

Introduction

Throughout the nation, densely populated areas turn to cycling and walking as a viable means of transportation. Sometimes commuters find cycling more efficient, affordable, and convenient than traveling by automobile on congested urban streets. Although most people in the United States choose to travel by automobile, cycling and walking remains the only option for some people. The 2010 US Census identified that in Sumter County, 3% of workers aged 16 and up did not have access to a vehicle. 23% only had one vehicle available per household. Bicycling and walking can be an appealing alternative to traveling by car when considering it:

- **Is environmentally-friendly** — A shift from automobile travel to cycling or walking conserves fuel, improves air quality, and reduces noise.
- **Promotes good health practices** — South Carolina ranks eighth in the nation for obesity, with 30.9% of its residents being obese (2011). The United States Surgeon General advises Americans to get 30 to 60 minutes of exercise 4 to 6 times per week. Bicycling and walking is a low-impact way to exercise and can improve a person's health by lowering blood pressure, strengthening muscles, lowering stress levels, burning fat, increasing metabolism, and increasing the size, strength, and efficiency of the heart and cardiovascular system.

- **Saves money** — According to the most recent Census report, typical American households in 2009 spent an average of \$7,658 on transportation costs, including insurance, repair, maintenance, fuel costs, taxes, and other fees — a significant annual investment. The average cyclist spends only \$120 per year on bicycle costs. Choosing to ride a bicycle rather than to use a personal automobile could save one person thousands of dollars in a single year.
- **Eases congestion** — Since a bicyclist takes up about a quarter of the physical space of the average car and a pedestrian even less, both can maneuver more easily through traffic in urban areas. Often, cyclists and pedestrians can use dedicated bicycle lanes or greenways, allowing for an even more efficient trip.
- **Represents the “livability” of a place** — A bikable and walkable place protects the environment, encourages a healthy, active community, saves money, and increases the mobility of all users. This adds up to a livable community with strong social interaction.
- **Can be Viable** – According to a 2009 National Household Transportation Survey (NHTS), 23% of workers are willing to walk to their workplace if less than one mile. The average travel time to work in Sumter is approximately 16 minutes.

Even after conveying these benefits to prospective bicyclists and pedestrians, moving from potential use of non-automotive transportation to its reality in the SUATS region is not easy. Through nearly all channels of public feedback, residents noted a need for improved bicycle and pedestrian facilities and programs to balance the region's transportation network. The bicycle and pedestrian element of the long-range transportation plan has evolved as a product of community input and outreach, including stakeholder interviews with the parks and recreation department, and local groups such as the Sumter Easy Riders and Sumter County Active Lifestyles. This element begins with an overview of facility and program opportunities and a description of existing conditions. Recommendations are then presented based on the “Four E’s of Bicycle and

Pedestrian Planning”: Engineering, Education, Encouragement and Enforcement.

Complete Streets Promote Bicycling and Walking

Complete streets are community oriented streets that are designed to accommodate all modes of travel safely and conveniently. Bicyclists, pedestrians, motorists and transit users can use the streets safely and conveniently regardless of their age or physical ability. The Sumter community realizes the importance of complete streets by shifting from automobile-oriented roadway design towards a biker and walker friendly environment with the intersection improvement projects such as Alice Drive/Broad Street in which bicycle lanes were paved and marked. The Sumter officials have echoed this community realization by adopting the city ordinance allowing bicyclists to travel on city sidewalks.

Complete streets can provide a variety of amenities that make them suitable for bicyclists and pedestrians. Paved and marked bicycle lanes along the roadway or posted “Share the Road” signs can alert motorists to look out for bicyclists. The bicyclists feel their right to use the road is recognized and affirmed by transportation authority. The geometric design is recommended by the Green Book, AASHTO, 2011 edition Chapter 2.

Wide sidewalks provide able and disabled pedestrians space in which to travel. Residential sidewalks vary from 4 to 8 feet wide. However, for sidewalks less than 5 feet wide, a passing section must be provided in segments for wheelchair maneuvering. Marked crosswalks or raised crosswalks designate a safe place for pedestrians to cross streets. Curb ramps designed in accordance with the Americans with Disabilities Act (ADA) provide blind people and wheelchair riders an easy and safe access to crossing streets. The detail of the design is found in the Greenbook, AASHTO 2011 edition Chapter 4.

Complete streets are safe and easy to access for all users in part because government sets the policy to implement the complete street policy through the planning, design, construction, maintenance and retrofitting of transportation facilities. Twenty six states, Puerto



Downtown Sumter Sidewalk



Alice Drive Bicycle Lane



Rico, and the District of Columbia have already adopted Complete Streets policies (see <http://www.completestreets.org/complete-streets-fundamentals/complete-streets-atlas/>). Complete Streets can be adopted either by legislative action or by resolution. The SCDOT adopted the policy by Commission Resolution in 2003; two county governments (Richland and Spartanburg) and nine cities in South Carolina (Anderson, Camden, Columbia, Conway, Greenville, Ninety-six, North Myrtle Beach, and Spartanburg) have also adopted the policy either in ordinance or resolution. (See <http://www.completestreets.org/webdocs/policy/cs-chart-allpolicies.pdf>)

The reasons to implement Complete Streets policy can be quite obvious in three folds. First, when a street is designed with pedestrians and bicycle riders in mind, certain design features such as raised medians, wide sidewalks, better lighting, better bus stop placement, turning access control, treatments for disabled travelers and traffic calming measures, can provide a safe environment for bicycle and sidewalk users. Another reason for the policy is that it promotes health in the community. When the infrastructure of a community is friendly to pedestrians and bicyclists, it encourages people to walk or bike. As the body burns the calories, a healthy body can reduce the risk of heart disease and obesity. No wonder the federal government supported the “safe route to school” program a few years back to promote exercise after the childhood obesity epidemic rose to an alarming level. Thirdly, when an area in a community becomes more attractive and balanced, land values increase. An old saying of real estate pricing, “location, location, location”, can be found true in an area with wide sidewalks, paved and marked bicycle paths on roadways, raised crosswalks with visible markings and other traffic calming measures.

Neither the City of Sumter nor the County has adopted a Complete Street policy. However, the City Code encourages bicyclists to ride more often by allowing bicycle travel on the sidewalks in designated areas around town (see code below).

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City of Sumter Code of Ordinances –

Use of Bicycle on Sidewalks

CODE 1976. ARTICLE IV.SIDEWALKS.SECTION 78-117. USE OF BICYCLES.

- (a) Persons may ride bicycle, not motor-driven, on all sidewalks of the city, save and except the sidewalks on that section of Main Street bounded by Calhoun Street on the north and Oakland on the South, and that section of Liberty Street bounded by Harvin on the east and Washington Street on the west.
- (b) No person who is riding a bicycle, tricycle, etc., on any sidewalk shall ride the same across the intersection.

Pedestrians using the sidewalks of the city have the right-of-way over persons riding bicycles or children riding tricycles on the sidewalks. Anyone propelling a bicycle upon the sidewalks of the city shall propel the bicycle at a reasonable rate of speed under existing circumstance and conditions.

This plan strongly recommends both the City and County adopt a “complete streets” policy.

Facility and Program Opportunities

In order to develop and integrate the bicycle and pedestrian element into the LRTP, the types of users, facilities, and programs must be understood.

Bicycle Users

In order to develop an appropriate bicycle element, the needs and expectations of all users — regardless of skill level — must be addressed. The following “ABCs” of cyclists need to be clear for both planners and end users.

Advanced

Advanced cyclists — usually the most experienced on the road — have the ability to safely ride in typical arterial conditions of higher traffic volume and speeds. Most advanced cyclists prefer shared roadways in lieu of striped bike lanes and paths, but may be more willing to accept striped bike lanes when the street gutter is cleaned regularly. *Although this group represents approximately 20% of all cyclists, they account for nearly 80% of annual bicycle miles traveled.*

Basic

Due to being less secure in their ability to ride in traffic without special accommodations, basic cyclists are casual or new adult/teenage riders who typically prefer multi-use paths or bike lanes on collector or arterial streets. Such facilities reduce basic cyclists’ exposure to fast-moving and heavy traffic. Surveys of the cycling public indicate that about 80% of cyclists can be categorized as basic cyclists.

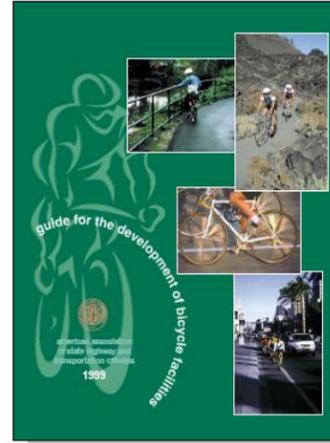
Child

The children on bicycles that make up this group have a limited field of vision while riding and generally keep to neighborhood streets, sidewalks, and greenways. On busier streets, this group is likely to stay on sidewalks or off-street facilities that protect them from traffic. In Sumter, cycling on sidewalks is permitted everywhere except downtown. While in general riding on sidewalks should be discouraged, the comfort level of child cyclists warrant riding on sidewalks provided they yield to pedestrians.

Bicycle Facilities

Like drivers, cyclists gain experience over time by riding. As cyclists ride and gain more experience operating in traffic, they graduate from basic to advanced cyclists. This transition ensures that the needs of all three types of cyclists must be constantly evaluated and accommodated. To make sure adequate amenities are available to users of all skill levels, the facilities identified here should be incorporated into roadway projects in the Sumter area. Two bicycle design guideline documents were reviewed for this chapter:

- AASHTO Guide for the Development of Bicycle Facilities** — Referred to as the Bicycle Guide, this is a federal document which sets forth the current design practices accepted by FHWA. This document discusses planning, design, operations, and maintenance issues associated with bicycle facilities. With respect to design, it addresses width dimensions, grades, cross slopes, radii, acceleration rates, deceleration rates, and sight distances. The Bicycle Guide is not intended to establish strict standards. It provides “sound guidelines that are valuable in attaining good design sensitive to the needs of both bicyclists and other highway users” (p. 2).
- FHWA Manual on Uniform Traffic Control Devices (MUTCD)** — Unlike the AASHTO Bicycle Guide, the MUTCD does constitute a standard. Failure to comply with the MUTCD can result in being denied federal funds and makes liable non-compliant jurisdictions in the event of a crash. The MUTCD addresses standards for signing, striping, markings, signals, islands, and traffic work zone devices (e.g., cones and barricades). It provides information on what symbols may be used on signs and when sign text can vary from the signs provided. The color, width, types, and applications of striping are defined in detail. It also provides dimensions and shapes of pavement markings and pavement lettering.



The AASHTO Bicycle Guide states, “[Bike lanes may be provided] by reducing the width of vehicular lanes or prohibiting parking...” (p. 8). SCDOT, adapting the AASHTO Bicycle Guide, specifies a minimum width of 4 feet on rural sections with ADT greater than 500. When speeds exceed 50mph or the percentage of trucks, buses, and recreational vehicles increases significantly, SCDOT recommends a minimum width of 6 feet.

Wide Outside Lanes

Wide outside lanes (typically 14 feet wide) have been used to provide extra space for bicyclists. While wide outside lanes are an effective way to encourage motorists to give bicyclists adequate clearance when

passing, they are largely unrecognized by casual bicyclists as bike facilities. Having a striped bike lane greatly improves feelings of safety and comfort for bicyclists. However, each roadway should be evaluated individually to determine what treatment is most appropriate for the surroundings and conditions.

Paved Shoulders

Paved shoulder space improves the safety and comfort of bicyclists and also extends the service life of the road surface by reducing edge deterioration. There is no minimum width for paved shoulders; however, a width of 4 feet is preferred. Even wider shoulders provide greater levels of bicyclist safety and comfort. On many roadways, motor vehicle travel lanes can be narrowed to provide more shoulder space. According to the AASHTO Bicycle Guide, “where 4-foot widths cannot be achieved, any additional shoulder width is better than none at all.” Paved shoulders also improve safety for motor vehicles, prevent pavement damage to

the travel lanes, and provide space for pedestrians.

SCDOT encourages at least 2-foot paved shoulders on rural sections with ADT less than 500 and 4-foot minimums on sections with greater than 500 ADT. While paved shoulders are



Paved Shoulder on Patriot Highway



McCrays Mill Road Bicycle Lane



Shared Roadway in Downtown Sumter



Wide Outside Lane



Signed Bicycle Route in Cary, NC

SCDOT engineering directives also inform the proper design of these facilities.

Bicycle Lanes

A bike lane is a portion of the roadway that has been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists. Bike lanes are always located on both sides of the road (except one way streets), and carry bicyclists in the same direction as adjacent motor vehicle traffic. The minimum width for a bicycle lane is 4 feet (on roads with no curb and gutter); 5- and 6-foot bike lanes are typical for collector and arterial roads. Increasing the width of bike lanes provides greater comfort for bicyclists.

generally acceptable for roadway sections without frequent intersections, on those where intersections are frequent, appropriate bike lane striping should be applied.

Maintenance is an important issue for bicycle infrastructure. Debris, dirt, and trash can impede bicyclists and are a major safety factor, in shoulders as well as bicycle lanes. Special attention to maintenance should be kept by the City, County, and SCDOT.

Shared Roadways

Shared roadways are streets and roads where bicyclists can be served by sharing the travel lanes with motor vehicles. Usually, these are streets with low traffic volumes and/or low speeds, which do not need special bicycle accommodations in order to be bicycle-friendly.

Signed Bicycle Routes

Signed routes will be an integral part of the bicycling network in the SUATS area. These facilities are an inexpensive way to guide riders to more bicycle-friendly roads. They can be used with any of the facilities listed above, including roads with bicycle lanes, shared roadways, and multi-use paths. The traffic and geometry of a road are important considerations when determining the location of a signed route. In addition, the functionality of the route for the purpose it was intended (e.g., scenic route or utilitarian connector) is a necessary component in the decision-making process.



SHARE THE ROAD signs (MUTCD W11-1 warning sign with W28-1 subplate) can be used to alert drivers to the presence of bicyclists. They are typically considered when one or more of the following criteria are met:

- Safety problems exist and the roadway cannot be improved with bicycle lanes
- Bicycling volumes are high
- A conflict or obvious courtesy problem exists between motor vehicle and bicycle traffic sharing the road



BIKE ROUTE signing (MUTCD D11-1 sign with D1-1b subplate) is another treatment which can be implemented to improve conditions for bicyclists. BIKE ROUTE signs help guide bicyclists to preferred routes — roads with lower motor vehicle traffic speeds, fewer trucks, or lower volumes. Typically they are supplemented with destination and distance signing.

Special signs should be designed to guide bicyclists along the recommended routes. These signs should incorporate their own colors and logo so that they can be recognized easily and help advertise the route to potential bicyclists, and should include the name of the route being utilized.

Other Bicycle Facilities and Amenities

Design considerations should also be given to ancillary bicycle facilities and amenities such as bike racks, bikes on buses and bike amenities at transit stops, and bike-friendly drainage inlets. The SCDOT Engineering Directive Memorandum recommends drainage inlets be placed outside bicycle facilities when appropriate. If the inlet must be placed within the bicycle facility, it should be flush with the pavement. SCDOT also discourages longitudinal rumble strips where bicycle travel is expected. Additional descriptions of ancillary facilities are provided in the recommendations identified later in this chapter.

Pedestrian Facilities

Analysis and development of recommendations in this chapter involved reviewing pedestrian facility design guidelines for sidewalks and walkways, curb ramps, marked crosswalks and enhancements, and transit stop treatments.

Sidewalks and Walkways

The Federal Highway Administration (FHWA) defines sidewalks as “walkways that are parallel to a street or highway” and walkways as “pedestrian paths, including plazas and courtyards.” The FHWA recommends that sidewalks and walkways be designed with the following characteristics in mind:

- Wide pathways with minimal obstacles or protruding objects



Narrow Sidewalk on Sumter Street

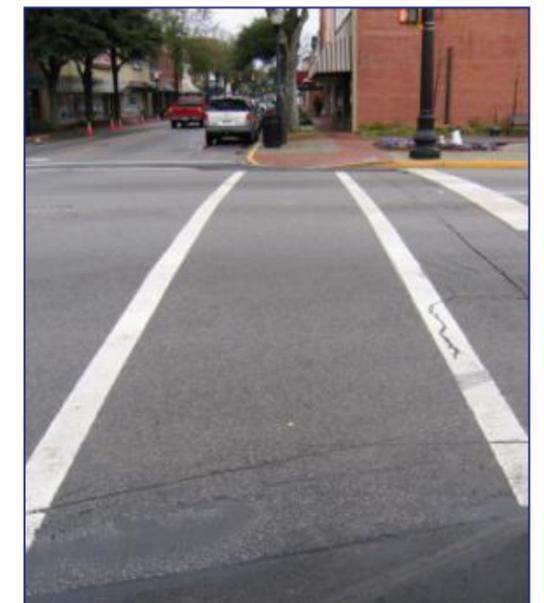


Crosswalk and curb ramp on Sumter Street

- Clearly defined pedestrian furniture, and frontage zones
- Moderate grades and cross slopes
- Rest areas outside of pedestrian zone
- Minimal changes in level
- Firm, stable, and slip resistant surfaces
- Good lighting



Crosswalk without curb ramp (Pinewood Road)



Crosswalk and curb ramp in Downtown Sumter

separate pedestrians from the street. For those with mobility impairments, sidewalks and walkways should be designed to minimize grades and cross slopes. FHWA recommends that the grade and cross slope not exceed 5% and 2%, respectively, wherever possible.

Curb Ramps

For persons with disabilities, curb ramps provide critical access between the sidewalk and street. While allowing for site-specific designs for curb ramps, FHWA suggests the ramp provide a level land area, be within the marked crosswalk area, avoid large changes of grade, and be distinguishable from surrounding terrain. The Federal Americans with Disabilities Act (ADA) mandates curb ramps at all intersections and mid-block locations where pedestrian crossings exist.

