian crossing islands, or other improvements on Main St. The current wide street configuration encourages speeding and discourages walking or bicycling.

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## 2.4 Existing Conditions Base Map



**GREER, SOUTH CAROLINA**  
**DOWNTOWN WALKING & BICYCLING PLAN**  
**EXISTING CONDITIONS**

Map Created: August 2015  
Data Obtained from: City of Greer, GPATS, SCDOT, SCDNR, Greenville County, and Spartanburg County

**Crash History**

- ★ Bicyclist Fatality
- ✱ Bicyclist Injury
- ★ Pedestrian Fatality
- ✱ Pedestrian Injury

**Transportation**

- Roads
- Railroads
- SCDOT Highway
- Jurisdiction Highway

**Points of Interest**

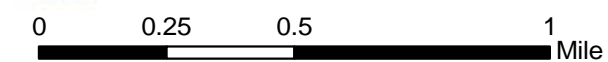
- Place of Worship
- Hospital
- School or Learning Center
- Historic Site
- Park

**Hydrology**

- Streams and Rivers
- Bodies of Water
- Wetlands

**Boundaries**

- Greer Municipal Boundary
- Spartanburg - Greenville County Boundary





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## 2.5 Public Input Summary

Public participation events to engage the citizens and visitors of Greer consisted of **public workshops** (as both a part of the City of Greer's comprehensive planning process and unique to this walking and bicycling focus study) and an **online, interactive public input map** (also referred to as a "wikimap"). Through these engagement opportunities, the Greer community shared their needs and aspirations for walking and bicycling, and provided the input necessary to develop a plan that represents the desires of the community. The project consultants refined the recommendations of this Plan based on feedback received during the public input process to come up with the final Downtown Walking and Bicycling Master Plan.

### Common Themes from Public Workshop

Over 60 citizens attended the public workshop in which the project team shared preliminary recommendations for the plan. Greer's citizens shared a host of comments and suggestions. While a handful of comments expressed concern about the impact of the projects on traffic flow and on the City's financial constraints, the majority of input was positive and affirmed the plan's vision and recommendations. As local witnesses to the success of the Greenville Health System Swamp Rabbit Trail in both Greenville and Travelers Rest, meeting attendees enthusiastically supported a network of walking and cycling facilities in their City.

Overall, recurring comments during the public workshop included:

- **Improve pedestrian crossings**, especially at intersections with major roadways
- Establish connections between Greer's many **parks, especially Century Park**
- **Install and/or improve pedestrian facilities** such as high-visibility crosswalks, adequate crossing times, pedestrian signal heads, and pedestrian push buttons
- Extend and **connect to Greenville Health System Swamp Rabbit Trail**






## Summary of Wikimap

The online interactive wikimap was a major component of the public engagement process for the Downtown Walking and Bicycling Master Plan. The local expertise and knowledge of the walking and bicycling climate in Greer shared by these users informed the recommendations of this plan.

The wikimap provided citizens with the opportunity to draw points and lines indicating walking and bicycling priorities in real time. These users could provide input on the map in three different ways. They could draw new points and lines, leave a comment on an existing point or line, or simply “like” or “dislike” a point or line already drawn on the map. The points and lines input features made available on the map were developed through a collaborative process with the City of Greer Parks and Recreation Department. A summary of point and line feature options follows.





### Point Features

Three point features could be drawn on the map:

-  Improve intersection for walking/bicycling
-  I would like to bike here
-  Add bicycle rack(s)

### Line Features

Four line features could be drawn on the map:

-  Preferred existing walking route
-  Preferred existing bicycling route
-  Desired/needed walking route
-  Desired/needed bicycling route

In total, about 25 walking and bicycling routes and nearly 60 point features were drawn on the map by the public and “liked” or “disliked” by other users of the wikimap.

Of the 60 points drawn, “improve intersection for walking/bicycling” were the most frequently drawn feature. A number of those intersections identified, such as those along Poinsett Street and Main Street, were incorporated into this plan’s priority corridor recommendations. The second most prevalent feature drawn on the wikimap was “add bicycle rack(s)”. This point feature was largely drawn at park locations and within the downtown. This indicates a desire to bike to recreational facilities and the central business district if amenities were provided. This notion of a willingness to commute by active transit to parks is supported by the fact that the next most frequently drawn feature – “I would like to bike here” – largely corresponded with Greer’s Century Park and City Park.

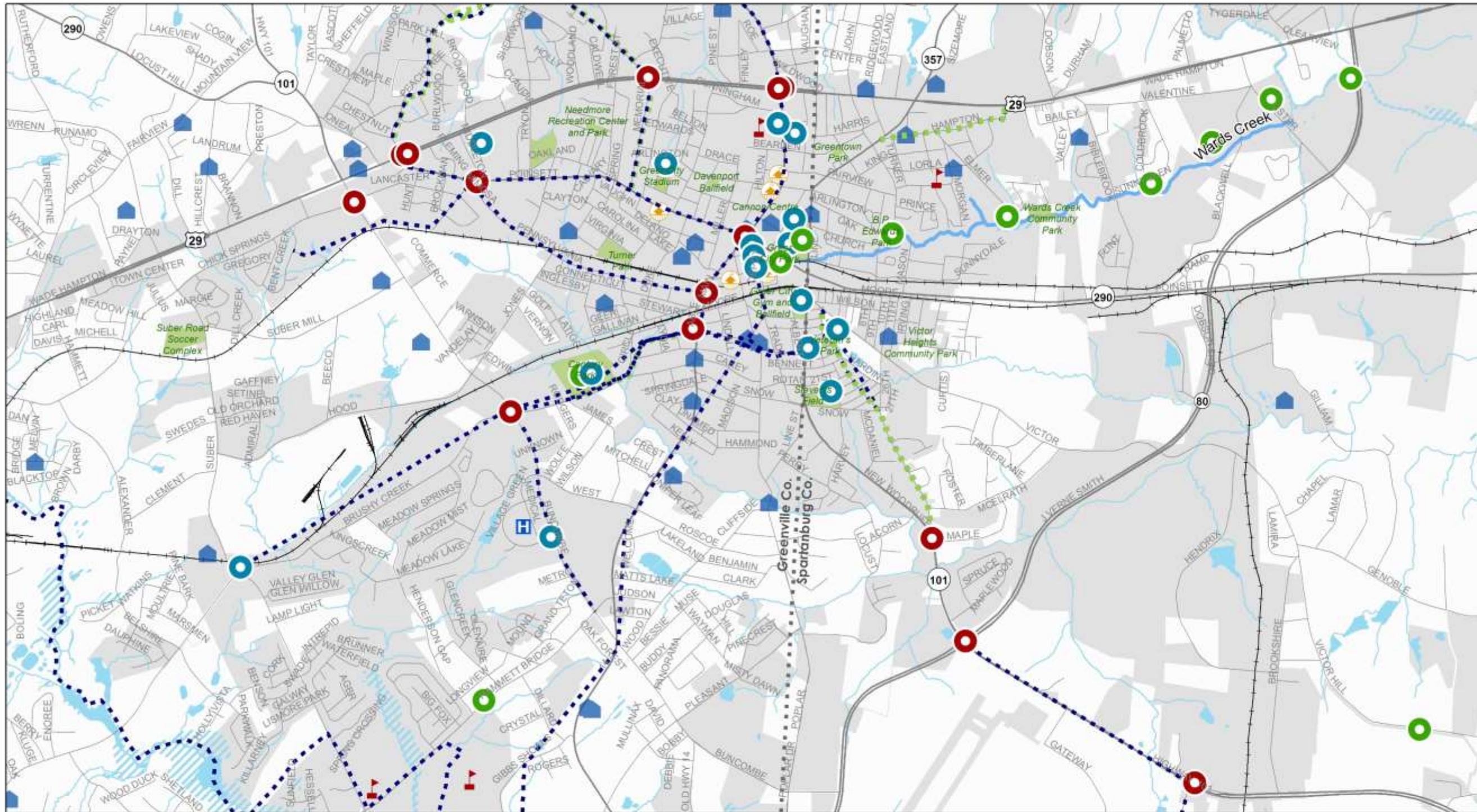
**Of the 25 routes drawn, a number of the associated comments noted that an improved sense of safety should be a top priority and that walking and bicycling routes should be for users of all ages and abilities.** Those desired routes identified linked residents to offices downtown, to shopping and restaurant options downtown, to the public library, and eventually to neighboring communities like Taylors and Greenville.