Marked Crosswalks and Enhancements

Marked crosswalks indicate the optimal location for pedestrians to cross a street. While crosswalks are usually installed at signalized intersections, mid-block crosswalks are becoming more popular. In locations that require increased levels of pedestrian visibility, the following enhancements can be incorporated into the crosswalk and street design:

- **Raised Crosswalk.** A raised crosswalk elevates the roadway by 3 to 6 inches, in effect reducing the speed of automobiles and providing increased visibility for high pedestrian-traveled areas. Raised crosswalks must be well-lit and well-marked to allow motorists to detect them at night and during inclement weather.
- **Pedestrian Refuge Island.** These raised islands in the center of a street protect pedestrians from vehicles. At such crossings, pedestrians can concentrate on one direction of traffic at a time by crossing to the center island and waiting for a gap in traffic to complete the trip across the street.
- **Curb Extensions.** Curb extensions can be placed at intersections or mid-block crossings. They extend the sidewalk into the street to improve pedestrian safety by calming traffic, increasing driver awareness of pedestrian activity, and shortening the crossing distance for pedestrians. When

combined with landscaping, curb extensions can compensate for overly wide streets and improve the street's character.

In South Carolina, pedestrians within a crosswalk have the right-of-way and motorists must yield.

Transit Stop Treatments

Most transit trips require pedestrian or bicycle connections. In addition to having well-planned routes, a good transit system provides riders with safe, accessible stops. The design of transit stops should be tailored to the number of riders and provide:

- Buffer from vehicle traffic
- Sheltered seating
- Trash cans
- Bicycle parking
- Clear signage that includes route information

To encourage active use of the transit system, a network of sidewalks and paths should connect high-volume transit stops to popular destinations. Pedestrian-level lighting along these paths improves visibility and increases safety for users.



Transit stop treatment
(Source: City of Sumter, SC)



Multi-Use Facilities

Some facilities are designed to accommodate both bicyclists and pedestrians. These multi-use facilities separate non-motorized users from automobile traffic.

Multi-Use Paths on Independent Alignments

Multi-use paths — or shared use trails — are becoming quite popular, not only with bicyclists, but also with many non-motorized transportation device users across the country. They can provide a high-quality bicycling experience in an environment that is protected from motorized traffic because they are constructed in their own corridor, often within open-space area. Multi-use paths can be paved and should be a minimum of 10-feet wide. Their width may be reduced to 8 feet if there are physical or right-of-way constraints. Additional width should be considered for areas with difficult terrain or heavy traffic.

Multi-use paths are, in effect, little roads and should be designed with clearance requirements, minimum radii, stopping sight distance requirements, and other criteria just as roadways are designed. Additionally, designers must comply with the MUTCD and AASHTO Bicycle Guide when designing these facilities.

Though paths should be thought of as roadways for geometric and operational design purposes, they require much more consideration of amenities. Shade and rest areas with benches and water sources should be designed along multi-use paths. Where possible, vistas should be preserved. Way finding signs (e.g., how far to the library or the next rest area, or directions to restrooms) are important for non-motorized users. These types of design considerations can help make a multi-use path more attractive to potential users.

Sidepaths/Wide Sidewalks

A sidepath is essentially a multi-use path that is oriented alongside a road. The AASHTO Guide to the Development of Bicycle Facilities strongly cautions those contemplating a sidepath (or wide sidewalk) facility to investigate various elements of the roadway corridor environment and right-of-way before deciding upon a final design. AASHTO provides nine cautions/criteria (pp. 34-35) for designing sidepaths. Research confirms that bicycle/motor vehicle crash rates can be higher for bicyclists riding on a sidepath compared to riders on the roadway. Crashes between motor vehicles and bicyclists on sidepaths can occur when motorists falsely expect bicyclists to yield at all cross streets and driveways. Likewise, stopped vehicles entering or exiting side streets or driveways may block the bicyclists' path. However, careful design can mitigate some of these concerns.

Some high-volume, high-speed roadways exist where sidepaths are the best bicycle facility that can be provided without very costly changes to the roadway corridor. In these cases, it may be desirable



Sidepath on Loring Mill Road

to provide a sidepath. This decision must consider the magnitude of intersecting driveway and roadway conflicts. If possible, sidepaths should be provided on both sides of the roadway to encourage bicyclists to ride in the same direction as adjacent traffic. The long-term strategy on these roadways should be to widen the road or narrow the lanes to provide additional space for bicyclists in on-street bike lanes or shoulders.

Existing Conditions

Bicycling and walking often falls into two distinct types of travel:

1. **Utilitarian, non-discretionary travel.** Children, persons with disabilities, and many elderly are not able to drive. Some households simply cannot afford an automobile. According to the 2010 American Community Survey, approximately 3.2% of all households in Sumter County do not have a vehicle available. This percentage is higher than the state (2.8%), but lower than the national average (4.4%). For those unable to drive and persons living in households with no vehicles, transit, bicycling, and walking may be their only option for daily necessary trips.
2. **Recreational, discretionary travel.** Bicycle clubs, such as the Sumter Easy Riders, organize weekly rides throughout the year and have an active membership. Many more informal joggers, bicyclists, and walkers can be seen throughout Sumter on a regular basis.

Both types of travelers require a complete network of bicycle and pedestrian facilities as well as programs that educate and encourage current and future users. The graph at right illustrates how respondents to the public survey rated the bicycle and pedestrian facilities in Sumter. The bicycle and pedestrian facilities were rated "poor" by 18% and 36% of the respondents, respectively, while only 2% and 4% rated the bicycle and

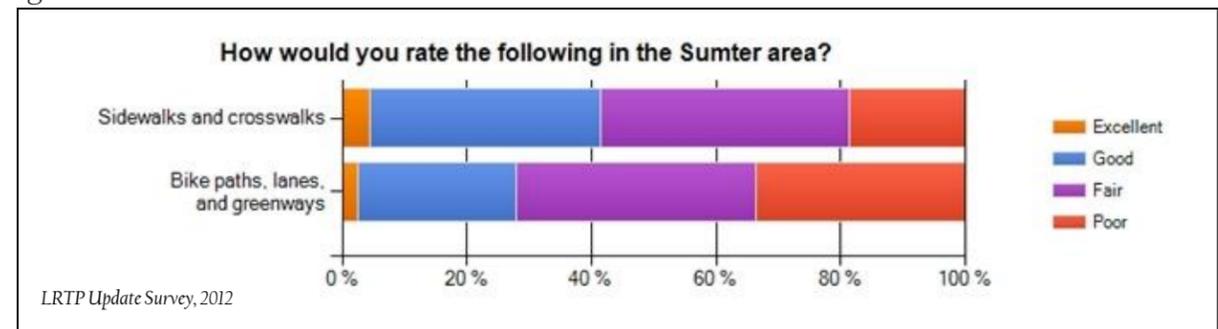
pedestrian facilities as excellent. Figure 6.1A and 6.1B illustrate existing bicycle and pedestrian facilities in the SUATS area.

Bicycle Network

Bicyclists can use multi-use paths with pedestrians or mix with vehicular traffic on select roadways. Therefore, bicycle facilities can range from wide curb lanes with no striping to marked bicycle lanes to off-road bicycle paths. The target user for each application and the unique circumstances of the particular roadway help to determine the bicycle treatment that is most appropriate. For example, on roadways with relatively low automobile volumes and slow travel speeds, experienced bicyclists often feel comfortable riding in mixed-flow traffic with no specific bicycle facilities provided. Marked bicycle facilities or adjacent bicycle paths are desirable as traffic volumes and travel speeds become higher.

Existing Bikeways

The bicycle network in Sumter remains in its infancy. Bike lanes are provided on McCrays Mill Road, and a multi-use sidepath along Loring Mill Road connects Wise Drive to Wedgefield Road. Bicyclists also have access to a few trails in the area. Two existing trails will become part of the proposed Cypress Trail. One 3-mile segment connects the Wise Drive entrance of Dillon Park to Cypress Park. A short ½-mile multi-use path also is available near the YMCA between Broad Street and North Guignard Drive. Although beyond the SUATS boundary, a portion of the Palmetto Trail runs through Manchester State Forest and Poinsett State Park. Once complete, the Palmetto Trail will stretch 425 miles from the mountains to sea. Manchester State Forest also includes several mountain bike trails.



Pedestrian Network

Walking is a key element to a healthy community's transportation system. Every trip begins and ends as a walking trip, yet walking is often a forgotten mode during the planning process. When a proper pedestrian environment is provided, walking offers a practical transportation choice that provides benefits for both individuals and their communities. The potential for increased walking is enormous since ¼ of all trips in the United States are less than one mile in length. Features that contribute to making communities more walkable include a healthy mix of land uses, wide sidewalks, buffers between the edge of pavement and the sidewalk, and trees to shade walking routes. Slowing traffic, narrowing streets to reduce pedestrian crossing distance, and incorporating pedestrian infrastructure (i.e., signage, crosswalks, and adequate pedestrian phasing at signals) into future roadway design plans also ensure walkability.

The availability of pedestrian facilities and amenities plays an important role in encouraging the use of alternative modes of travel to the automobile. In addition to shifting trips from automobile to foot, the success of transit and other alternative travel modes depends greatly on the state of pedestrian facilities and amenities.

Existing Sidewalks, Trails, and Routes

In order for walking to be considered a realistic transportation alternative, conditions need to be favorable for pedestrian use. In Sumter, sidewalk deficiencies and a largely inhospitable pedestrian environment contribute to a reliance on the automobile even for shorter trips. The most walkable areas in Sumter are in the downtown area. Here, pedestrians benefit from a relatively complete sidewalks network, though some facilities need maintenance. Beyond the downtown area, sidewalks appear less frequently. The few sidewalks that exist are located along major arterials such as McCray Mill Road, Loring Mill Road, Alice Drive, Broad Street, and Guignard Drive. Sidewalks become much less frequent near the city limits and few exist in unincorporated areas of Sumter County.

In addition to sidewalks, the Cypress and Palmetto Trails provide recreational opportunities for pedestrians in the Sumter area.

Shorter trails around Swan Lake, within Iris Gardens, and near the YMCA provide additional recreational opportunities.

The organization **Sumter County Active Lifestyles** has identified several routes in and between downtown and Swan Lake/Iris Gardens. The routes are identified on an informational map and range in length from less than a mile for trails within Swan Lake/Iris Gardens to more than 3.5 miles for a loop from Swan Lake to West Oakland Avenue.



Cypress Trail
(Source: SC Department of Health and Environmental Control)



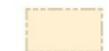
Sidewalk without buffer from traffic on Broad Street

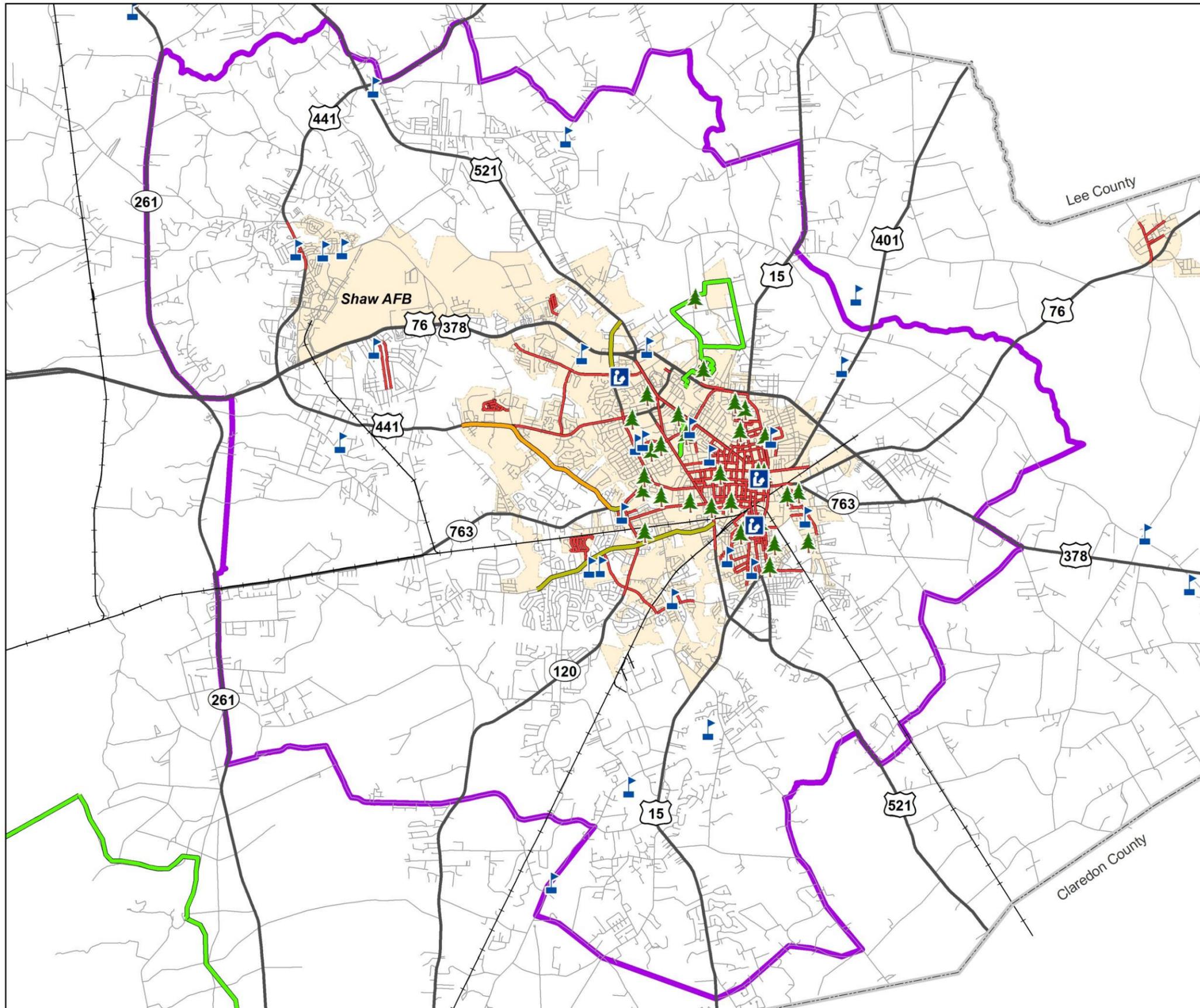


High-pedestrian use area without sidewalks adjacent to Lafayette Drive

Existing Bicycle and Pedestrian Facilities

Legend

-  Existing Sidepath
-  Existing Bicycle Lane
-  Existing Trail
-  Existing Sidewalk
-  SUATS 2010 Study Area Boundary
-  County
-  City Limits
-  Library
-  Park
-  School
-  Road
-  Railroad



September 15, 2012

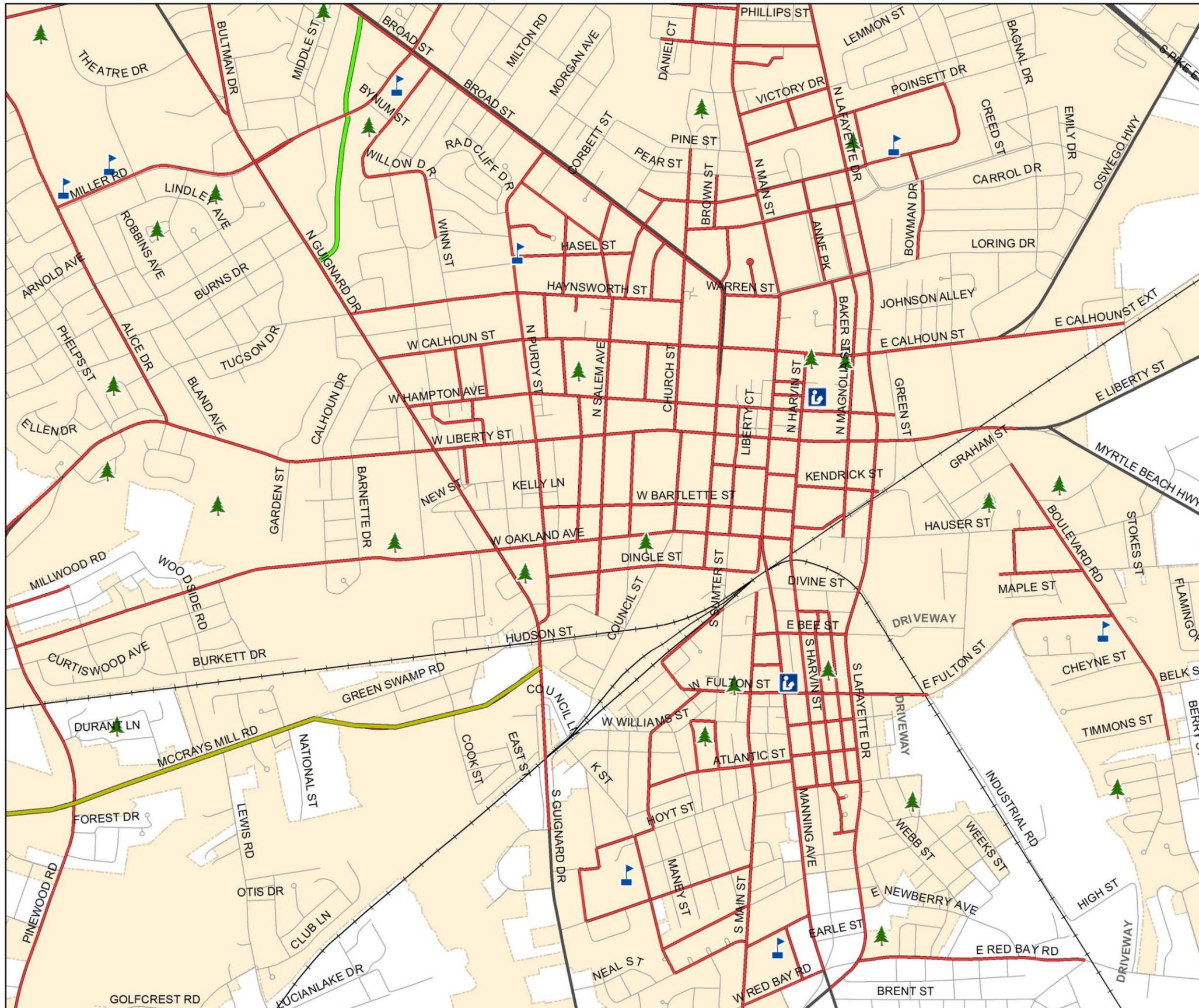


Existing Bicycle and Pedestrian Facilities

Downtown Inset

Legend

-  Existing Bicycle Lane
-  Existing Trail
-  Existing Sidewalk
-  City Limits
-  Library
-  Park
-  School
-  Road
-  Railroad