The feedback received from the online wikimap demonstrates community support and community readiness for implementing bicycle and pedestrian projects in the City of Greer with a focus on heightening safety and inclusiveness for all.

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## Wikimap Results



### GREER, SOUTH CAROLINA DOWNTOWN BICYCLING AND WALKING PLAN

#### WIKIMAP RESULTS

Map Created: September 2015  
Data Obtained from: City of Greer, GPATS, SCDOT, SCDNR, Greenville County, and Spartanburg County

#### Transportation

- Roads
- Railroads



Improve Intersection for Walking/Bicycling



I Would Like to Bike Here



Add Bicycle Rack(s)

Existing Walking Route

Existing Bicycling Route

Desired Walking Route

Desired Bicycling Route

#### Points of Interest

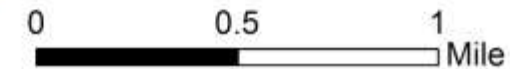
- Place of Worship
- Hospital
- School or Learning Center
- Historic Site
- Park

#### Hydrology

- Streams and Rivers
- Bodies of Water
- Wetlands

#### Boundaries

- Greer Municipal Boundary
- Spartanburg - Greenville
- County Boundary





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## 3 Recommendations

This chapter identifies potential on-street bicycle infrastructure and off-street shared use paths, intersection and railroad crossing improvements, and sidewalk projects that will connect Greer residents to their vibrant downtown. These recommendations are intended to encourage active living by residents and visitors alike.

This plan highlights four Phase 1 priority projects and five Phase 2 priority projects for the city to focus on when establishing their bicycle and pedestrian network. The proposed priority projects reflect a culmination of existing conditions analysis, public input, and steering committee and stakeholder input.

This chapter is organized in the following sections:

- Overview
- Pedestrian and Bicycle Facility Types
- Recommendation Maps

### 3.1 Overview

Design standards are critical when developing and implementing infrastructure improvements for pedestrians and bicyclists. In this plan, the types of pedestrian infrastructure improvements are fairly uniform and common (e.g. sidewalks or crosswalks). Greater variation exists for bicycle facility types. The bicycle facility types recommended on the priority corridors are considered the most appropriate facility types for the conditions observed. Considerations when selecting facility types included feasibility of implementation, intended user groups, current traffic, physical conditions, past safety incidents, public input, and extensive site observations. While the City of Greer and SCDOT should strive to implement the network as presented herein, other unforeseen constraints may prevent this. If unforeseen constraints prevent the recommended facility type from being feasible, the implementing agency should strive to implement the next best facility type in terms of safety and user separation. For example, if buffered bicycle lanes are not feasible on a section of roadway, bike lanes should be installed as an alternative treatment.

In addition, many bikeway improvement recommendations in this plan are located on SCDOT jurisdiction roadways. While project priorities are representative of project need and should be followed when possible, the implementing agency should also look for opportunities to coordinate walking and bicycling infrastructure with SCDOT regularly programmed maintenance activities, even if this results in Phase 2 priority projects superseding Phase 1 priority projects. In most cases, coordinating with re-surfacing and re-engineering projects that are already programmed will greatly reduce the costs of implanting the recommended facilities.

## 3.2 Pedestrian and Bicycle Facilities Types

### Bicycle and Pedestrian Design Resources

There are a number of state and national design resources that provide more detailed information on the design of the facilities recommended in this Plan. An overview of these are presented below. In addition, the Michigan Department of Transportation has assembled a helpful document of bicycle and pedestrian infrastructure terminology that can be used as a resource when reviewing the Plan's recommendations:

[http://www.michigan.gov/documents/mdot/MDOT\\_BicycleandPedestrianTerminologyBooklet\\_445994\\_7.pdf](http://www.michigan.gov/documents/mdot/MDOT_BicycleandPedestrianTerminologyBooklet_445994_7.pdf)

- **Manual on Uniform Traffic Control Devices (MUTCD):** defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public traffic. The MUTCD is the primary source for guidance on lane striping requirements, signal warrants, and recommended signage and pavement markings. To clarify guidance on bicycle facilities, FHWA has set up the following website as a resource: [http://www.fhwa.dot.gov/environment/bikeped/mutcd\\_bike.htm](http://www.fhwa.dot.gov/environment/bikeped/mutcd_bike.htm)
- **American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities**, updated in June 2012 provides guidance on dimensions, use, and layout of specific bicycle facilities. The standards and guidelines presented by AASHTO provide basic information, such as minimum sidewalk widths, bicycle lane dimensions, detailed striping requirements and recommended signage and pavement markings.
- **The National Association of City Transportation Officials' (NACTO) 2012 Urban Bikeway Design Guide** is the newest publication of nationally recognized bicycle-specific design guidelines, and offers guidance on the current state of the practice designs. The NACTO Urban Bikeway Design Guide is based on current practices in the best cycling cities in the world. The intent of the guide is to offer substantive guidance for cities seeking to improve bicycle transportation in places where competing demands for the use of the right of way present unique challenges. All of the NACTO Urban Bikeway Design Guide treatments are in use in many cities around the US and internationally.

### Design for Pedestrians

The transportation network should accommodate pedestrians with a variety of needs and abilities. Age is one major factor that affects pedestrians' physical characteristics, walking speed, and environmental perception. Children have low eye height and walk at slower speeds than adults. They also perceive the environment differently at various



stages of their cognitive development. Older adults walk more slowly and may require assistive devices for walking stability, sight, and hearing.