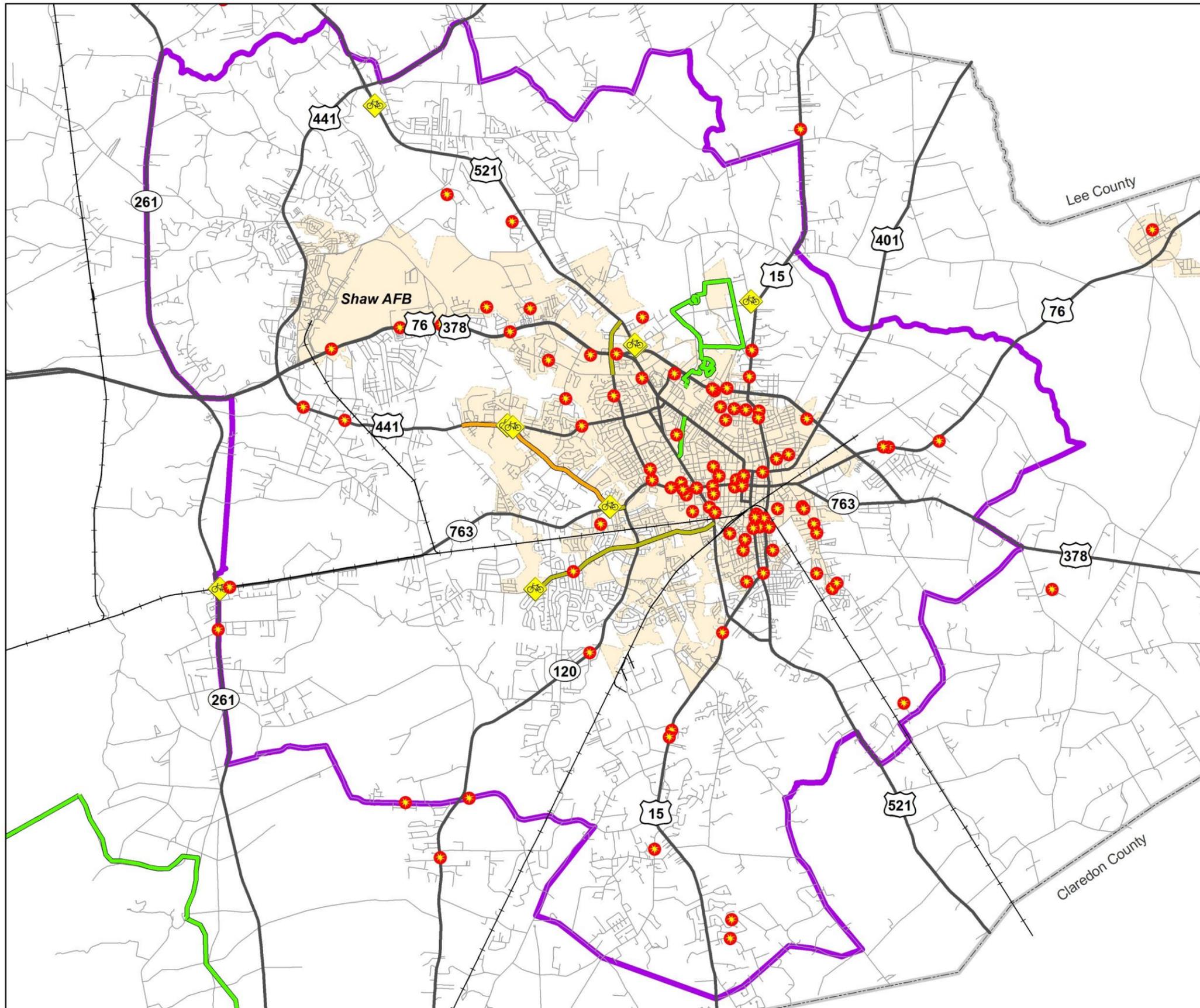


September 15, 2012

0 0.15 0.3 Miles



Bicycle and Pedestrian Accident Locations



Legend

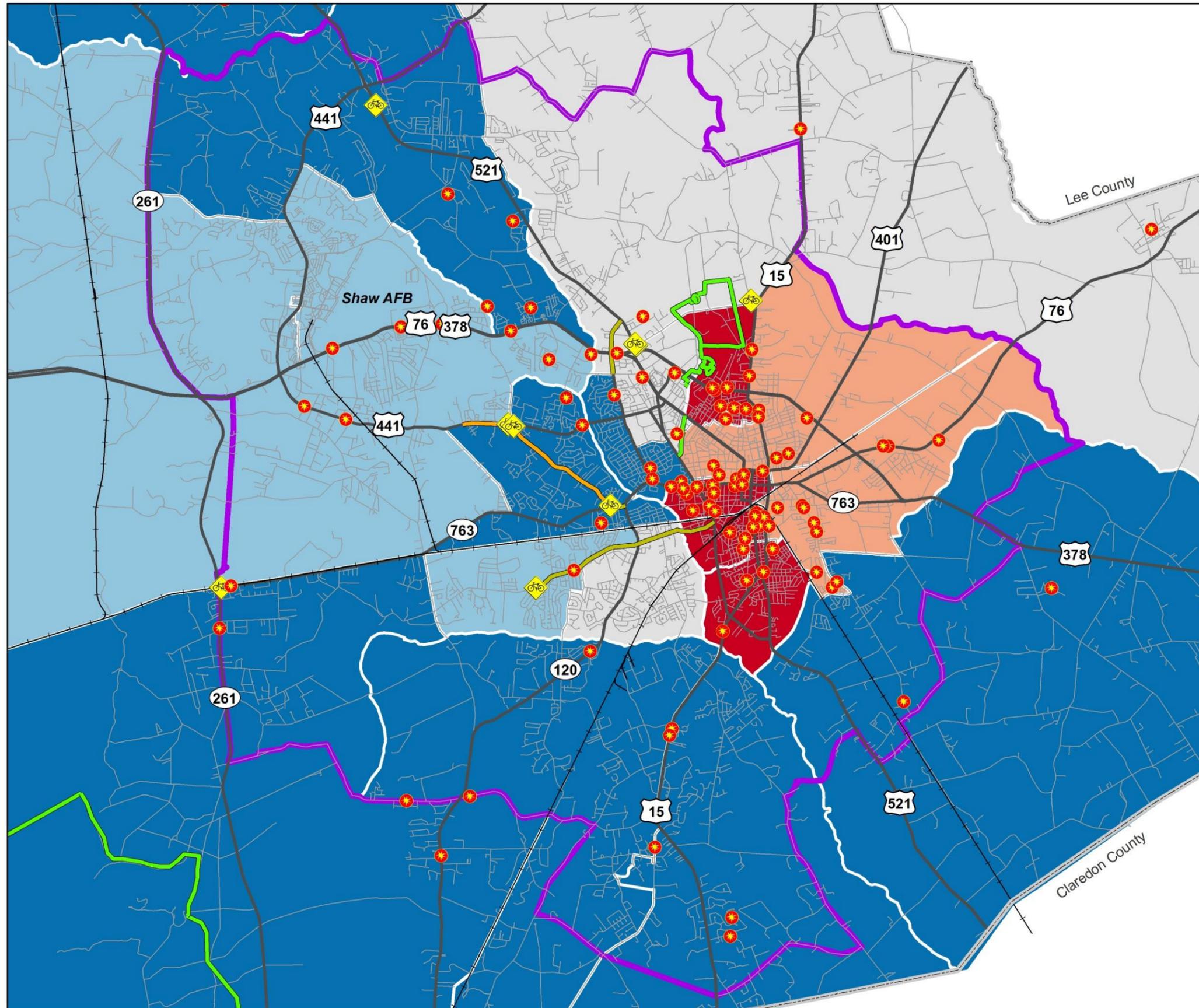
-  Existing Sidepath
-  Existing Bicycle Lane
-  Existing Trail
-  Pedestrian / Bicycle Related Accident (2008, 2009, 2010)
SC Department of Public Safety
-  Share the Road Sign
-  SUATS 2010 Study Area Boundary
-  County
-  City Limits
-  Road
-  Railroad

September 10, 2012

0 0.5 1 2 Miles



Bicycle and Pedestrian Accident Locations in Relation to Vehicle Accessibility



Legend

-  Existing Sidepath
-  Existing Bicycle Lane
-  Existing Trail
-  Pedestrian / Bicycle Related Accident (2008, 2009, 2010)
SC Department of Public Safety
-  Share the Road Sign

Percentage (%) of Population with No Access to a Vehicle (2005 - 2009 ACS)

-  0.0 - 1.0
-  1.1 - 2.0
-  2.1 - 5.0
-  5.1 - 10.0
-  10.1 - 20.0

-  SUATS 2010 Study Area Boundary
-  County
-  Road
-  Railroad

September 10, 2012

0 0.5 1 2 Miles



Existing Groups, Programs, and Initiatives

Several groups team with local officials to produce educational materials, sponsor bicycling and pedestrian events, and advocate the utilitarian and recreational pursuits of bicyclists and pedestrians.

Sumter County Active Lifestyles

Linda Pekuri, an organizer of Sumter County Active Lifestyles (SCAL), stated SCAL is one of the most active and visible of these groups. This organization of bicycle and pedestrian stakeholders and enthusiasts is a grant-funded nonprofit organization whose mission is to “promote health and quality of life in Sumter County by advocating for a community environment that supports physically active lifestyles for all citizens.”

SCAL has produced bicycle and pedestrian route maps. These maps are available at various locations around the city and can also be found online at

<http://www.sumtercountyactivelifestyles.org/publications.php>.

SCAL’s publicity and outreach efforts to inform and educate the community about the availability of exercise and recreation opportunities throughout the county include newspaper feature stories, columns, articles and advertisements; quarterly newsletter; radio spots; and cable television infomercials. To date, their infomercials have highlighted city parks, their Adopt-a-Park Program, their walk and bicycle maps, the Step Up. Step Out! program, cycling/Sumter Easy Riders, crosswalk laws, their Wednesday Walkers program, the Cypress Trail and sharing the road.

Local Bicycling Clubs

Two local bicycling clubs organize rides for club members and the general public. The Sumter Easy Riders first organized a community bike ride on May 21, 2005. The number of weekly riders has grown, reaching more than 20 riders on some weeks. The Sumter Easy Riders meet at the Corner Pantry/Shell Station at Loring Mill Road and Wise Drive Saturday mornings to determine the day’s route.

Like the Sumter Easy Riders, the Sumter Chain Gang Cycling Club organizes group rides. The Chain Gang also built and maintains a bike trail in Manchester State Forest. The club partners with Buddy’s Schwinn Cycling and Fitness to sponsor a series of races, the Killer Three, each year on the Manchester State Forest trail.

Other Programs

Other formal programs help people of all ages recognize the benefits of bicycling and walking while equipping them with the necessary skills and knowledge to make the most of their experiences.

Safe Routes to School

On July 6, 2012, President Obama signed the Moving Ahead for Progress in the 21st Century (MAP-21), which authorizes the Federal surface transportation programs. At over \$105 billion for fiscal year (FY) 2013 and 2014, MAP-21 is the first long-term highway authorization since the expiration of (SAFETEA-LU)

MAP-21 does not provide funding specifically for Safe Roads to School (SRTS). Instead, SRTS activities will be eligible to compete for funding programs along with Transportation Enhancements and Recreational Trails, as part of a new program called Transportation Alternatives.

Step Up. Step Out!

The *Step Up. Step Out!* program is a joint effort of SCAL, Sumter County Recreation and Parks Department, and the University of South Carolina Arnold School of Public Health Prevention Research Center. The web-based program provides weekly behavioral tips, an exercise log, testimonials, and safety tips to encourage active healthy lifestyles. The *Step Up. Step Out!* website includes a list of places to walk and exercise in Sumter County: www.sumtercountyactivelifestyles.org/StepUpStepOut/.

League Cycling Instructor

SCAL helps coordinate local participation in the League Cycling Instructor program. LCI is a national certification administered by the League of American Bicyclists. Certified instructors are better equipped to teach bicycle education to children and adults. The

two-day course is held at various locations throughout the nation, including Spartanburg in March 2007. For more information, visit www.active-living.org or call 864-598-9638.

National Trails Day

National Trails Day is an annual event initiated in 1993 by the American Hiking Society to increase awareness of community trails and coordinate maintenance and construction activities. Nationwide, more than 1,200 registered events occurred in 2006 including local events sponsored by SCAL and the Sumter County Recreation and Parks Department. Local activities in 2006 included a bike ride and fitness walk.



SCAL Signed Pedestrian Route
(Source: SC Department of Health and Environmental Control)



Sumter Community Bike Ride

Recommendations

As described in Chapter 2, local officials must consider how projects and programs support a spectrum of planning factors. The recommended bicycle and pedestrian projects, programs, and initiatives that follow address these factors:

- Support economic vitality
- Increase safety and security of the transportation system
- Increase accessibility and mobility of people
- Protect and enhance the environment
- Foster connectivity across and between modes
- Emphasize preservation of the existing transportation system
- Infrastructure safety improvements, such as pedestrian skywalk

The comprehensive package of projects and programs recommended for Sumter rely on the “Four E’s of Bicycle and Pedestrian Planning.” Addressing these four interrelated components helps create a transportation network that balances the needs of bicyclists, pedestrians, and motorists.

In a most recent survey, if certain improvements were made for bicycling & walking, users of this mode will likely increase the usage of this mode for travelling (see the bar chart).

Engineering

Engineering refers to the network of pathways that must be planned, designed, and constructed. A well-planned bicycle and pedestrian system can enhance user safety and enjoyment and may increase the attraction of each mode.

Education

Once the pathways are in place, new and experienced cyclists and pedestrians must be made aware of their locations and the destinations that can be reached by using them.



Programs should educate bicyclists on the “rules of the road”

Bicyclists, pedestrians, and motorists must be educated on the “rules of the road” to ensure everyone’s safety while operating on and adjacent to the bicycle and pedestrian facilities.

Encouragement

People need to be encouraged to bicycle and walk. Encouragement should become easier as the network of pathways makes the SUATS area more bicycle- and pedestrian-friendly. Encouragement becomes more critical as these facilities are constructed to justify their investment.

Enforcement

To ensure the safety of all users and the long-term sustainability of the bicycle and pedestrian system, the formal and informal “rules of the road” must be heeded by all.

A public survey was used to ask participants what improvements could be made to increase their use of bicycling and walking. As shown in the chart to the right, the majority of answers pointed to on-street facilities, greenways and sidewalks.

The recommendations that follow balance the need for improved facilities with programs designed to educate users in the safe use of these facilities, encourage the active use of facilities, and enforce the rules of the road.

Facility Recommendations

Sidewalks are necessary elements in urban areas that have higher land use densities and more pedestrian activity. Sidewalks downtown and in activity centers should be wide enough to provide at least a 5-foot-wide clear width for walking, plus a furniture zone next to the street (for benches, waste receptacles, poles, street trees, and newspaper racks).



Wide sidewalk in Downtown Sumter

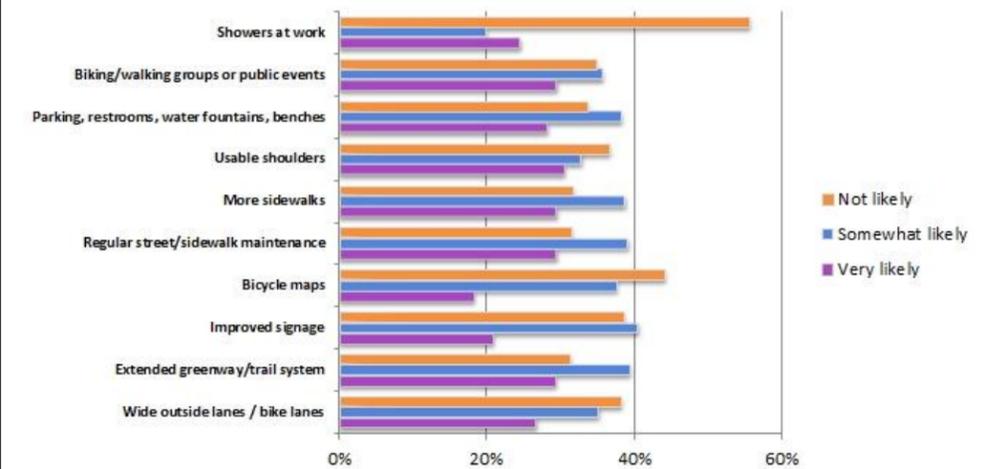


Example of café tables in edge zone next to buildings

Consideration should also be given to an edge zone next to buildings. This would allow space for plants and people to stand while window-shopping, or café tables if adjacent business owners want to offer sidewalk service to their customers. The minimum sidewalk width in a downtown retail area is 12 feet.

In other areas, a network of sidewalks, multi-use paths, and trails should serve pedestrians. In general, sidewalk widths should be a minimum of 5 feet in residential neighborhoods with at least a 5-foot-wide buffer to the travelway. Sidewalks adjacent to the street without a buffer should be discouraged because of the discomfort it

How likely would you be to increase your use of bicycling and walking if the following improvements were made?



LRTP Update Survey, 2012

creates for pedestrians.