The *Manual of Uniform Traffic Control Devices (MUTCD)* recommends a normal walking speed of three and a half feet per second when calculating the pedestrian clearance interval at traffic signals. Typical walking speeds can drop to three feet per second in areas with older populations and persons with mobility impairments. While the type and degree of mobility impairment varies greatly across the population, the transportation system should accommodate these users to the greatest reasonable extent.

## Sidewalks

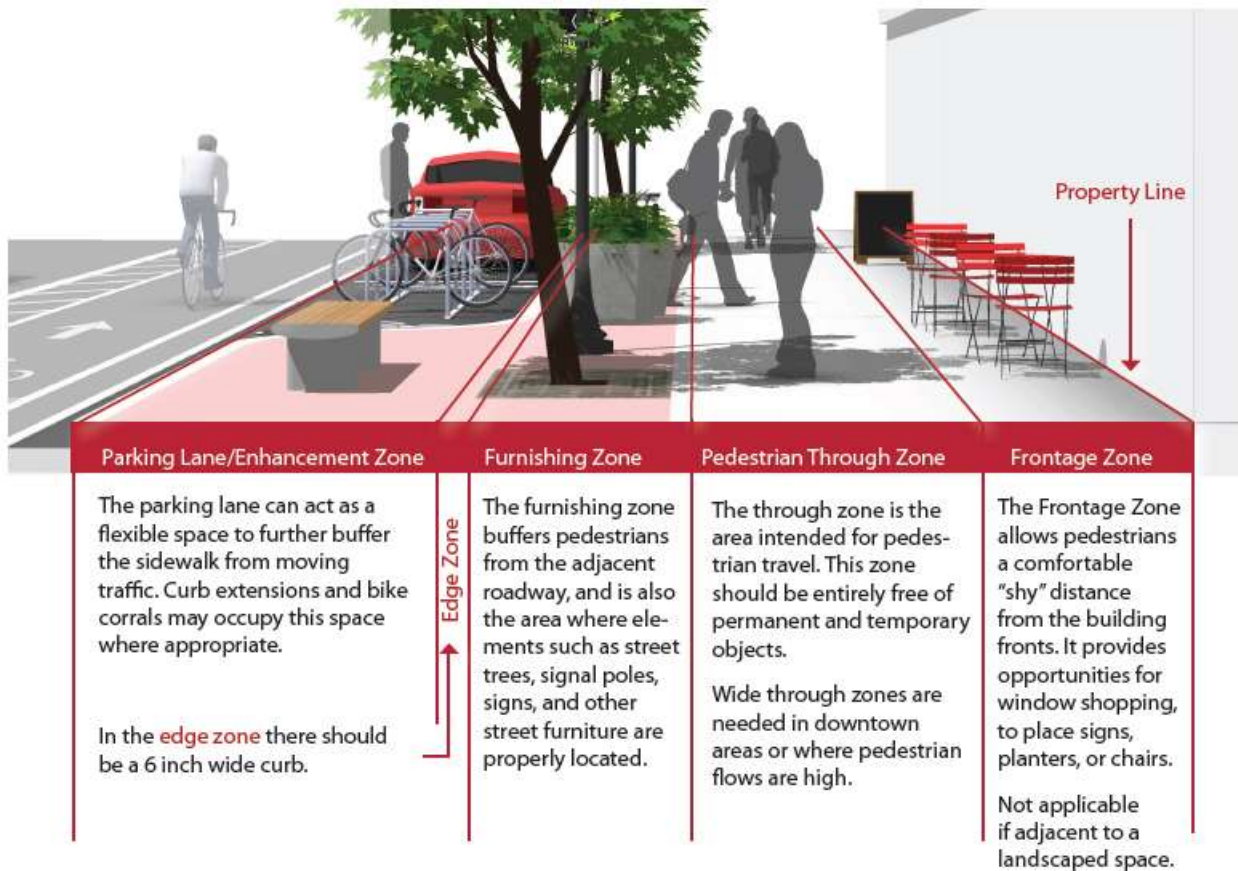
Sidewalks are the most fundamental element of the walking network, as they provide an area for pedestrian travel that is separated from vehicle traffic. **Sidewalks should be provided on both sides of major roadways and on at least one side of collectors and minor arterials or residential streets with at least 3 dwelling units per acre.** Sidewalks are typically constructed of concrete and are separated from the roadway by a curb and gutter and preferably a landscaped planting strip area. Sidewalks are a common application in both urban and suburban environments. Attributes of well-designed sidewalks include the following:

- **Accessibility:** A network of sidewalks should be accessible to all users. Roadway crossing distances and distances between crossings should be minimized to accommodate and encourage pedestrian travel.
- **Adequate width:** Two people should be able to walk side-by-side. Different walking speeds should be possible. In areas of intense pedestrian use, sidewalks should accommodate the high volume of walkers.
- **Safety:** Design features of the sidewalk should allow pedestrians to have a sense of security and predictability. Sidewalk users should not feel they are at risk due to the presence of adjacent traffic.
- **Continuity:** Walking routes should be obvious and should not require pedestrians to travel out of their way unnecessarily.
- **Lighting:** Good lighting is an important aspect of visibility, safety, and accessibility.
- **Landscaping:** Plantings and street trees contribute to the overall psychological and comfort of sidewalk users, and should be designed in a manner that contribute to the safety of people and provide shade.
- **Drainage:** Sidewalks and curb ramps should be designed so that standing water is minimized.
- **Social space:** There should be places for standing, visiting, and sitting. The sidewalk area should be a place where adults and children can safely participate in public life.
- **Quality of place:** Sidewalks should contribute to the character of neighborhoods and business districts

## Sidewalk Zones

The sidewalk area can be broken down into four distinct zones as seen in the figure below. The concept of sidewalk zones should be strictly followed for a sidewalk to function properly and provide safe passage for all users. This is especially important for users with visual or physical impairments to be able to effectively navigate the corridor.

Other considerations such as sidewalk obstructions, driveways, width and access through construction areas are important to consider as well. The following figure includes important considerations for sidewalk design.



Street Classification	Parking Lane/ Enhancement Zone	Furnishing/ Green Zone	Pedestrian Through Zone	Frontage Zone	Total Sidewalk Area
Local Streets	7 feet	4-8 feet	5-6 feet	N/A	9-12 feet
Commercial Areas	8-10 feet	6-8 feet	6-12 feet	2-8 feet	14-28 feet
Arterials and Collectors	8-10 feet	6-8 feet	4-12 feet	2-4 feet	12-24 feet
Notes			Six feet enables 2 pedestrians (including wheelchair users) to walk side-by-side, or to pass each other comfortably		Total sidewalk area excludes parking area

### Intersection Needs for Pedestrians

Intersections are also an important piece of the pedestrian realm. Attributes of pedestrian-friendly intersection design include:

- **Clear Space:** Corners should be clear of obstructions. They should also have enough room for curb ramps, for transit stops where appropriate, and for street conversations where pedestrians might congregate.
- **Visibility:** It is critical that pedestrians on the corner have a good view of vehicle travel lanes and that motorists in the travel lanes can easily see waiting pedestrians.
- **Legibility:** Symbols, markings, and signs used at corners should clearly indicate what actions the pedestrian should take.
- **Accessibility:** All corner features, such as curb ramps, landings, call buttons, signs, symbols, markings, and textures, should meet accessibility standards and follow universal design principles.
- **Separation from Traffic:** Corner design and construction should be effective in discouraging turning vehicles from driving over the pedestrian area. Crossing distances should be minimized.

- **Lighting:** Good lighting is an important aspect of visibility, legibility, and accessibility.

These attributes will vary with context but should be considered in all design processes. For example, more remote intersections may have limited or no signing. However, legibility regarding appropriate pedestrian movements should still be taken into account during design.

## Design for Bicyclists

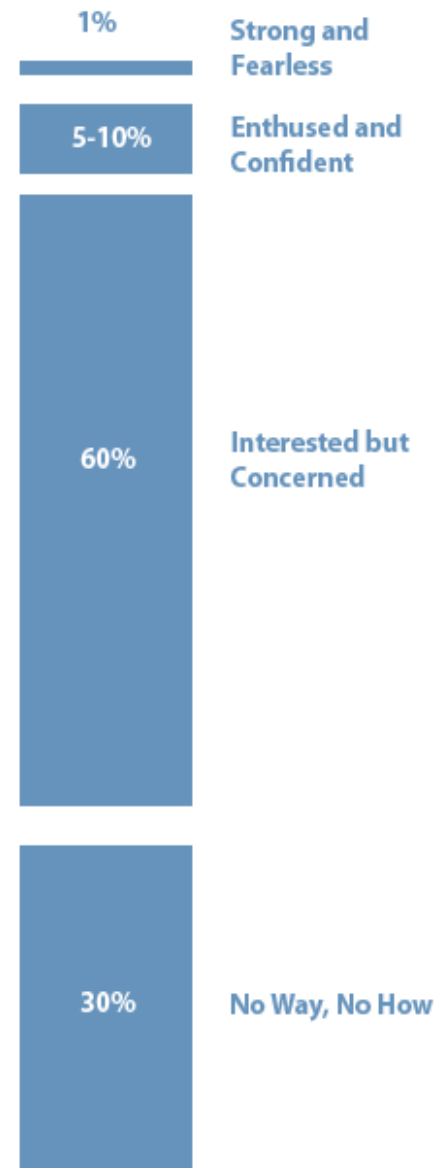
Bicyclists, by nature, are much more affected by poor facility design, construction and maintenance practices than motor vehicle drivers. Bicyclists lack the protection from the elements and roadway hazards provided by an automobile's structure and safety features. By understanding the unique characteristics and needs of bicyclists, a facility designer can provide quality facilities and minimize user risk.

Similar to motor vehicles, bicyclists and their bicycles exist in a variety of sizes and configurations. These variations occur in the types of vehicle (such as a conventional bicycle, a recumbent bicycle or a tricycle), and behavioral characteristics (such as the comfort level of the bicyclist). The design of a bikeway should consider reasonably expected bicycle types on the facility and utilize the appropriate dimensions.

It is important to consider bicyclists of all skill levels when creating an active transportation or complete street plan or project. Bicyclist skill level greatly influences expected speeds and behavior, both in separated bikeways and on shared roadways. Bicycle infrastructure should accommodate as many user types as possible, with decisions for separate or parallel facilities based on providing a comfortable experience for the greatest number of people.

The planning and engineering professions currently use several systems to classify the cycling population, which can assist in understanding the characteristics and infrastructure preferences of different bicyclists. The most conventional framework classifies the "design cyclist" as Advanced, Basic, or Child. A more detailed understanding of the US population as a whole is illustrated in the following figure. Developed by planners in Portland, Oregon and supported by data collected nationally since 2005, this classification provides the following alternative categories to address varying attitudes towards bicycling in the US:

- Strong and Fearless (approximately 1% of population)** – Characterized by bicyclists that will typically ride anywhere regardless of roadway conditions or weather. These bicyclists can ride faster than other user types, prefer direct routes and will typically choose roadway connections - even if shared with vehicles - over separate bicycle facilities such as shared use paths.
- Enthused and Confident (5-10% of population)** - This user group encompasses bicyclists who are fairly comfortable riding on all types of bikeways but usually choose low traffic streets or shared use paths when available. These bicyclists may deviate from a more direct route in favor of a preferred facility type. This group includes all kinds of bicyclists such as commuters, recreationalists, racers and utilitarian bicyclists.
- Interested but Concerned (approximately 60% of population)** – This user type comprises the bulk of the cycling population and represents bicyclists who typically only ride a bicycle on low traffic streets or multi-use trails under favorable weather conditions. These bicyclists perceive significant barriers to their increased use of cycling, specifically traffic and other safety issues. These people may become “Enthused & Confident” with encouragement, education and experience and higher level facilities, such as buffered and protected bike lanes.
- No Way, No How (approximately 30% of population)** – Persons in this category are not bicyclists, and perceive severe safety issues with riding in traffic. Some people in this group may eventually become regular bicyclists with time and education. A significant portion of these people will not ride a bicycle under any circumstances.



**Typical Distribution of Bicyclist Types**

## Bicycle Facility Types

Consistent with bicycle facility classifications throughout the nation, the facility types presented in the figures below identify classes of facilities by degree of separation from motor vehicle traffic. In general, the wider the roadway, the higher the traffic volume, and the greater the traffic speed, the more separation is necessary to provide safe and comfortable riding conditions for bicyclists. This Plan recommends the following facility types for implementation in Greer:

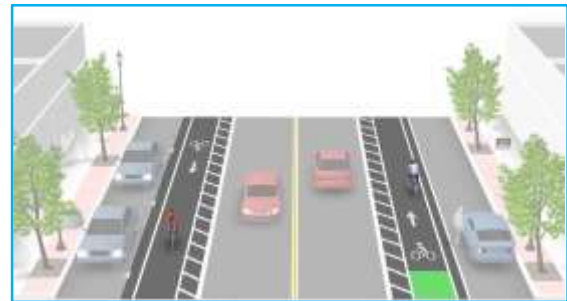
**Bicycle Boulevards** are enhanced bike routes on local street networks. They are minimally designated by pavement markings and bicycle wayfinding signage. Traffic calming devices to reduce vehicle speeds and volumes while maintaining bicycle access such as traffic diverters, chicanes and chokers may also be used in conjunction with bicycle boulevards.



**Bike Lanes** use striping and optionally signage to delineate the right-of-way assigned to bicyclists and motorists. Bike lanes encourage predictable movements by both bicyclists and motorists.



**Buffered bike lanes** are conventional bicycle lanes paired with a designated buffer space, separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane. Buffered bike lanes are designed to increase the space between the bike lane and the travel lane and/or parked cars.



**Shared Use Paths** are facilities separated from roadways for use by bicyclists and pedestrians. Side paths usually refer to shared use paths immediately adjacent to the roadway. Greenways refer to shared-use paths that don't necessarily follow a roadway alignment. Greenways typically follow other features such as railroads, utility lines, or streams.