In the May 2003 Highway Design Manual, SCDOT recognized the need for sidewalks in both urban and rural areas where pedestrians are present:

Generally, sidewalks are an integral part of city streets. For suburban residential areas, the construction of sidewalks is often deferred. However, sidewalks in rural and suburban areas are still often justified at points of community development such as schools, local businesses, shopping centers and industrial plants that result in pedestrian concentrations along the highway. If pedestrian activity is anticipated, include sidewalks as part of the construction.

Bike facilities are no different. On-street facilities such as bicycle lanes, paved shoulders, and wide curb lanes should be carefully located depending upon the intended character of the street and anticipated experience level of cyclists. These facilities should be supplemented with multi-use paths where appropriate.



A bicycle lane on Lynam Road will connect with this existing bicycle lane on McCrays Mill Road

The construction of on-street bicycle facilities and sidewalks can occur as stand-alone enhancement projects or can be incorporated into public and private infrastructure projects. The second option may be more time- and cost-effective. Infrastructure projects include roadway widening, regular street maintenance, utility work, and new road construction. Adopted City and County policies should require that these projects provide new bicycle and pedestrian facilities.

Connectivity should be an integral part in all residential and commercial developments. Where connections for motor vehicles are not provided, multi-use paths can provide connections within

and shortcuts through neighborhoods (i.e. connecting two cul-de-sac streets). At a minimum, local policies also should require sidewalks in new residential developments.

Many of the recommendations presented in this chapter to enhance the bicycle and pedestrian network could be implemented by the private sector during the land development process. In addition to requiring these facilities, adopted City and County policies should specify the private sector's role in financing and/or constructing these projects.

On-Street Bicycle Facilities

When asked what improvements could be made to increase their likelihood of bicycling or walking, the majority of the public survey respondents identified more sidewalks, street maintenance, and useable shoulders. Recommended on-street facilities include bicycle lanes, wide outside lanes, paved shoulders, and signed bicycle routes. These facilities are shown in Figure 6.2 and described briefly below.

Bicycle Lanes

While only one bicycle lane is proposed, the new bicycle lane on Lynam Road will connect the two existing bicycle facilities located along Loring Mill Road and on McCrays Mill Road.

The paved and marked bicycle lane of 2.12 miles along Alice Drive connects Wesmark Boulevard on the south and Camden Highway on the north and provides bicyclists with a designated path along the same road with hundreds of motorists driving by.

Wide Outside Lanes

The recommended wide outside lanes provide extra room for bicyclists and motorists without having to exclusively dedicate pavement to bicyclists. The recommendations help complete the bicycle network by connecting to other existing and recommended facilities. Priority locations for wide outside lanes include:

- Wise Drive between Loring Mill Road and the Cypress Trail
- Red Bay Road between the signed routes proposed for South Main Street and Boulevard Road

Paved Shoulders

Paved shoulders are recommended within the city limits and along key routes in unincorporated portions of Sumter County. Within the city, a paved shoulder on Stadium Drive will connect the existing and recommended facilities at McCrays Mill Road to the recommended extension of the Cypress Trail. A paved shoulder on Wesmark Boulevard will connect the recommended signed route on Wilson Hall Road to the recommended wide outside lane on Alice Drive.



Recommended corridors for paved shoulders will connect Patriot Highway to US 15

Beyond the city limits, recommended paved shoulders are coordinated to meet the needs of bicyclists and the freight community. In addition to providing extra room for bicyclists, paved shoulders in rural areas help prolong the life of pavement under the stress of truck traffic.

Paved shoulders are recommended along a route that extends from Patriot Highway (SC 441) east of Sumter to US 15 south of the city. This corridor utilizes several roadways, including Eagle Road, Cane Savannah Road, St. Pauls Church Road, Cains Mill Road, and Clipper Road and provides key connections to other proposed facilities on Wedgefield Road, McCrays Mill Road, and Pinewood Road.

Additional candidates for paved shoulders include:

- Brewington Road from Thomas Sumter Highway (US 521) north of Sumter to US 378 east of the SUATS boundary
- Jefferson Road from Camden Highway (US 521) and Queen Chapel Road
- McCrays Mill Road from St. Pauls Church Road to Stadium Road

Signed Routes

As mentioned earlier in this chapter, signed routes are an integral part of the recommended bicycle network. These inexpensive facilities guide riders to bicycle-friendly roads. For that reason, the roadways were judged based on traffic conditions and the geometry of the road. The signed routes shown in Figure 6.2 create a route system that promotes loop rides in which riders start and begin at the same point. Other bicyclists will benefit from the increased motorist attention to them as they move from one facility type to another.

Sidewalks

In the public questionnaire, the top priority identified for improvements in the Sumter region was walkable neighborhoods and commercial centers. The recommended sidewalks shown in Figures 6.3A and 6.3B provide key connections between existing sidewalks and high pedestrian areas.

Many of these recommended sidewalks are focused on schools and high traffic public areas currently not connected by sidewalks. These include Palmetto Park, USC at Sumter, Central Carolina Technical College, Willow Drive Elementary, Alice Drive Elementary and Middle schools, and Sumter High School.

Multi-Use Paths

Multi-use paths can accommodate bicyclists and pedestrians while

providing a high-quality experience protected from traffic.

Shot Pouch Greenway

The 2007 LRTP stated “The existing Cypress Trail and multi-use path near the YMCA should be supplemented with improved connections to the existing and proposed on-street bicycle facilities and sidewalks.” In 2011 the Planning Department produced a Master plan for Shot Pouch Creek, including a greenway proposal and a plan for introducing “Nodes”. Nodes are the focal points where recreational and business activities interact, such as an ice-cream shop that sells to walkers and bikers at the crossing point of the business district and the trail path. The plan also includes concepts for new recreational amenities that would draw interest to portions of the Greenway, such as a canoe and kayak center, and a fishing spot. The Shot Pouch Greenway, when complete, will connect the city like a vertical spine, starting at Dillon Park, crossing the 378 Bypass, Broad Street, Guignard Drive, Liberty Street and Swan Lake to end at McCray’s Mill Road.

The southward trek will continue beside US 15 to just north of Bowen Drive where it will travel east to Pocalla Creek. The recommended path meanders northward along the creek to the city limits. Within the city, the trail follows the railroad and US 15 back to the existing Cypress Trail. The completed trail network should include appropriate amenities to encourage active use of the multi-use path.

An additional multi-use path is proposed along the east side of Lafayette Drive from Calhoun Street to the US 378 Bypass. Pedestrians have worn paths along the abandoned rail corridor at this location. Located within the abandoned rail corridor and outside existing roadway right-of-way, the multi-use path will connect existing sidewalks on Lafayette Drive. The construction of this multi-use path utilizes the existing underpass for the abandoned rail line located at US 378.

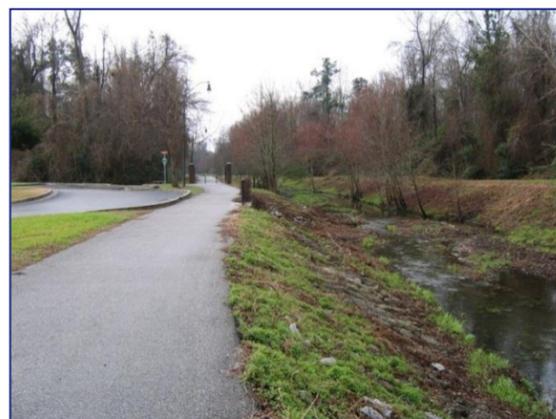
Future multi-use path construction could benefit from existing right-of-way available from several abandoned rail lines in the region. Portions of these



Part of the newly constructed sidewalk that connects Bates Middle School with the surrounding neighborhood



Proposed sidewalks should be wide with minimal obstacles and buffered from traffic.



The completed Cypress Trail will connect homes and businesses with activity centers such as the YMCA.



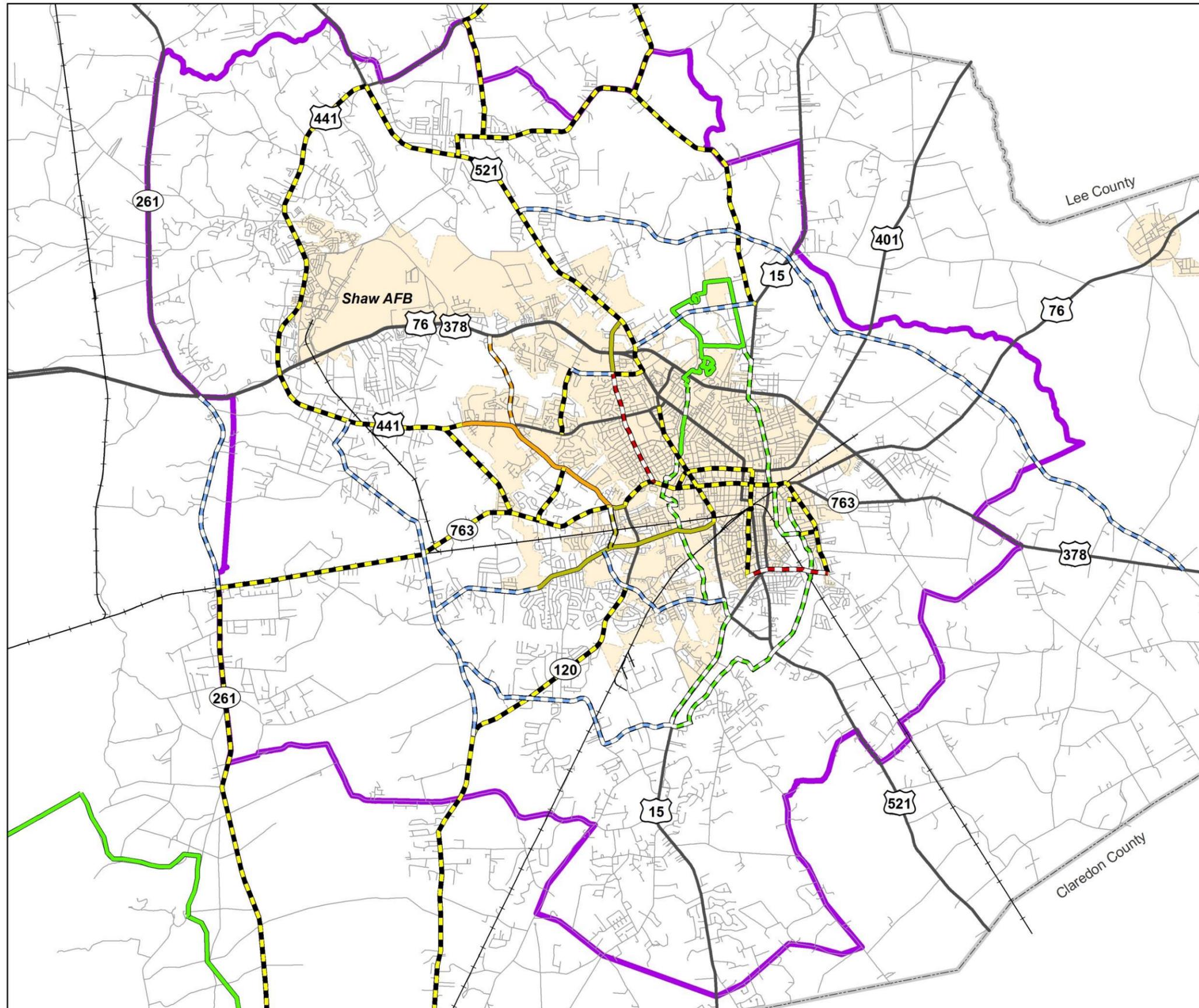
A portion of the Cypress Trail will replace worn paths and utilize the underpass of an abandoned rail corridor.



lines are being used currently as components of two existing bicycle trails.



Existing and Proposed Bicycle Facilities



Legend

- Existing Sidepath
- Proposed Sidepath
- Existing Bicycle Lane
- Proposed Bicycle Lane
- Proposed Wide Outside Lane
- Proposed Paved Shoulder
- Proposed Signed Route
- Existing Trail
- Proposed Trail
- SUATS 2010 Study Area Boundary
- County Boundary
- City Limits
- Road
- Railroad

November 1, 2012

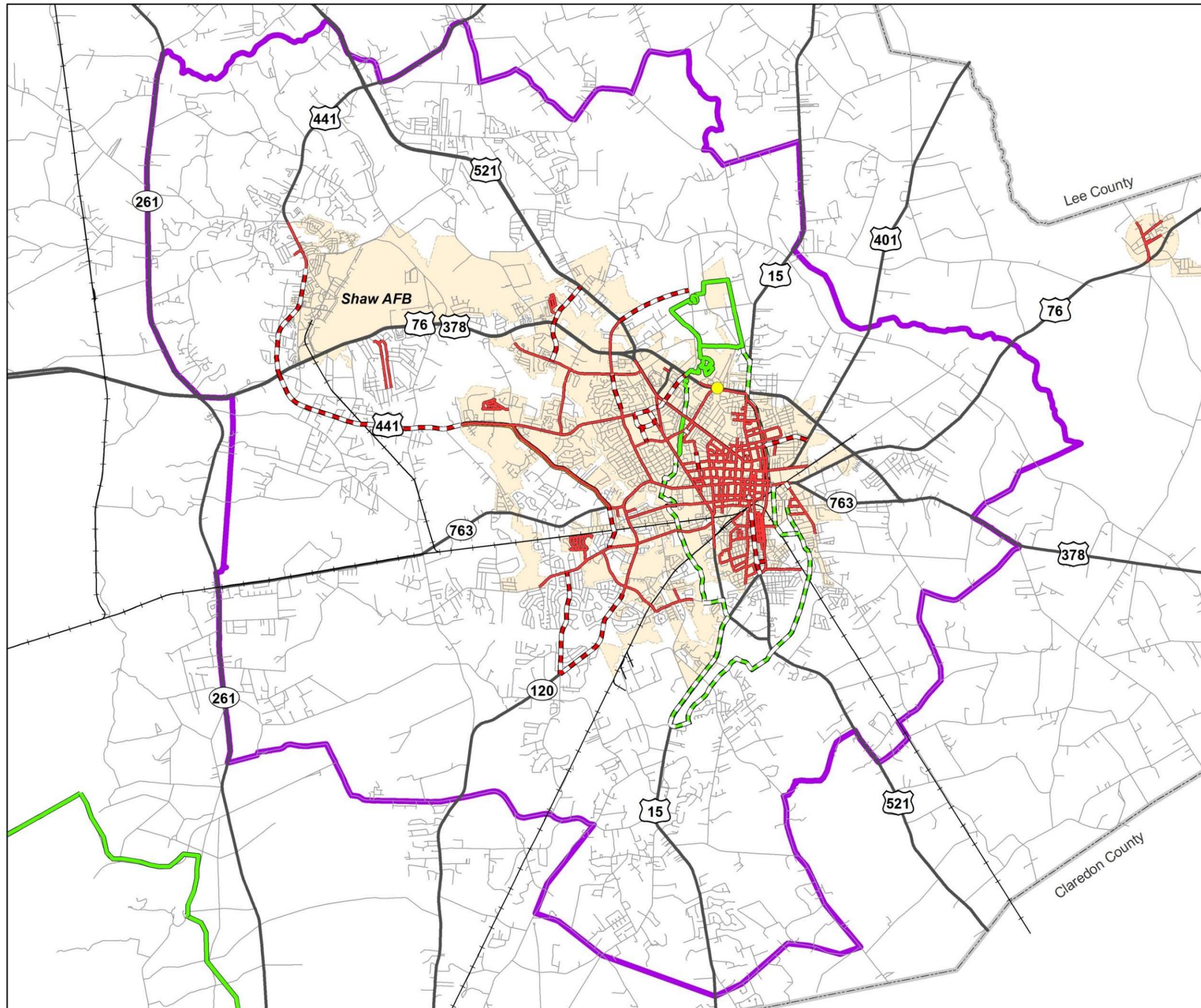
0 0.5 1 2 Miles



Existing and Proposed Pedestrian Facilities

Legend

-  Existing Sidepath
-  Existing Sidewalk
-  Proposed Sidewalk
-  Existing Trail
-  Proposed Trail
-  Proposed Pedestrian Skywalk
-  SUATS 2010 Study Area Boundary
-  County Boundary
-  City Limits
-  Road
-  Railroad