## Bicycle Parking

Bicyclists expect a safe, convenient place to secure their bicycle when they reach their destination. This may be short-term parking of two hours or less, or long-term parking for employees, students, residents, and commuters. In order to encourage bicycling in Greer, plentiful, convenient and attractive bicycle parking must be provided. While specific bicycle parking locations are not identified in this planning effort, ample bicycle parking should be provided at popular bicycling destinations such as parks, schools, retail areas and other gathering places. The town could better insure this by including bicycle parking as part of their requirements for new development. Best practice guidelines for bicycle parking policy and the design and planning of bicycle parking can be found in the ABPB Bike Parking Guidelines:

<http://www.apbp.org/?page=publications>



## Intersection Needs for Bicyclists

Intersections are also an important piece of the bicycle realm and they can either be facilitators of or barriers to bicycle transportation. If a potential bicyclist knows that they have to cross an uncomfortable intersection to get to their destination, they will be less apt to choose to bicycle there even if there are safe and comfortable on-street bicycle facilities along the route. The following considerations should be made when addressing the specific intersections recommended for improvement:

- **Visibility:** It is critical that bicyclists have a good view of vehicle travel lanes and that motorists in the travel lanes can easily see bicyclists. Roadways should be designed to intersect at a 90 degree angle as much as possible to improve visibility.
- **Legibility:** Symbols, markings, and signs used at corners should clearly indicate what actions the bicyclist should take through the intersection. Pavement

markings should also heighten driver's awareness of potential conflicts with bicyclists or pedestrians.

- **Speed:** Intersections where regular bicycle or pedestrian traffic is expected should be designed to minimize the speed of vehicles driving or turning through the intersection. This can be accomplished through improvements such as curb extensions, turning radii reductions, and pavement markings.
- **Separation from Traffic:** Intersection designs should strive to segregate bicycle and vehicular traffic as much as possible. Designs that allow bicyclists to locate at the front of the intersection when traffic is stopped are preferred.
- **Lighting:** Good lighting is an important aspect of visibility, legibility, and accessibility.

These attributes will vary with context but should be considered in all design processes. For example, more remote intersections may have limited or no signing. However, legibility regarding appropriate bicycle movements should still be taken into account during design.



Examples of different pavement markings and signals for bicyclists at intersections  
(Photo: W. Peachtree Street, Atlanta)

### 3.3 Summary of Proposed Priority Projects

The following maps depict the complete vision – both Phase 1 and Phase 2 – for walking and bicycling in Greer, utilizing recognized best practices for active transportation planning from around the southeast and the country.

Phase 1 focuses primarily on creating walk-friendly streetscapes through the relocation of utility poles, the provision of street furniture, and by completing the sidewalk network. The **four priority corridors** selected for improvements are:

- Century Park Connection
- Main Street
- Poinsett Street
- Trade Street/Pelham Street

Phase 2 builds off of the improvements in Phase 1, focusing on all road users through the provision of bicycle infrastructure and the reallocation of existing road widths. These **five priority projects** include:

- Century Park Connection
- Main Street
- Poinsett Street
- Line Street/Arlington Road/New Woodruff Road
- Chick Springs Road/Lancaster Avenue

Additionally, **two shared use path projects** were identified as long-term considerations for building out the city's walking and bicycling network. Those proposed trails are:

- Wards Creek Trail (conceptual extents)
- Chick Springs Road/Lancaster Avenue bicycle boulevard and trail extension

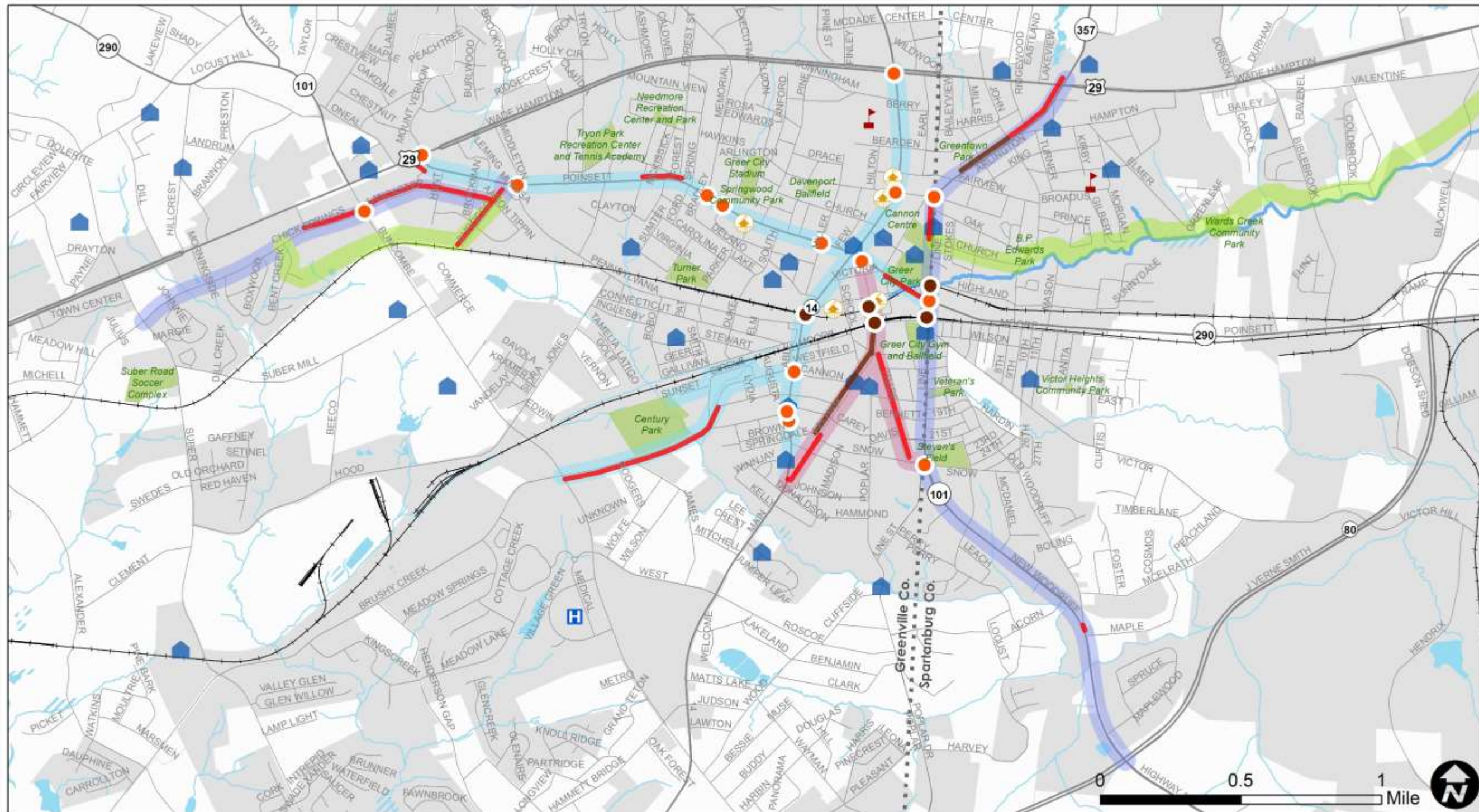
The priority projects, including the two long-term shared use path projects, will add the following facility mileage to Greer's walking and bicycling network:

Facility Type	Mileage
Shared Lane Markings	1.3
Bicycle Boulevard	3.3
Bicycle Lanes	3.0
Buffered Bicycle Lanes	2.1
Shared Use Path	2.3
New Sidewalk Construction	2.8
<b>Total</b>	<b>14.8</b>

This plan also identifies an additional .8 miles of existing sidewalk that are priority segments for maintenance improvements.



### 3.4 Recommendation Maps



**GREER, SOUTH CAROLINA**  
**DOWNTOWN WALKING & BICYCLING PLAN**

**RECOMMENDED SIDEWALK NETWORK**  
**PRIORITY CORRIDORS**

Map Created: November 2015  
Data Obtained from: City of Greer, GPATS, SCDOT, SCDNR, Greenville County, and Spartanburg County

**Sidewalk Recommendation**

- Existing, Needs Maintenance
- Add Sidewalk
- Railroad Crossing Improvement
- Intersection Improvement

**Priority Corridors**

- Phase 1
- Phase 2
- Phases 1 & 2
- Long-Term Trail

**Points of Interest**

- Place of Worship
- Hospital
- School or Learning Center
- Historic Site
- Park

**Hydrology**

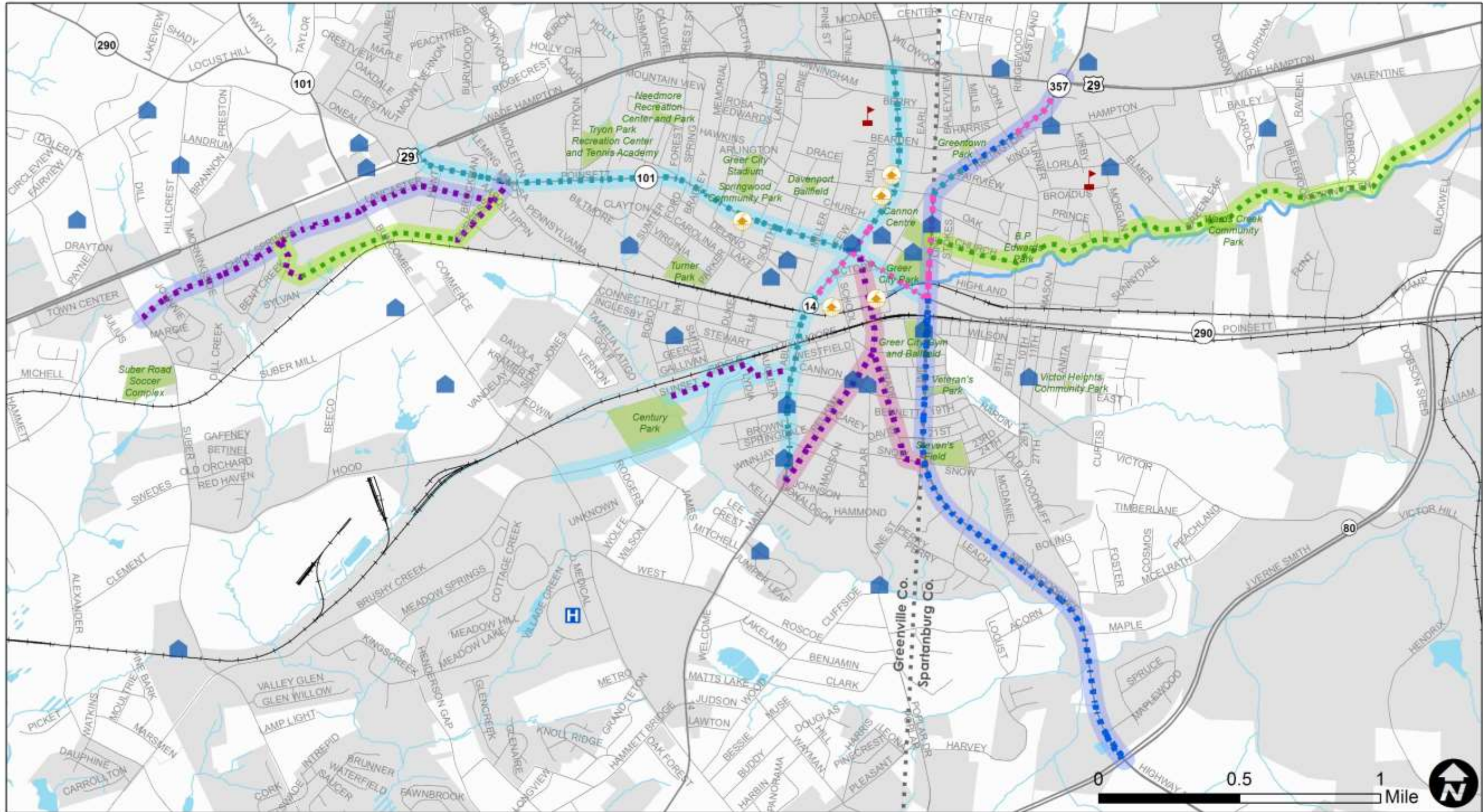
- Streams and Rivers
- Bodies of Water
- Wetlands

**Boundaries**

- Greer Municipal Boundary
- Spartanburg - Greenville County Boundary
- Transportation**
- Roads
- Railroads







**GREER, SOUTH CAROLINA**  
**DOWNTOWN WALKING & BICYCLING PLAN**

**RECOMMENDED BICYCLE NETWORK**  
**PRIORITY CORRIDORS**

Map Created: November 2015  
Data Obtained from: City of Greer, GPATS, SCDOT, SCDNR, Greenville County, and Spartanburg County

**Facility Types**

- Shared Lane Markings
- Bicycle Boulevard
- Bicycle Lanes
- Buffered Bicycle Lanes
- Shared Use Path

**Priority Corridors**

- Phase 1
- Phase 2
- Phases 1 & 2
- Long-Term Trail

**Points of Interest**

- Place of Worship
- Hospital
- School or Learning Center
- Historic Site
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**Hydrology**

- Streams and Rivers
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**Boundaries**

- Greer Municipal Boundary
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## 4 Implementation

Even among cities most committed to improving bicycling conditions, realizing a community-wide vision for bicycling infrastructure improvements can take decades. This is why a thoughtful implementation plan is critical for ensuring that the most impactful and cost-effective projects are prioritized first.

This Implementation Plan provides cost estimates for these improvements. Expanded priority project descriptions, or “cut sheets”, provide more detail including photo simulations to illustrate the potential impact of these investments.