November 1, 2012

0 0.5 1 2 Miles

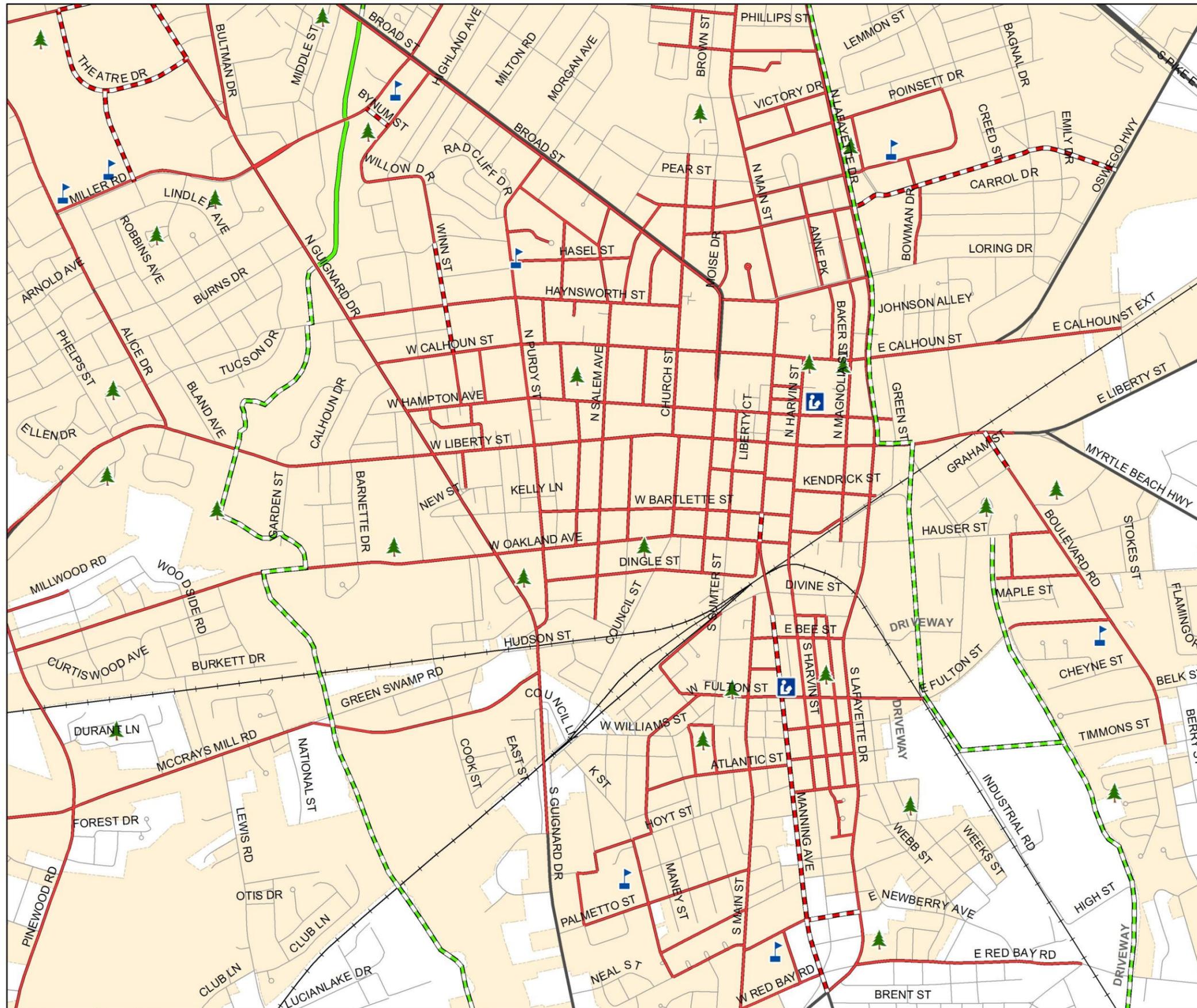


Existing and Proposed Pedestrian Facilities

Downtown Inset

Legend

-  Existing Sidewalk
-  Proposed Sidewalk
-  Existing Trail
-  Proposed Trail
-  City Limits
-  Library
-  Park
-  School
-  Road
-  Railroad



November 1, 2012

0 0.15 0.3 Miles



Ancillary Facilities

In order to form a complete system, the recommended on-street facilities, sidewalks, and multi-use paths need to be supplemented with ancillary facilities. These facilities are often low-cost measures designed to enhance the functionality and safety of the bicycle and pedestrian network. Ancillary facilities include physical components of education, encouragement, and enforcement programs recommended later in this chapter.

Traffic Calming

The importance of traffic calming increases as motorists find short cuts around congested roads and intersections. Even the best planned street networks fall prey to unwanted cut-through and speeding traffic. Traffic calming includes a variety of tools to slow speeds, reduce cut-through traffic, and improve the appearance of the street while increasing safety for pedestrians, bicyclists, and vehicles.



Raised sidewalk slows speeds and improves pedestrian safety (Source: www.pedbikemages.org)

Best practices for traffic calming are widely published, but the best programs include specific measures and general methods tailored to local travel patterns and citizen expectations. As high speeds and changing travel habits continue to threaten bicyclists and pedestrians, the City of Sumter and Sumter County are encouraged to develop traffic calming plans for the most unsafe roadways.

The most effective traffic calming measures used by urban designers include:

- Street Trees and other landscaping
- “Road Diets” whereby the road is narrowed to accommodate bus stop areas, multi-use paths, bike lanes, etc. Narrowing the travel lane forces traffic to slow down and has been proven much more effective than speed limits and enforcement measures

- On-street parking, either parallel or angled
- Landscape medians in the center of the road, utilizing existing “suicide lanes” and providing refuge for pedestrians
- Pavement at pedestrian crossings that contrasts with the surrounding street in color and texture, to act as a visual cue to drivers that this is a pedestrian crossing
- Tightening of turning radii at corners, to eliminate the “racecourse” phenomenon, forcing drivers to slow down considerably before turning a corner
- Parking in the rear of the building and commercial building facades set close to the street to create a walkable, pedestrian scale environment near the street
 - Reduce or eliminate the number of curb cuts for accessing a site

Signage and Mapping Projects

Comprehensive Route Systems

In order to maximize the use of the new and retrofitted facilities, users must know the location of routes, accessible destinations, connections to other routes, and provisions along the way. A route signage plan is recommended to include information on the direction and distance to destinations spaced so bicyclists receive periodic confirmation that they remain on the right route.

Different types of facilities can benefit from comprehensive route systems, including multi-use paths, bike lanes, shoulders, and wide outside curb lanes.

In addition to comprehensive route signing, informative maps of bicycle routes and pedestrian trails and pathways should be produced. Sumter County Active Lifestyles has taken the lead in



signing local routes and distributing bicycle and pedestrian maps.

Share the Road Signing Initiative

“Share the Road” signs make motorists more aware of the presence of bicyclists on high-use roads with potentially hazardous conditions. These signs serve as important and cost-effective safety and education tools. South Carolina acknowledged the visibility and impact of these signs by issuing a “Share the Road” license plate. The additional funds received through the sale of this license plate go to the Palmetto Cycling Coalition, Inc. to promote bicycle safety and education programs.



Shared Lane Symbol

The use of Shared Lane Symbols can reduce crashes but should be used in moderation. Also called a “sharrow,” this lane marking reduces crashes in which a parked motorist opens a car door into the path of cyclists and cuts down on the number of cyclists traveling in the wrong direction. The treatment should be limited to travel lanes adjacent to on-street parking or on roadways that complete a link in a bicycle route.



Example of a sharrow in Portland

Intersection Signage

Static and blank out signs reduce vehicular crashes with pedestrians. Static signs with messages such as “No Turn on Red When Pedestrians Present” or “Left Turning Vehicles Yield to Pedestrians” should be used only where problems have been documented and relatively constant pedestrian/bicycle use exists. Any overuse of the signs limits their effectiveness by diluting the ability of the sign to command the attention of motorists.

At locations where conflicts are not frequent enough to warrant a static sign, a blank out sign may be appropriate. These signs are activated when there is a potential conflict. Thus, if a pedestrian enters the crosswalk, the motorist will see a “Yield to Pedestrian” sign next to the permissive turn signal. The real-time aspect ensures the signs will be visible when needed and never relegated to visual clutter.



Bicycle Parking Facilities

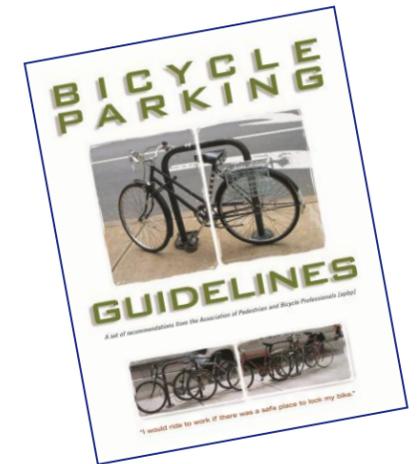
Like motorists, bicyclists need a place to park their bicycles. It is recommended that bicycle parking be included near shopping areas, schools, and recreational areas as well as in downtown and near business frequented by bicycle riders.

A 2011 survey in Sumter discovered a total of forty-one bicycle racks located near libraries, parks, schools, and commercial, governmental, and industrial areas. See map Figure 6-4.

It is not enough to simply place a bike rack at a random location. The bike rack should be highly visible, preferably near store fronts or in high pedestrian use zones to reduce the threat of theft. If bicycles are parked after dark, the area should also be well lit. The necessary protection varies according to the purpose of the bicycle trip. For short trips, a U-shaped bicycle rack may be acceptable. For commuter trips, bike lockers or covered parking may be more appropriate. Finally, bicycle racks also provide an opportunity to enhance the character of an area when they reflect the community culture or character.

For additional information on bike rack designs, the Association of Pedestrian and Bicycle Professionals has produced a guidance document that covers rack design, rack placement, and specifics for appropriate layout of the rack area in dimensions and relation to the surrounding land uses.

In addition to bicycle parking facilities, benches, water fountains, public restrooms, and changing areas would be helpful near popular downtown locations and near major destination points such as shopping areas and schools.



Bicycle parking should vary for short-term and commuter parking



Elementary School Bicycle Rack

Spot Improvement and Maintenance Programs

General Considerations

Regarding bicycle safety, several questions should be used to assess the maintenance of a roadway — Has debris collected in the bike lane? Are longitudinal cracks present? Are there longitudinal drainage grates? Are utility covers uneven with the roadway surface?

An answer of “yes” to any of these questions should result in roadway maintenance. All bicycle facilities, including trails and the right side of roadways, require additional effort to ensure acceptable maintenance. A more frequent maintenance cycle to address these defects should be provided for bicycle routes. Likewise, areas where excessive debris tends to build and bicyclists have limited refuge should be maintained even more frequently.

Traffic Signal Considerations

Traffic signal location, timing, and loops along bicycle facilities require extra attention. The MUTCD requires signal faces to be adjusted or separated for optimal visibility by bicyclists and for signal timing to consider the needs of bicyclists. Additional guidance for signal timing and loops is provided by AASHTO.

Roadway Symbol Buildup

Bike lane symbols, lane directional symbols, and crosswalks use thermoplastic markings. To prevent handling problems for bicyclists, the number of layers of thermoplastic should be limited to one. In addition to build-up, the slipperiness of thermoplastic and paints can cause problems. The texture of the treatment can be altered by adding sharp silica sand to the glass spheres during application.

Safety Railings along Bicycle Facilities

Bridge railing heights have been the subject of recent revisions to the AASHTO Bicycle Guide and ongoing debates among bicycle facility design professionals. The current guide states that railing heights should be at least 42 inches to prevent bicyclists who hit the railing from tipping over the top. However, the current AASHTO Bridge Specifications require a 54-inch railing. In practice, designers have been using the 54-inch railing when a structure is being built to the

AASHTO specifications and a 42-inch railing along non-structural locations, such as when protecting bicyclists from embankments.

Transit Interface

The Santee-Wateree Regional Transportation Authority provides bike racks on all City buses (ADA buses, however, lack bicycle racks). These racks help eliminate barriers presented to those individuals who need their bicycles for supplemental transportation after getting off the bus. The result is a multimodal riding experience. This program should continue to expand and be coordinated with the installation of bike racks near popular bus stops and destinations.



Bicycle facilities should be coordinated with transit (Source: SWRTA)



McCrays Mill Road bike lane in need of maintenance

Existing Bicycle Rack Locations

Downtown Inset

Legend

Bicycle Rack Location

-  Commercial
-  Government
-  Industrial
-  Library
-  Recreation
-  School
-  Library
-  Park
-  School
-  City Limits
-  Road
-  Railroad



September 15, 2012



Bicycle Program Recommendations

The facility recommendations described above must be supplemented with coordinated education, enforcement, and encouragement programs. Some programs instruct and encourage bicyclists and pedestrians in the full and proper use of the non-motorized transportation network. Other programs ensure the safety of the system is upheld by enforcing rules and regulations.

Education Programs

Education programs can be initiated from a variety of sources. Local governments can host workshops and bike rodeos, law enforcement officers can launch school-based education programs, and local advocacy groups can distribute educational materials.

School-Based Safety Education

More than any other age group, school-age children need to be educated about bicycle and pedestrian safety. Education programs can be incorporated into local school curricula and tailored to specific age groups. Younger children could be taught pedestrian safety, while older students could receive hands-on bicycle safety lessons. The program can be a collaborative effort of the city and county, local law enforcement departments, and local advocacy groups.

Walkable Community Workshops

These interactive workshops bring a variety of experts and stakeholders to the table with residents to identify real-world problems and proactive solutions for their community. The workshops last several hours and include an educational presentation, walking audit, and strategy session. The key to Walkable Community Workshops are the walking audits in which a



professional leads participants on a tour to identify problems and solutions.

Bike Rodeos

At bike rodeos, school-age children learn bicycling skills, rules, and safety tips in a fun, interactive environment. Bike rodeos are flexible in that they can be part of a larger safety education program, an independent program, or part of other fun group riding activities.

Public Outreach

Sumter County Active Lifestyles funded a series of paid safety advertisements on television and developed educational materials for distribution. These campaigns can be tailored to target any age group and can be directed at pedestrians, bicyclists, or motorists. Outreach efforts such as these should be encouraged.

Encouragement Programs

Encouragement programs are important regardless of age. The programs that follow include individual and city-wide endeavors.

Safe Routes to School

Safe Routes to School, a national initiative, has encouraged many children to bike and walk to school by promoting bicycle and pedestrian education. The city and county should partner with local schools and advocacy groups to leverage state funding. In addition to the preliminary efforts at Wilder Elementary School, two pilot schools should be selected to implement the Safe Routes to School program. More information on the program can be found at www.saferoutestoschool.org.



Walk or Bicycle to School Day

In September 2004, the South Carolina legislature designated the first Wednesday of October as “Walk or Bicycle with Your Child to School Day.” These programs provide local schools a forum in which to promote walking and bicycling as a fun, healthy way for children to travel. At the same time, the programs allow users to identify necessary improvements to make walking or bicycling safer and easier.



(Source: www.pedbikeimages.org)

Bicycle Rideabout

At a bicycle rideabout, local citizens take part in a short 3- to 5-mile ride along bicycle-friendly roads and attend informational sessions about bicycle safety and ongoing projects in the community. The events should include local law enforcement officers to promote safety and local advocacy groups to recruit new members. A bicycle rideabout can be a stand-alone fun activity or part of a larger event. A rideabout is also a great way to kick off a new initiative or open a new facility.



Bicycle Rideabout

Bicycle to Work Week

For adults, Bicycle to Work Week can serve as a week-long reminder that bicycling can be a good way to get to work. The success of Bicycle to Work Week often depends on local employers. Successful programs have included friendly competition between employers to see which can get the highest percentage of employees to ride bikes to work. Employers could also sponsor a raffle for employees that bike to work during the week to give away a new bicycle, helmet, or gift certificates to local bike shops.

Bicycle Mentor Program

This program matches experienced riders with those who want to learn more about commuting by bicycle. Volunteers from local riding clubs such as the Sumter Easy Riders or Sumter Chain Gang Cycling Club can organize and provide volunteers. The idea is to help a new rider find the best route to work and to educate him or her on how to ride in traffic, in the dark, or in poor weather.

Bicycle Friendly Community

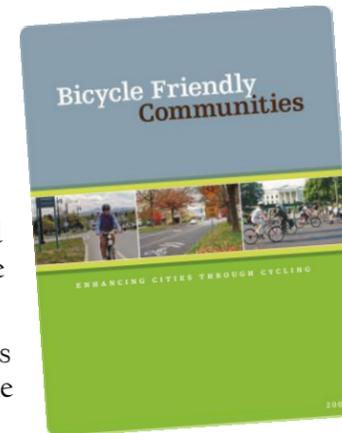
A Bicycle Friendly Community is designated by the League of American Bicyclists (LAB) as a way to recognize communities that provide safe accommodations for bicyclists and encourages bicycling as a means of transportation and recreation. Currently, six South

Carolina municipalities have been named Bicycle Friendly Communities.

In Spring 2012 the City of Sumter applied for Bicycle Friendly Community (BFC) status with the League of American Bicyclists (LAB). The City did not achieve BFC status, however the LAB sent feedback for how the community could improve and possibly achieve BFC status in the future.

The following recommendations would boost BFC Status for the next application:

- Formally adopt a Complete Streets policy and implementation strategy
- Create a position for a Bicycle / Pedestrian Program Manager, his/her job would include:
 - Acquiring bike & pedestrian grants
 - Facilitating bicycle parking amenities at popular destinations
 - Coordinating with City personnel on maintenance issues
 - Coordinating training opportunities, events such as bicycle races and 'bike to work day', education, workshops, Safe Routes to School projects and linkages to Manchester State Forest mountain biking facilities, the Palmetto Trail, etc
 - Working with SWRTA to ensure that buses and transit stops have bicycle amenities
 - Measuring bicycle LOS at roads and intersections to help identify and prioritize projects
 - Working with law enforcement to educate motorists and cyclists, and promote safer share the road policies
 - Hosting seminars for league cycling instructors, bicycling skills classes, bike repair clinics, commuter classes, etc
 - Working with planning department to improve ordinances in city promoting bicycling
 - Working with community groups to reach out to traditionally underserved portions of city



- Create a Bicycle Advisory Committee represented by the following members: Users (cyclists from the community), law enforcement, chamber of commerce, public health officials, planning department, SCDOT, school board, parks and recreation department and SWRTA

Enforcement Programs

South Carolina affords bicycles the same legal status as motor vehicles. As such, bicyclists have all the rights on the roadway as a motorist while being subject to the same rules, regulations, and responsibilities. Other laws are specific to bicyclists and include:

- Bicyclists must use a front lamp and rear reflector when riding at night
- Bicyclists traveling below the posted speed limit must ride in the right-hand lane or as close as practicable to the right-hand curb or highway edge, except when passing another vehicle or preparing for a left turn

Rules and regulations such as these should be conveyed during education and encouragement initiatives. To ensure the safety of bicyclists, pedestrians, and motorists, education and encouragement programs must be supplemented with enforcement. Enforcement often falls into the hands of local and state law enforcement. The City and County of Sumter should partner with law enforcement to develop a coordinated bicycle and pedestrian enforcement campaign.

Bicyclists, pedestrians, and motorists contribute to unsafe roadways. Bicyclists often ignore traffic laws by running red lights and stops signs or by riding on the wrong side of the street. Many bicyclists riding at night do not have proper reflectors and lights. Pedestrians break the law by crossing streets between parked cars and at unmarked mid-block locations rather than at intersections. Motorists often pass too close to bicyclists or do not yield to turning bicyclists.

These unlawful and potential harmful habits must be broken to maintain a safe transportation network. Local authorities also should require safety helmets be worn by all bicyclists regardless of age on all public facilities. Police patrols, particularly those on bicycles, should be increased on local streets as well as off-street trails and parks. The programs identified here should accompany the increased enforcement campaign.

Bicycle Licensing/Registration Program

Bicycle licensing should be considered as a way to enforce bicycle safety and reduce losses to theft. A registered bicycle helps local authorities identify an unresponsive cyclist in the event of an accident and return to its owner a stolen bicycle.

Positive Reinforcement

Positive reinforcement can be a valuable way to encourage safe actions by bicyclists and pedestrians. Police departments across the nation have recognized and rewarded children operating their bicycle in a safe manner. The rewards can include coupons for free ice cream, pizza, or movie tickets, or for discounts at local bicycle shops. This program encourages the child to continue to act safely and encourages their peers to follow their example.

Bicyclist and Pedestrian Accident Statistics

In accordance with the South Carolina Department of Public Safety (SCDPS) accident data, a total 19 fatalities occurred in 2008 (7 incidents), 2009 (6 incidents) and 2010 (6 incidents). During these three years, a total of 116 accidents occurred in Sumter involving bicyclists, pedestrians, and motorists. (See Figure 6.1C)

The statewide crash rate from 2008 to 2010 for pedestrian/bicyclists is 1.8%. The crash rate in Sumter for the same period is 2.1%.

Of these 116 accidents, 42 were caused by the motorists. The graph on the next page shows the 10 different primary reasons caused by motorists on bicyclists or pedestrian accidents. The highest number of accidents was caused by drivers failing to yield the right of way (ROW) to bicyclists or pedestrians.

Accidents caused by non-motorists (74 accidents) account for more than half of the total accidents. The greatest number of accidents was caused by pedestrian/bicyclist illegally on the path of the ROW for use by vehicles only. The second highest cause of accidents is failure to yield the ROW or the pedestrian/bicyclist was drunk, as reflected in the following table.

The majority of accidents occurred within the Sumter City limits, while only 16% took place outside of City limits. (See Figure 6.1C) Nearly half of the City accidents occurred inside neighborhoods with

a high percentage of the population with no access to a vehicle and also had a high percentage of population living below the poverty level income. (See Figure 6.1D) Nearly all the accidents occurred at intersections. This phenomenon is quite alarming. Four major high accidents cluster areas can be identified (as shown in Figure 6.1D) where there are five or more accidents within ¼ mile radius. Apparently, the residents that live in these areas rely heavily on bicycling or walking as their primary means of transportation.

Based upon field observations, the Staff found several common characteristics of infrastructure in these high accidents locations:

- No bicycle or pedestrian sign posted to warn drivers
- Poor pavement conditions on roads with potholes and uneven surfaces
- Lack of mid-block crossing markings on S Washington St at Toumey Hospital for across street parking lot access and at Miller and Community Street in the neighborhood of YMCA
- High volume of light commercial vehicles in residential area without traffic calming devices installed
- Untrimmed plants blocking sight distance at stop sign at the corner (Fulton Street and Brand St)

Conveying the proper way to operate on roadways and paths is basic to any pedestrian and bicycle safety education campaign. The following “rules of the road” provide a good foundation.

- | | |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>For Pedestrians</p> | <ul style="list-style-type: none"> ▪ Always walk on the sidewalk if one is available. If there isn't a sidewalk, walk facing traffic so that you can see cars coming and drivers can see you. ▪ Cross streets at intersections or marked mid-block crossings. ▪ Be sure to look left, then right, and then left again before crossing a street even if you have the right-of-way (a marked crosswalk, walk signal or green light for traffic in the direction you are going). Continue to look left and right as you cross to be sure cars aren't coming. ▪ Dress in light clothing if you are walking at night — cars may not be able to see you if you are wearing dark clothes. ▪ Obey the Walk/Don't Walk signals at intersections. ▪ Hold a child's hand when he or she is crossing the street. ▪ Obey pedestrian signs at construction zones. |
| <p>For Bicyclists</p> | <ul style="list-style-type: none"> ▪ Always wear a properly fitting helmet. ▪ Be visible. If riding at night, use lights, reflectors, and bright clothing. ▪ Ride predictably and defensively. Use hand signals before turning. ▪ Follow the same laws that apply to motorists, obeying all traffic signals, signs, and lane markings. ▪ Always yield to pedestrians. ▪ Ride on the right side of the road with the flow of traffic, never against it. ▪ Avoid riding on sidewalks. If it is necessary to ride on a sidewalk, be aware of risks at intersections. |
| <p>For Motorists</p> | <ul style="list-style-type: none"> ▪ Obey speed limits. Higher speeds result in greater injuries to cyclists and pedestrians. ▪ Obey signs, signals, and markings. Never run red lights. ▪ Yield to cyclists. Always look for bicyclists when turning. ▪ Pass cyclists with care. Slow down and provide enough space when passing. ▪ Do not honk your horn close to cyclists. ▪ Look for cyclists when opening car doors. ▪ Watch for children. ▪ Watch for bicyclists riding at night. |

Bicycle & Sidewalk Recommendations

Based upon the findings listed above, SUATS staff made the following recommendations for implementation:

- Provide mid-block crossing for high pedestrians volume such as at Toumey Hospital at Washington Street and
- Redesign signal lights phasing for exclusive pedestrian crossing signal phase
- Pave and designate bicycle lane along W. Liberty Street, Manning Avenue, S. Washington Street and Boulevard Road.
- Construct speed humps on the commercial areas abutting residential areas with high traffic volume of pedestrians and bicyclists
- Enforce speed limit on light traffic volume low income residential streets with high volume of pedestrians and bicyclists
- Provide fixed bus route services to low income residential areas as recommended in Chapter 7 (Transit Element).
- Police enforcement not only of drunken drivers but also cyclists and even pedestrians
- Educate cyclists to wear visible clothing when riding bicycles
- Install a skywalk pedestrian crosswalk over US 76/378 at Miller Road



In addition to the actions recommended above for improvements, infrastructure improvements for pedestrians and bicyclists are listed in the priority projects. The ranking criteria for the proposed improvements projects are the number of accidents that occurred in the neighborhood, the geographic amenities such as schools and parks, and the connectivity of existing infrastructures.

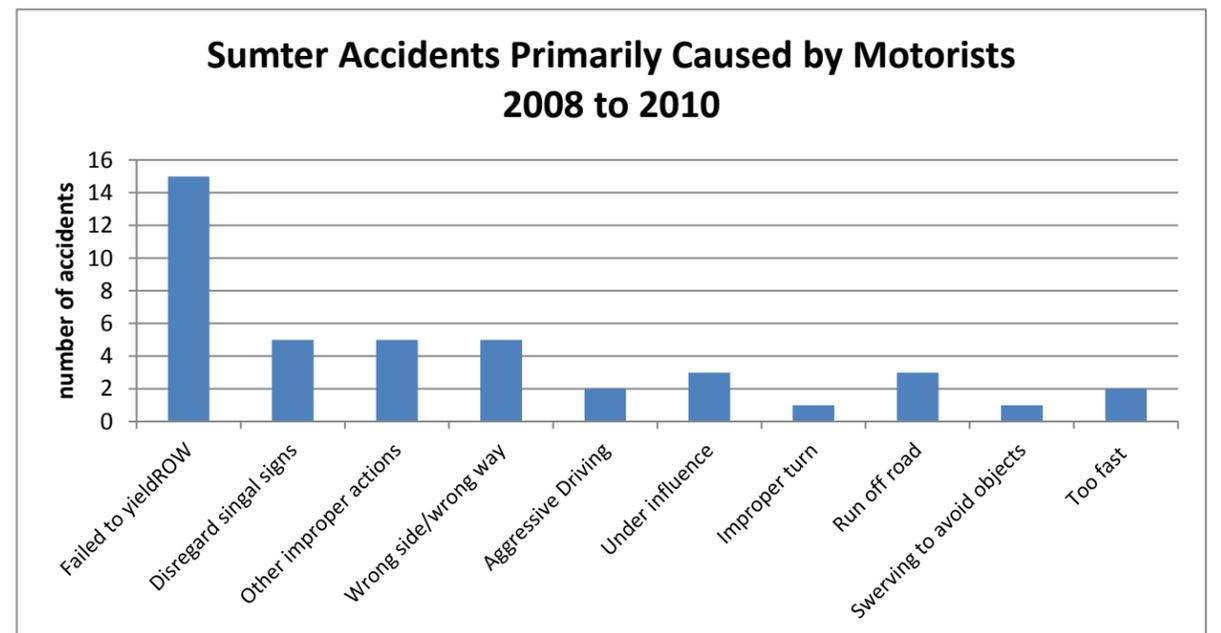
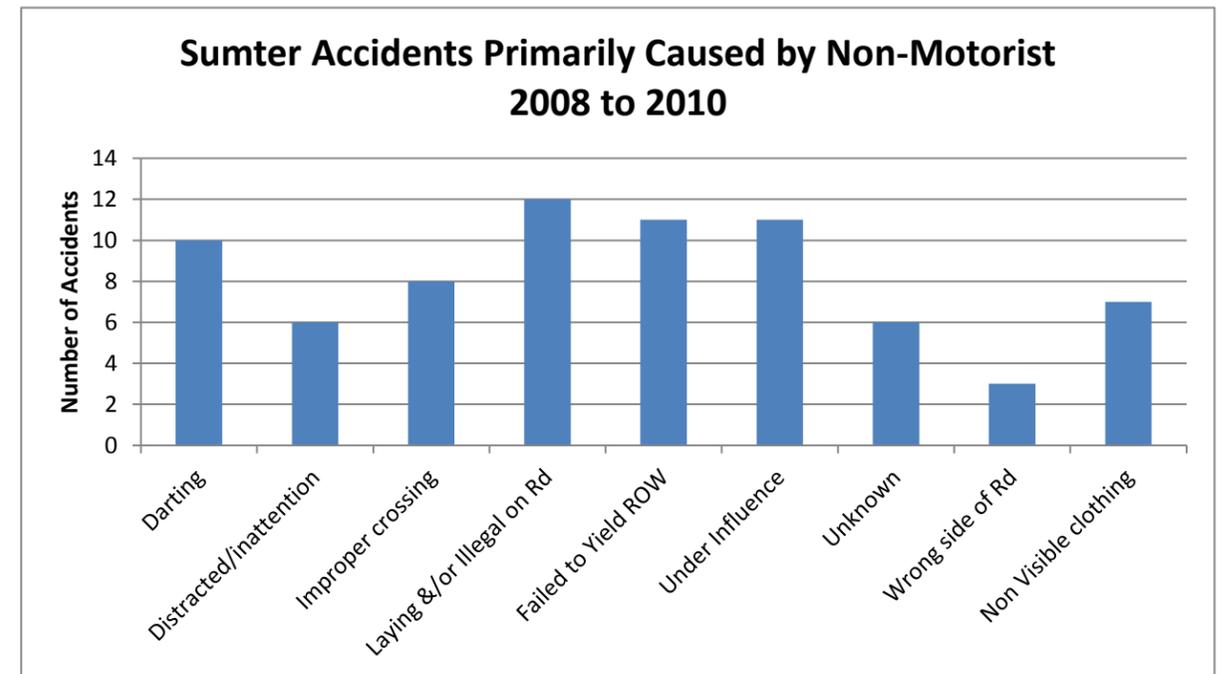
Bicyclist

Proposed Bicycle Facilities Improvements Priority List: Figure & Table 6.5A

Pedestrian

Proposed Sidewalk Construction Priority List: Figure & Table 6.5B

Proposed Intersection & Midblock Pedestrian Improvements List: Figure & Table 6.5C



Proposed Bicycle Facilities

Legend

-  Proposed Bicycle Lane
-  Proposed Wide Outside Lane
-  Proposed Paved Shoulder
-  Proposed Signed Route
-  Proposed Trail
-  Proposed Sidewalk
-  Existing Trail
-  Existing Sidewalk
-  Existing Bicycle Lane
-  SUATS 2010 Study Area Boundary
-  County Boundary
-  City Limits
-  Road
-  Railroad