### 4.1 Cost Estimates

Cost estimates for projects were generated from a variety of sources including national datasets such as the 2013 Costs for Pedestrian and Bicyclist Infrastructure Improvements, Conducted by the University of North Carolina, average costs for buffered bikeways and cycle tracks in the 2040 Hennepin County Transportation Plan, and recent, regional implementation experience. While these costs represent averages for pedestrian and bicycle projects in 2014 dollars, note that individual project costs can vary widely based on a number of conditions including, but not limited to:

- Facility design (width, frequency of material placement, demolition)
- Temporary traffic control requirements
- Environmental requirements
- Utility relocation
- Required right of way acquisition
- Contractor experience and material availability
- Project length or grouping (projects of longer length are typically less expensive than short mileage projects)

Cost estimates and assumptions are presented in the following table. Project costs will vary due to conditions such as physical constraints, rights-of-way purchase, frequency of pavement markings, and intersection design. These costs do not include additional considerations such as further studies which may be required, project design, or contingency costs.



Facility Type	Cost Estimate Per Mile	Assumptions
<b>Shared Lane Markings</b>	Low: \$10,200 High: \$20,000	Pavement markings only
<b>Bicycle Boulevards</b>	Low: \$10,200 High: \$20,000  Wayfinding Sign: \$625 per sign	Includes regulatory or warning signage and pavement markings only. Wayfinding sign is standard and minimal in design. Additional estimates for traffic calming needed
<b>Bike Lanes</b>	Low: \$11,900 High: \$86,200	Pavement restriping costs only
<b>Buffered Bike Lanes</b>	Low: \$15,800 High: \$163,000	Pavement restriping costs only
<b>Shared Use Path</b>	\$600,000	10' asphalt path and no ROW purchase required
<b>Sidewalks with curb construction</b>	\$250 per linear foot	No ROW purchase required; includes the installation of storm sewers
<b>Intersection Improvements</b>	Low: \$50,000 High: \$100,000	\$50,000 for pavement markings only, \$100,000 for pavement marking and signal improvements

## 4.2 Priority Project Cut Sheets

The following pages present key features of the priority projects in a detail-rich and graphically-rich cut sheet. Cost estimate summaries do not include recommendations for intersection improvements and sidewalk construction.

# CENTURY PARK CONNECTION

## SIDEWALK + BICYCLE BOULEVARD

**Project Mileage:** 0.5 miles

**Average Daily Traffic:** N/A

**Key Issues:** Sidewalk infrastructure along Brushy Creek Road ends at James Street. There is not a safe way to access the recreational amenities at Century Park on foot or by bike.

**Project Highlights:** Project extents are from Main Street to Buncombe Road. Project extends sidewalk network past Century Park to Buncombe Road, reaching the new, planned residential and commercial development. Project also offers connection to proposed bicycle lanes on Main Street.

**Proposed Improvements:** In Phase 1, a bicycle boulevard along Brushy Creek Road, Circle Drive, and Sunset Avenue - with special focus on wayfinding for both pedestrians and bicyclists. In Phase 2, shift the bike/ped connection to the Century Park entrance on Brushy Creek Road by adding sidewalks and bicycle infrastructure along the corridor.

### Implementation Strategy:

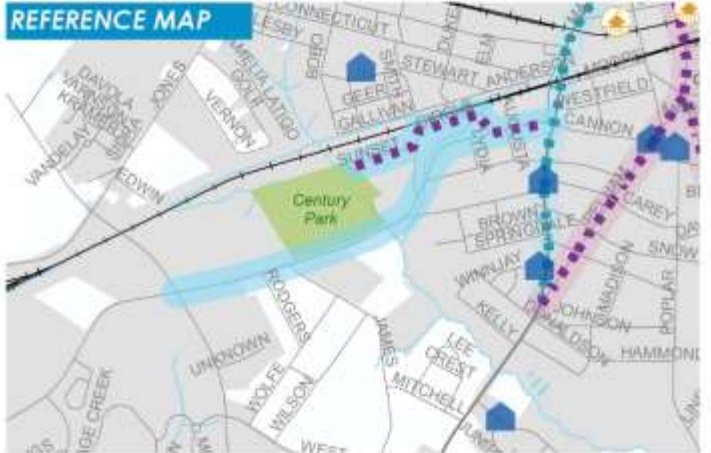
**Phase 1** - Install wayfinding signage and pavement markings to direct pedestrians and bicyclists to Century Park entrance at Sunset Avenue. Wayfinding signs with new posts are to be placed at decision points. Create welcome signage at Sunset Avenue park entrance.

**Phase 2** - Install sidewalk and determine appropriate bicycle facility type along the corridor, considering limited sight lines and sloping. Further study is required to determine suitable crosswalk location near Century Park. The study may consider the intersection of Brushy Creek Road and Buncombe Street for crosswalk facilities and a three-way stop.

### PROPOSED CROSS SECTION



### REFERENCE MAP





# MAIN + POINSETT STREETS

## PEDESTRIAN IMPROVEMENTS + BICYCLE LANES

### MAIN STREET

**Project Mileage:** 1.6 miles

**Average Daily Traffic:** 9,600 - 11,300

**Key Issues:** No seamless bike/ped connection between downtown and Wade Hampton Boulevard, particularly to retail destinations. Wide lanes and a long, straight roadway encourage speeding making this an unsafe and uninviting corridor for pedestrians and bicyclists.

**Project Highlights:** Project extents are from Wade Hampton Boulevard to Pelham Street. As the primary north-south connection through downtown Greer, intersection improvements for pedestrians and the provision of bicycle lanes will signal a welcoming, multi-modal environment. The bicycle lanes will transition to sharrows as the project enters the downtown core where the streetscape is human-scaled and travel speeds are slow.

**Proposed Improvements:** High-visibility mid-block crosswalks with median refuge, ADA compliance, intersection improvements, road diet, bicycle lanes where road width allows, and shared lane markings where constrained.

#### Implementation Strategy:

**Phase 1:** Complete sidewalk network, add street furniture like benches and lights, and improve intersection facilities.  
**Phase 2:** Reallocate 2 travel lanes in each direction to 1 travel lane in each direction with a center turn lane and minimum 5' wide bicycle lanes at the roadway edges. Where roadway narrows in downtown to two lanes, add sharrow pavement markings to indicate shared space.

### POINSETT STREET

**Project Mileage:** 1.9 miles

**Average Daily Traffic:** 10,200

**Key Issues:** Current roadway design allows for high vehicular speeds with little accommodations for pedestrians and bicyclists. Utility poles directly adjacent to travel lanes add another element of danger to the corridor.

**Project Highlights:** Project extents are from Wade Hampton Boulevard to Line Street. Project establishes Pointsett Street as a multi-modal gateway into in the heart of Greer. Intersection improvements and a complete sidewalk network paired with pavement reallocations to include bicycle lanes provides a seamless "all ages and abilities" connection from Wade Hampton Boulevard through downtown. The bicycle lanes will create visual friction, slowing vehicular speeds, and will create a buffer for pedestrians on the corridor's sidewalks from vehicular traffic.