December 13, 2012

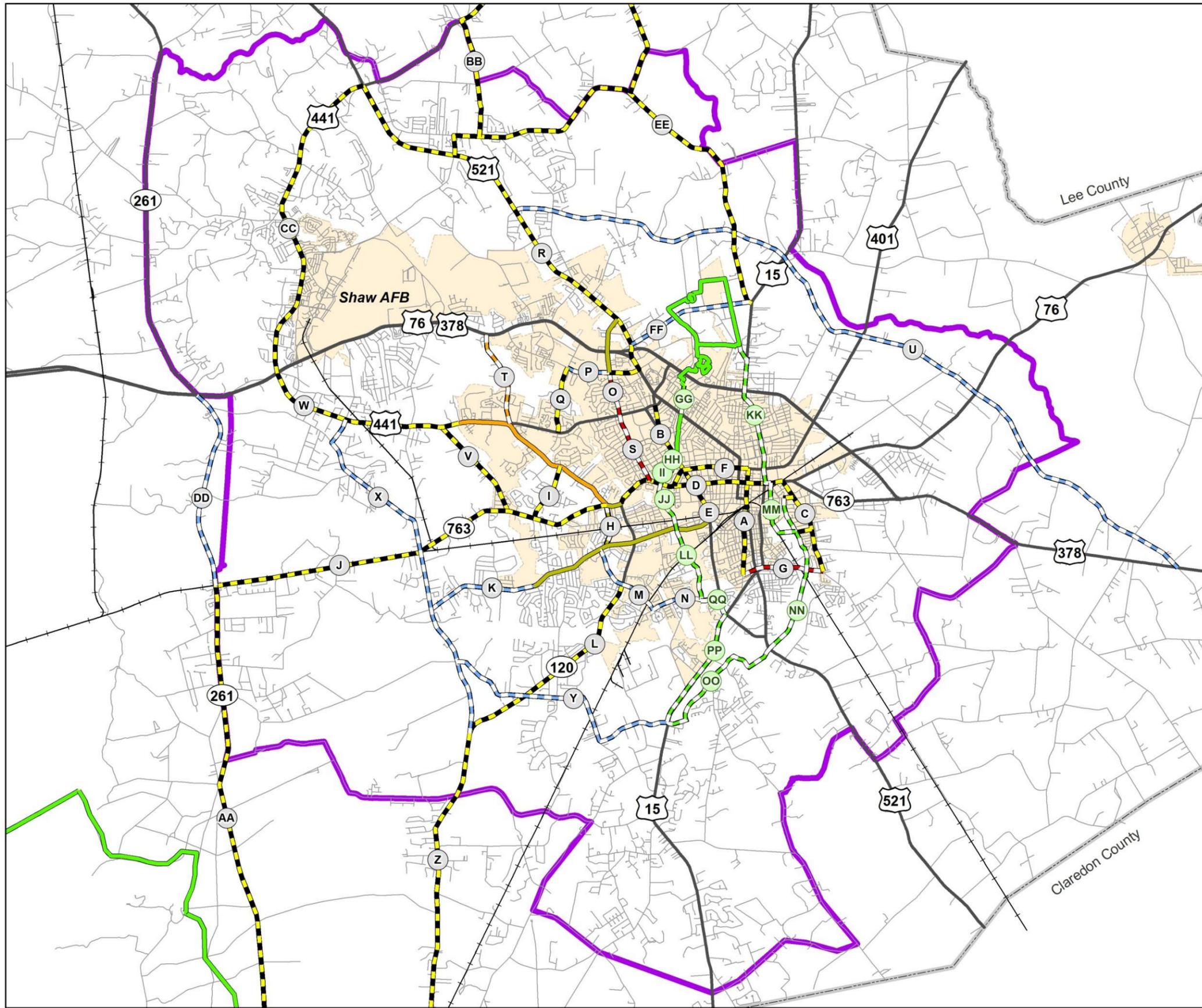




Table 6.5A - Proposed Bicycle Facilities Improvement List

Location ID	Type of Improvement	Length (miles)	Location	Termini	Purpose / Needs	Priority
A	Signed Route	2.07	South Main St	W CALHOUN ST to W RED BAY RD	Provide safe route for commuter and recreational bicyclists	1
B	Signed Route	1.37	N Guignard Dr / Bultman Dr	WISE DR to W CALHOUN ST	Provide safe route to school and parks for students, and recreational and commuter bicyclists	1
C	Signed Route	2.45	Boulevard Rd, Timmons Rd, Hauser St	E LIBERTY ST to E RED BAY RD	Provide safe route to school and parks for students, and recreational and commuter bicyclists	1
D	Signed Route	3.30	Liberty St	PINEWOOD RD to BOULEVARD RD	Provide safe access for commuter and recreational bicyclists	1
E	Signed Route	1.09	Guignard Dr	W CALHOUN RD to MCCRAYS MILL RD	Provide safe access for commuter and recreational bicyclists	1
F	Signed Route	1.60	W Calhoun St	W LIBERTY ST to N MAIN ST	Provide safe access for commuter bicyclists to downtown employment centers	1
G	Wide Outside Lane	1.57	Red Bay Rd	S MAIN ST to BOULEVARD RD	Provide commuter connection between Hwy Route 15 and Boulevard Rd for bicyclists	2
H	Bike Lane	0.80	Lynam Rd	WEDGEFIELD RD to MCCRAYS MILL RD	Provide safe access for students and recreational bicyclists	2
I	Signed Route	1.13	Keels Rd	WEDGEFIELD RD to LORING MILL RD	Provide safe access for commuter and recreational bicyclists	2
J	Signed Route	7.85	Wedgefield Rd	HWY 261 S to LORING MILL RD	Provide safe access for commuter and recreational bicyclists	2
K	Paved Shoulder	2.11	McCrays Mill Rd	ST PAULS CHURCH RD to MEADOWCROFT DR	Provide safe access for commuter and recreational bicyclists	2
L	Signed Route	4.22	Pinewood Rd	STADIUM RD to S ST PAULS CHURCH DR	Provide safe access for commuter and recreational bicyclists	2
M	Paved Shoulder	1.60	Stadium Rd	MCCRAYS MILL RD to KINGSBURY RD	Provide safe access for students, and commuter and recreational bicyclists	2
N	Paved Shoulder	1.35	Kingsbury Rd	STADIUM RD to DECATUR ST	Provide safe access for students, and commuter and recreational bicyclists	2
O	Wide Outside Lane	0.84	Alice Dr	W WESMARK BLVD to WISE DR	Provide supplemental access to roadway widening project	2
P	Paved Shoulder	0.82	W Wesmark Blvd	WILSON HALL RD to ALICE DR	Provide alternate transportation mode connection between commercial and residential areas	2
Q	Signed Route	1.27	Wilson Hall Rd	W WESMARK BLVD to WISE DR	Provide safe access for student bicyclists	2
R	Signed Route	8.55	Thomas Sumter Hwy	PEACH ORCHARD RD to ALICE DR	Provide safe access for commuter and recreational bicyclists	2
S	Wide Outside Lane	1.37	Alice Dr	WISE DR to LIBERTY ST	Provide safe access for students, and commuter and recreational bicyclists	2
T	Sidepath	1.81	Loring Mill Rd	WISE DR to BROAD ST	Provide safe route for commuter and recreational bicyclists	2
U	Paved Shoulder	15.44	Brewington Rd	THOMAS SUMTER HWY to MYRTLE BEACH HWY	Provide safe access for commuter and recreational bicyclists	3
V	Signed Route	2.05	Deschamps Rd	PATRIOT PKWY to WEDGEFIELD RD	Provide safe access for commuter and recreational bicyclists	3
W	Signed Route	3.85	Patriot Pkwy	BROAD ST to LISBON DR	Provide safe access for commuter and recreational bicyclists	3
X	Paved Shoulder	7.01	Cane Savannah Rd / St Pauls Church Rd	PATRIOT PKWY to PINEWOOD RD	Provide safe access for students, and commuter and recreational bicyclists	3
Y	Paved Shoulder	4.97	Cains Mill Rd	S ST PAULS CHURCH RD to HWY 15 S	Provide safe access for commuter and recreational bicyclists	3
Z	Signed Route	8.20	Pinewood Rd	S ST PAULS CHURCH RD to HWY 261 S	Provide safe access bicyclists connection for commuter and recreational bicyclists between the Town of Pinewood and Downtown Sumter	3
AA	Signed Route	12.18	Hwy 261 S	WEDGEFIELD RD to PINEWOOD RD	Provide safe access for commuter and recreational bicyclists	3
BB	Signed Route	8.54	Black River Rd Peach Orchard Rd Cotton Acres Rd	CAMDEN HWY to QUEEN CHAPEL RD	Provide safe access for commuter and recreational bicyclists	3
CC	Signed Route	6.34	Peach Orchard Rd	BROAD ST to THOMAS SUMTER HWY	Provide safe access for students, and recreational and commuter bicyclists	3
DD	Paved Shoulder	3.89	Hwy 261 S	BROAD ST to WEDGEFIELD RD	Provide safe access for commuter and recreational bicyclists	3
EE	Signed Route	9.20	Queens Chapel Rd	THOMAS SUMTER HWY to JEFFERSON RD	Provide safe access for commuter and recreational bicyclists	3
FF	Paved Shoulder	2.44	Jefferson Rd	CAMDEN HWY to QUEEN CHAPEL RD	Provide safe access for commuter and recreational bicyclists	3

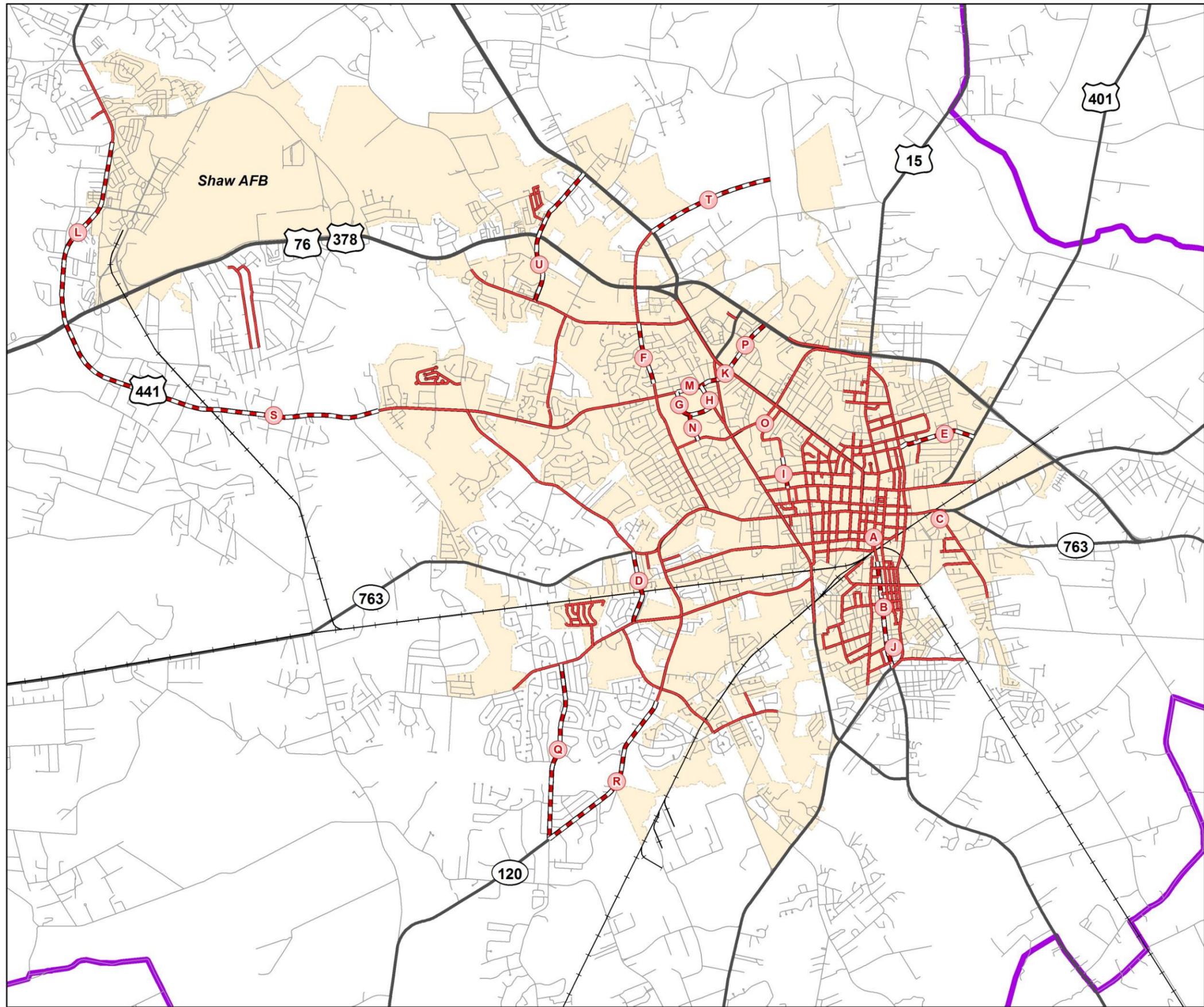
Proposed Trail Improvement List

Location ID	Type of Improvement	Length (miles)	Location	Termini	Purpose / Needs	Priority
GG	Paved Trail	0.55	North Shot Pouch Creek	BROAD ST to HILLIARD DR	Provide recreational opportunities and connect Dillon Park and existing Cypress Trail with existing Shot Pouch Creek Trail	1
HH	Paved Trail	0.19	South Shot Pouch Creek	N GUIGNARD DR to HAYNSWORTH ST	Provide recreational opportunities and connect existing YMCA Trail with proposed North Swan Lake Trail	1
II	Paved Trail	0.53	North Swan Lake	HAYNSWORTH ST to W LIBERTY ST	Provide recreational opportunities and connect proposed South Shot Pouch Creek Trail with proposed South Swan Lake Trail	1
JJ	Paved Trail	0.72	South Swan lake	W LIBERTY ST to W OAKLAND AVE	Provide recreational opportunities and connect proposed North Swan Lake Trail with proposed Green Swamp Trail	1
KK	Paved Trail	2.87	Lafayette Dr & N Main St	JAMES ST to E LIBERTY ST	Provide recreational opportunities and connect existing Cypress Trail with proposed Industrial Blvd Trail	2
LL	Mixed Surface Trail	1.99	Green Swamp	W OAKLAND AVE to KINGSBURY DR	Provide recreational opportunities and connect proposed South Swan Lake Trail with proposed Kingsbury Rd Trail	2
MM	Paved Trail	1.31	Industrial Blvd	E LIBERTY ST to TIMMONS ST	Provide recreational opportunities and connect proposed Lafayette Dr Trail with proposed Turkey Creek Trail	2
NN	Mixed surface Trail	3.17	Turkey Creek	HAUSER ST to HWY 521 SOUTH	Provide recreational opportunities and connect proposed Industrial Blvd Trail with proposed Pocalla Creek Trail	3
OO	Mixed Surface Trail	2.88	Pocalla Creek	HWY 521 SOUTH to HWY 15 SOUTH	Provide recreational opportunities and connect proposed Turkey Creek Trail with proposed Hwy 15 South Trail	3
PP	Mixed Surface Trail	2.36	Hwy 15 South	CLIPPER RD to S GUIGNARD PKWY	Provide recreational opportunities and connect proposed pocalla Creek Trail with proposed Kingsbury Rd Trail	3
QQ	Mixed Surface Trail	0.71	Kingsbury Rd & Guignard Dr	POCALLA RD to KINGSBURY DR	Provide recreational opportunities and connect proposed Hwy 15 South Trail with proposed Green Swamp Trail	3

Proposed Sidewalk Construction

Legend

-  Existing Sidewalk
-  Proposed Sidewalk
-  SUATS 2010 Study Area Boundary
-  County Boundary
-  City Limits
-  Road
-  Railroad



February 26, 2013

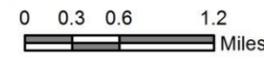




Table 6.5B - Proposed Sidewalk Improvement List

Location ID	Length (miles)	Location	Termini	Purpose / Needs	Priority
A	0.09	S MAIN ST	BARTLETTE ST to OAKLAND AVE	Phase 1 of project B (Manning Ave Southgate Project)	1
B	1.18	MANNING AVE	WATKINS ST to POCALLA RD/S LAFAYETTE DR	Provide sidewalk connectivity to Southgate project	1
C	0.13	BOULEVARD RD	E LIBERTY ST to CENTER ST	Connect existing sidewalks along Boulevard Rd and E Liberty St to provide access to downtown	1
D	0.80	LYMAN RD	WEDGEFIELD RD to MCCRAYS MILL RD	Link residential neighborhoods and existing sidewalk at Loring Mill Rd with Sumter High School on McCrays Mill Rd	1
E	0.85	E CHARLOTTE AVE	N LAFAYETTE DR to OSWEGO HWY	Link residential neighborhoods to Crosswell Elementary School & Crosswell Dr Park	1
F	0.68	ALICE DR	W WESMARK to THOMAS DR	Connect existing sidewalks along Alice Dr	2
G	0.59	THEATRE DR	WISE DR to GUIGNARD DR	Connect Sumter Tennis Center, CCTC, USC Sumter, and Alice Dr Elementary and Middle schools	2
H	0.26	N GUIGNARD DR	WISE DR to THEATRE DR	Sidewalk to connect residential areas and proposed sidewalks (K) & (E) with Sumter Tennis Center, CCTC, USC Sumter, and Alice Dr Elementary and Middle schools	2
I	0.34	WINN ST	MASONCROFT DR to W CALHOUN ST	Connect existing sidewalks from Downtown / Historic District to Willow Dr Elementary and YMCA	2
J	0.17	E NEWBERRY AVE	MANNING AVE to S LAFAYETTE DR	Addition to South Gateway Improvement Project to connect residential areas with Wilder Elementary & Bates Middle School	2
K	0.18	WISE DR	BROAD ST to BULTMAN DR	Connect Broad St with proposed sidewalks (K), (F), (E) & (L) that would service the Sumter Tennis Center, Alice Dr schools, and CCTC and USC Sumter	2
L	2.17	PEACH ORCHARD RD	EDGEHILL RD to BROAD ST	Connect Residential to Retail: Supermarket, Restaraunt, and Oakland Elementary School	3
M	0.47	WISE DR	THEATRE DR to BULTMAN DR	Sidewalk to connect residential areas with Sumter Tennis Center, CCTC, USC Sumter, and Alice Dr Elementary and Middle schools	3
N	0.30	UNIVERSITY DR	THEATRE DR to MILLER RD	Connect the Sumter Tennis Center, CCTC, USC Sumter, and Alice Dr Elementary and Middle schools	3
O	0.09	BYNUM ST	MILLER RD to WILLOW DR	Connect existing sidewalk on Miller Rd and Willow Dr at YMCA and Willow Dr Elementary	3
P	0.63	N WISE DR	S PIKE W to BROAD ST	Connect proposed sidewalk (I) on Wise Dr to Dillon Park & Cypress Trail	3
Q	1.96	KOLB RD	MCCRAYS MILL RD to PINEWOOD RD	Connect residential neighborhoods to Sumter High School and Carreer Center	3
R	2.00	PINEWOOD RD	SHALLOWFORD RD to KOLB RD	Connect residential neighborhoods to Sumter High School and Carreer Center	3
S	3.84	PATRIOT PKWY	LISBON DR to BROAD ST	Supplement to Patriot Park biking and walking facilities	3
T	1.44	ALICE DR	US-521 to WISE DR	Extend the Alice Dr sidewalk along the proposed extension to Wise Dr	3
U	1.61	TERRY RD / MASON RD	CARTER RD to US-521	Add sidewalks to the proposed road realignment of Terry Rd and Mason Rd.	3

Proposed Pedestrian Improvements

Legend

Proposed Pedestrian Improvements

-  Midblock
-  Intersection

Sumter Trails

-  Existing
-  Proposed

-  Pedestrian / Bicycle Related Accident (2008, 2009, 2010)
SC Department of Public Safety

-  Share the Road Sign

-  City Limits

-  Road

-  Railroad

December 13, 2012

0 0.15 0.3 0.6 Miles

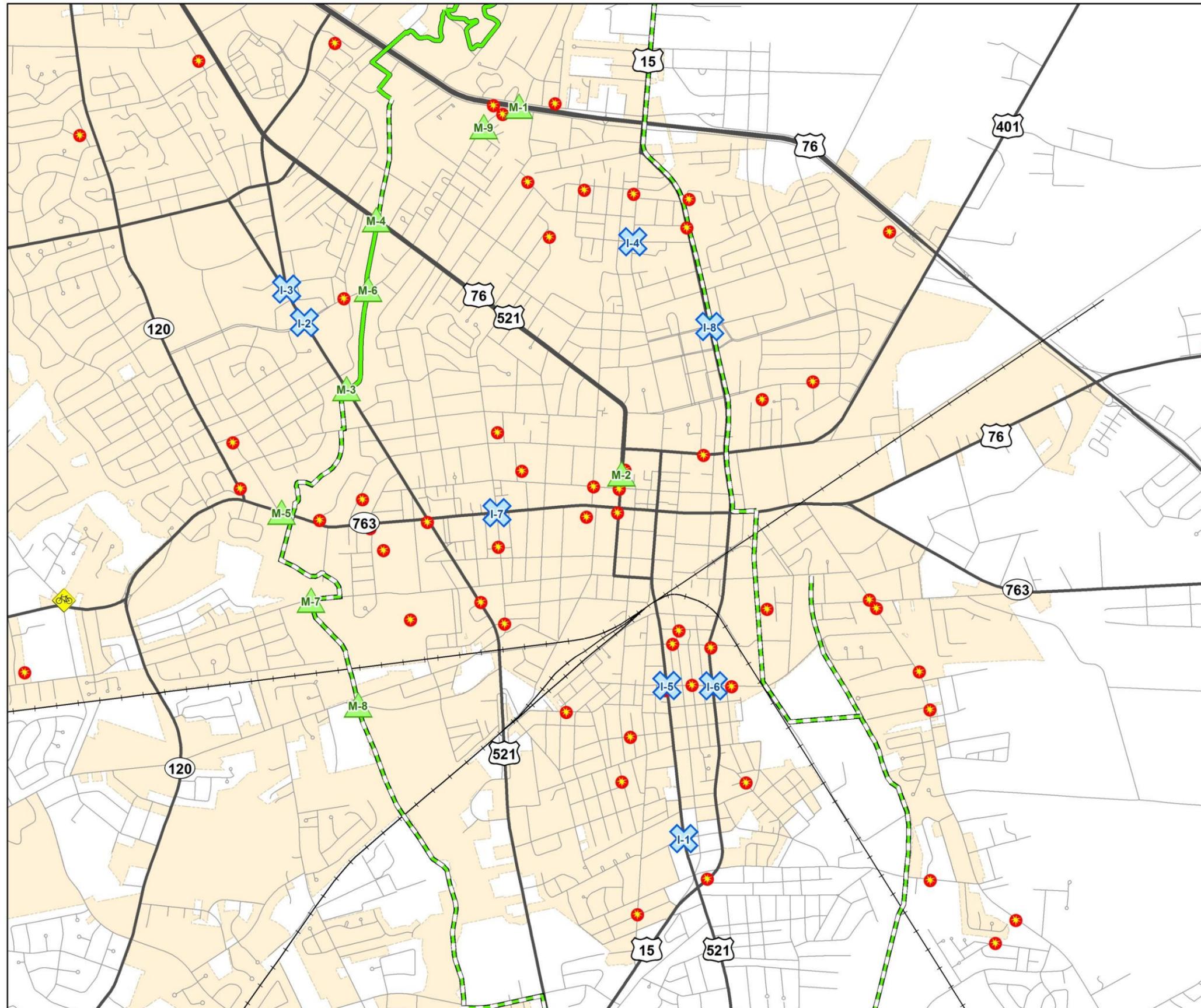


Table 6.5C - Proposed Intersection Improvement List

Location ID	Type of Improvement	Intersection Location	Purpose / Needs	Priority
I-1	Crosswalk Refuge	MANNING AVE & NEWBERRY AVE	Provide safe crosswalk access to Elementary & Middle schools from residential neighborhoods	1
I-2	Crosswalk on All Four Corners	N GUIGNARD DR & MILLER RD	Crosswalk markings to increase driver alertness and indicate pedestrian presence at intersection	1
I-3	Relocate Pedestrian Crosswalk Warning Signs N & S	N GUIGNARD DR & BULTMAN DR	Relocation of pedestrian crosswalk warning signs will provide better advance warning for drivers	1
I-4	Crosswalk on All Four Corners	N MAIN ST & COLLEGE ST	Provide safe access on all four corners of intersection with crosswalk markings	2
I-5	Crosswalk on all four corners	MANNING AVE & FULTON ST	Provide safe access on all four corners of intersection with crosswalk markings	2
I-6	Crosswalk Maintenance Upkeep	S LAFAYETTE DR & FULTON ST	Repaint crosswalk markings for better visibility of pedestrian area	2
I-7	Crosswalk Maintenance Upkeep	W LIBERTY ST & PURDY ST	Repaint crosswalk markings for better visibility of pedestrian area	2
I-8	Crosswalk Maintenance Upkeep	N LAFAYETTE DR & CROSSWELL DR	Repaint crosswalk markings for better visibility of pedestrian area	3