**Proposed Improvements:** High-visibility mid-block crosswalks with median refuge, ADA compliance, intersection improvements, road diet, bicycle lanes where road width allows, and shared lane markings as roadway narrows in downtown core.

#### Implementation Strategy:

**Phase 1:** Relocate utility poles so they are further set back from roadway. Add street furniture and greenery. Improve intersection facilities.  
**Phase 2:** Reallocate 2 travel lanes in each direction to 1 travel lane in each direction with a center turn lane and minimum 5' wide bicycle lanes at the roadway edges. Where roadway narrows in downtown to two lanes, add sharrow pavement markings to indicate shared space.

### PROPOSED CROSS SECTION



### REFERENCE MAP





# TRADE + PELHAM STREETS

## SIDEWALK + BICYCLE BOULEVARD

**Project Mileage:** 1.3 miles

**Average Daily Traffic:** N/A

**Key Issues:** Gaps in the sidewalk network and railroad crossings are challenging barriers that deter walking and bicycling. The five-point intersection with Mayfield Street and Daniel Avenue is dangerous for all road users and prioritizes the car over pedestrians and bicyclists.

**Project Highlights:** Project extents are Pelham Street from Poinsett Street to South Main Street, Trade Street from Poinsett Street to Snow Street, and Snow Street from Trade Street to Line Street. Project extends the walking and bicycling network, linking neighborhoods south of downtown to the central business district and two other priority projects. Project also offers connection to Steven's Field.

**Proposed Improvements:** Bicycle boulevard along the entire project extent, including traffic calming, sidewalk infill, and wayfinding signage. Redesigning major intersections to improve walking and bicycling crossing conditions will require further study.

**Implementation Strategy:** Install shared-lane pavement markings, traffic calming, and wayfinding signage to guide pedestrians and bicyclists to downtown and citywide destinations.

### PROPOSED CROSS SECTION



### REFERENCE MAP



TRADE + PELHAM STREETS IMPROVEMENTS



# LINE + ARLINGTON + NEW WOODRUFF

## PEDESTRIAN IMPROVEMENTS + BICYCLE LANES

**Project Mileage:** 2.9 miles

**Average Daily Traffic:** 950-9,500

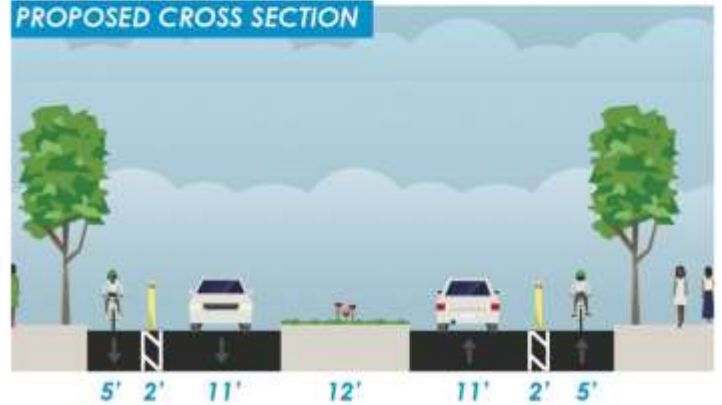
**Key Issues:** Excessive road widths encourage speeding and prioritize vehicular throughput, creating an uninviting and unsafe place for pedestrians and bicyclists. There is limited pedestrian and bicycling access to the commercial developments along Wade Hampton Boulevard.

**Project Highlights:** Project extents are from Wade Hampton Boulevard to Route 80. The buffered bike lanes will provide a critical north-south connection across Greer, providing a seamless "all ages and abilities bicycle connection adjacent to downtown and City Park.

**Proposed Improvements:** High visibility crosswalks and ADA compliance at intersections, intermittent refuge medians, road diet, buffered bicycle lanes, and bike lanes or shared lane markings where road widths are constrained.

**Implementation Strategy:** Project reallocates current roadway of 5 travel lanes to 1 travel lane in each direction with a center turn lane and minimum 5' wide bicycle lane with a minimum 2' buffer at the roadway edges. Buffered area should contain vertical buffer such as bollards for added protection. Where roadway narrows, add bicycle lanes or sharrow pavement markings to indicate shared space.

### PROPOSED CROSS SECTION



### REFERENCE MAP





# CHICK SPRINGS + LANCASTER

## BICYCLE BOULEVARD + SHARED USE PATH

**Project Mileage:** 1.5 miles

**Average Daily Traffic:** 2,600

**Key Issues:** Retail along Wade Hampton Boulevard is only accessible by car. Sidewalk continuity along Chick Springs Road and Lancaster Avenue is fragmented.

**Project Highlights:** Project extents are from Poinsett Street to Lancaster Avenue by way of Burgess Street and Chick Springs Road to Suber Road. A bicycle boulevard creates a safe and comfortable alternative to traveling on Wade Hampton Boulevard. This parallel routes offers the same connections but on low-volume, low-speed corridors. Completing the sidewalk network will also encourage pedestrian activity. The identified shared use path presents an opportunity for Greer to further build out their pedestrian and bicycle network.

**Proposed Improvements:** Bicycle boulevard, including traffic calming, sidewalk Infill, and wayfinding signage. Coordinate with SCDOF to ensure a pedestrian and bicycle cut through within the planned concrete median at Buncombe Road.

**Implementation Strategy:** Install shared-lane pavement markings, traffic calming, and signage to guide pedestrians and bicyclists to retail destinations along Wade Hampton Boulevard and to the Suber Road Soccer Complex.

### PROPOSED CROSS SECTION



### REFERENCE MAP



EXISTING

CHICK SPRINGS/LANCASTER IMPROVEMENTS

## 5 Moving Forward

Advancing the walk-friendliness and bike-friendliness of downtown Greer requires a series of strategic next steps.

- **Be proactive in seeking funding** and working with partners (including SCDOT) to implement the priority projects identified in this plan.
- **Conduct traffic analyses** on corridors impacted, particularly those with a lane reconfiguration (or “road diet”) recommended and develop design and construction drawings.
- **Fiscally commit** to improving the walking opportunities and walking conditions across the city by establishing an annual allocation for sidewalk construction and maintenance. The City’s allocation is important as matching funds when competing for large grants as well.
- **Increase bicycle parking.** The provision of bicycle parking is also a clear need directly expressed from the community via the wikimap. When creating bicycle parking, both rack location and rack type should be considered so as to accommodate the needs of a variety of bicyclists. A helpful resource to reference during this process is the Association of Pedestrian and Bicycle Professionals *Essentials of Bike Parking* guide published in September 2015.





As Greer accomplishes these steps to position itself as a walking and bicycling-friendly community, the City can begin to **expand and supplement the network with** the proposed long-term trail projects identified in the *Recommendations* chapter.

These shared use paths, as depicted in the photo simulation below, **leverage the existing network** and **serve a broader user group**, enticing and encouraging residents and visitors to opt for active transportation when moving around Greer.



Example photo simulation at Wards Creek of a shared use path with wayfinding.

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