Proposed Midblock Improvement List

Location ID	Type of Improvement	Location	Purpose / Needs	Priority
M-1	Miller Road & US 76/378 Pedestrian Skywalk	Across US-76/378 at Tupelo Ln and Carolina Ave	Provide safe access for pedestrian and bicycles over US-76/378 between the N and S Pike & reduce pedestrian fatality accidents	1
M-2	Midblock crosswalk with marked pavement	between W Calhoun St and W Liberty St	Provide safe access between Toumey unpaved employee parking lot and Toumey Hospital grounds	1
M-3	Midblock crosswalk with marked pavement	between Community St and Palmer Dr	Provide connectivity safety between existing YMCA Trail and proposed N Swan Lake trail	1
M-4	Midblock crosswalk with marked pavement & refuge	between Community St and Newman St	Provide safe access between Shot Pouch Creek and Proposed South Dillon Park Trail	2
M-5	Midblock crosswalk with marked pavement	between Bland Ave and Swan Lake Dr	Supplement skywalk access and provide safe road level access between North and South Swan Lake park	2
M-6	Improved crosswalk with refuge	between Bynam St and Community St	Improve pedestrian safety conditions between Shot Pouch Creek trail and the YMCA trail	3
M-7	Midblock crosswalk with marked pavement	between Briarwood Dr and Marigold St	Provide safe access between the proposed South Swan Lake trail and the proposed Fire Training Grounds trail	3
M-8	Midblock crosswalk with marked pavement & refuge	between National St and Black St	Provide safe access between the proposed Fire Training Grounds trail and the proposed trail between McCrays Mill Rd and Kingsbury Dr	3
M-9	Midblock crosswalk with marked pavement	between S Pike W and Adrena Dr	Provide safe access between residential area and commercial properties	3



Introduction

For some residents in Sumter, taking transit is a necessity rather than a choice. Residents without access to private automobiles depend on transit for access to jobs, medical care, services, and many other aspects of daily life. As the region grows and development patterns shift, convenient and reliable transit service becomes more important, and in some ways, more difficult. This Transit Element identifies local issues related to transit as well as strategies aimed to enhance access and mobility for all residents of the region, particularly the one-third who cannot drive—children and the elderly, persons with disabilities, and those who cannot afford a car.

One of the goals of the *SUATS Long-Range Transportation Plan* is to provide viable transportation alternatives to decrease dependence on the automobile, in turn decreasing the demand on the existing transportation system. One way to encourage transit use is to develop around each stop a safe, comfortable customer delivery system complete with attractive and convenient amenities. And because most regular transit users walk or bike to and from the stop, a network of sidewalks, safe street crossings, and lighting should complement the amenities provided at the stop.

The efficiency of transit also depends on an interconnected system of roads and highways suitable for bus traffic and bicycle and pedestrian features that provide access to transit stops. Transit cannot be considered in isolation, and the strategies presented in this chapter support improvements to the larger transportation system.

Transit and Urban Form

Based on community discussions, many people agree that they would use transit if service was fast, frequent, dependable, and easy to use. While such criteria requires a complete system of roads, sidewalks, and bikeways, transit also must provide connections to the places people need to go at a time when they need to get there. As a result, transit must be introduced or expanded within a framework of transit-supportive urban form. Two development types that maximize potential transit ridership include transit-oriented development and transit-ready development.

Transit-oriented developments (TODs) provide a mixture of residential and commercial uses focused around a transit station or bus stop. The transit stop is surrounded by relatively high density development that spreads out as you move away from the center. The scale of a TOD generally is limited to ¼- to ½-mile in diameter to establish the walkability of the neighborhood. The design of such places maximizes access to transit and support walking and biking between destinations.

In locations that lack existing transit facilities or demand to support a TOD, regulations and guidelines that support transit-ready development should be enforced. Transit-ready development describes the coordinated design of new neighborhoods and activity centers that supports future transit expansion. Like TODs, transit-ready developments include a mixture of land uses, pedestrian-friendly design, appropriate locations and/or routes for transit, an interconnected network of internal streets, and appropriate densities supportive of future transit use.

While transit-oriented and transit-ready developments represent ideal urban form for transit destinations, many existing single-use locations in Sumter are viable long-term facilities. The mall, grocery stores, and business parks are just a few examples of vital destinations for many Sumter residents, and while their urban design may not be ideal for transit, they are locations where access to public transportation continues to be an important priority.

The population in the region is projected to grow substantially to 131,041 in 2040, from 107,456 (2010). As population increases, the demand for public transportation will also increase. This chapter reviews the current transportation services and recommends improvements of such to meet the projected increasing demand.

History of Transit in Sumter

The transportation options available to Sumter residents are constantly evolving. The National Interstate and Highway Defense Act of 1956 brought increased access to the area, and as a result, the region is now encircled by three Interstate Highways: I-95, I-20, and I-26. In 1973, the state legislature passed a series of laws (South Carolina Code of Laws Section 58-225-30) in response to a need for public transportation throughout South Carolina. The effects of

those laws in Sumter became evident in 1978, when the Santee Wateree Regional Transportation Authority (SWRTA) was created following the closure of the Sumter Bus Company. The new transportation authority served seven counties of the Santee Lynches region including Sumter, Clarendon, Kershaw, Lee, Calhoun, Lower Richland (Eastover/Hopkins), and Orangeburg.

Since then, SWRTA has expanded the type and geographic reach of its services. Today, the footprint of SWRTA covers more than 5,000 square miles in seven counties with a variety of services such as paratransit, commuter, and fixed-route services. As a result, SWRTA is the second largest small urban and rural public transportation system in South Carolina.

Existing Transit Services

Public transportation services are provided by the Santee Wateree Regional Transportation Authority. SWRTA provides fixed-route service in the City of Sumter and commuter and paratransit (dial-a-ride) services in the surrounding region. In addition to SWRTA, several private transportation and taxicab companies provide local transportation services, and Southeastern Stages (Greyhound) provides intercity bus service. In addition to these existing services, several groups actively advocate for the mobility needs of the general public throughout the region. The Regional Transit Council, which formed in 2004, includes members from public and private transportation providers, human service agencies, faith-based and community organizations, and advocates. The Council seeks to enhance the freedom of mobility by promoting transit services, assisting with transit planning, and pursuing funds for improved services.

Santee Wateree Regional Transportation Authority

The Santee Wateree Regional Transportation Authority (SWRTA) offers fixed route and ADA service in the City of Sumter.

Fixed Route Service

In May 2012, SWRTA launched new fixed bus route schedules with one hour and two hour headways on its bus routes of the following except Route 8 (Vocational Rehab on North Main):

- Route 1 (West Liberty) – 1-hour headway
- Route 5 (South Main) – 1-hour headway
- Route 9 (Broad Street) – 1-hour headway
- Route 4 (North Main) – 2-hour headway
- Route 6 (East Liberty) – 2-hour headway
- Route 7 (Shaw Shuttle) – 2-hour headway

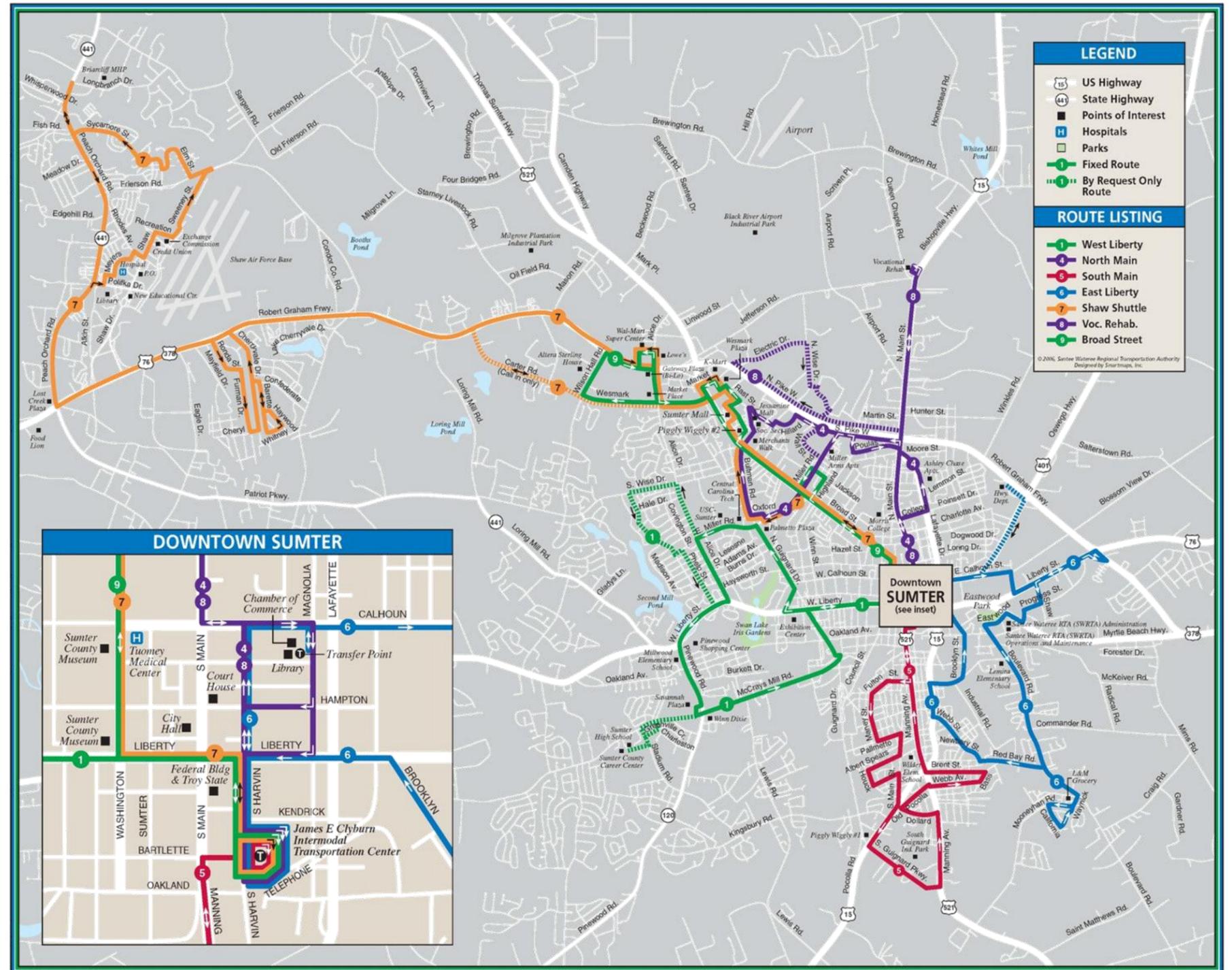
The seven fixed route services in the City of Sumter consist of a “hub and spoke” layout with seven routes (or spokes) originating from a hub located at the transfer point on North Magnolia Street between Calhoun Street and Hampton Avenue. The hub and spoke layout of the SWRTA fixed-route system emphasizes trips originating from or destined to the downtown area. Table 7.1 below lists each route with operating hours and frequency. The routes are shown in Figure 7.1.

Table 7.1 - Fixed Route Operations in Sumter

Route	Name	Operating Hours		Total Operation Hours
		Earliest	Latest	
1	West Liberty	7:30am	5:40pm	2.5 hrs
4	North Main	7:10am	5:10pm	3.6 hrs
5	South Main	7:00am	5:10pm	2.5 hrs
6	East Liberty	7:10am	5:10pm	3.9 hrs
7	Shaw Shuttle	6:10am	3:10pm	3.0 hrs
8	Vocational Rehab	8:10am	3:30pm	1.2 hrs
9	Broad Street	7:10am	5:10pm	8.6 hrs

Source: Santee Wateree Regional Transportation Authority

Figure 7.1 – Existing SWRTA Routes



Paratransit (Dial-A-Ride) Service

For residents who meet certain requirements, paratransit service operates in the urban and rural areas of the county. The demand response, or dial-a-ride, service is provided on a contracted rate basis for Medicaid, Department of Social Services, SC Vocational Rehabilitation, Workforce Investment program under the Santee-Lynches Regional Council of Governments, and others. The service also provides county residents the opportunity to ride any county route on a space available basis as a cash client. ADA passengers living within 3/4-mile of fixed bus routes can use the service for \$2.00 each way. Non-fixed bus route passenger within a 10-mile radius may ride for \$3.00; \$6.00 from 11-20 miles; \$9.00 from 21 to 30 miles. Most paratransit vans are ADA accessible.

Carpool and Vanpool Services

Commuters to Myrtle Beach and from Eastover to Columbia (Lower Richland) can take advantage of the authority's commuter service. SWRTA also organizes several vanpool services to link residents of Sumter with employment centers in Columbia and Camden.

Often carpool and vanpool involvement fails to reach its potential because potential participants are unable to find persons with similar commuting needs. A recent addition to www.SWRTA.com helps overcome this barrier by providing a web-based interface designed to match commuters with similar travel patterns.

Other Public Transportation Providers

General discussions of public transportation traditionally center on the services similar to those provided by SWRTA, namely fixed-route and paratransit. These transit services are important components of the larger public transportation network that also includes taxis and intercity bus travel.

Taxis

Several taxicab companies operate within the city limits of Sumter, including City Service Cab Company, Liberty Street Taxi, Northside Cab Service, Southside Cab Service, and Yellow Cab Company. These companies provide service based on drop-off, per-mile, and waiting time rates. The number of taxicabs in Sumter has no direct

correlation to the level of anticipated ridership for transit. However, the presence of the companies does indicate a need within the Sumter population for a means of travel other than privately owned automobiles.

Greyhound Service

From its terminal at 129 S. Harvin Street in Sumter, Greyhound provides service to and from thousands of locations throughout North America, including 20 cities in South Carolina. Fares vary based on the trip's distance and departure date. Table 7.2 shows sample fares for Saturday travel to cities across the United States.

In addition to the reduced price of advanced purchases, Greyhound offers a variety of discounts for military personnel and companion travel. Schedules for Greyhound service vary by day and time. Station and ticketing hours are Monday to Saturday 10:30 AM to 4 PM and 7 PM to 9 PM. More information is available at www.greyhound.com.

Table 7.2 – Sample Greyhound Fares

City	Distance from Sumter	Regular Fare	7-Day Advance Purchase Fare
Greenville, SC	153 miles	\$41	\$38
Washington DC	442 miles	\$95	\$49
Orlando	422 miles	\$127	\$92
New York City	671 miles	\$175	\$75
Memphis	648 miles	\$162	\$144
Chicago	849 miles	\$173	\$153
Dallas	1,041 miles	\$198	\$173
Los Angeles	2,430 miles	\$256	\$213
Portland	2,839 miles	\$275	\$233

Regional Public Transportation

In addition to the services offered by public transportation providers in Sumter, many residents choose to drive to larger cities nearby to take advantage of their public transportation options. In particular, Sumter citizens travel to Columbia for air service and Camden for Amtrak service.

Public Involvement

The public expressed their thoughts regarding transit within the Sumter region via a series of public input opportunities including a public questionnaire, public workshop, and during a stakeholder interview with transit administrators.

Public Questionnaire

The public questionnaire was distributed as part of the *SUATS Long-Range Transportation Plan*. When asked to rate bus service in the region, a majority of the respondents expressed no opinion. Of those respondents with opinions, the majority believed the services offered have worsened or stayed the same over the last two years. Only 10% of the respondents believed services have improved over the same period (Figure 7.2).

Respondents to the questionnaire did not indicate a high level of transit ridership. However, questionnaire results did specify what activities would increase transit ridership. More than ten percent indicated they would be very likely to use transit if it provided more bus routes. This information is consistent with comments received during other outreach activities. In total, the public comments confirm a low opinion held by the general public when considering public transit. Other ways to improve ridership include better route information, more transit routes with more frequent service, and clean buses and facilities. Vanpools were not identified as a way to increase transit use (90% noted that such improvements would not likely increase their use of transit). Additionally, most respondents indicated their commutes as being only 1-5 miles (40%) or 5-10 miles (31%).

Another question on the survey asked respondents to divide \$100 among several transportation priorities. When dividing limited funds among transportation initiatives such as traffic calming, roadway improvements, access management, and sidewalks, an average of only \$7.00 was dedicated to public transportation. This amount was the lowest all categories listed (Figure 7.3).

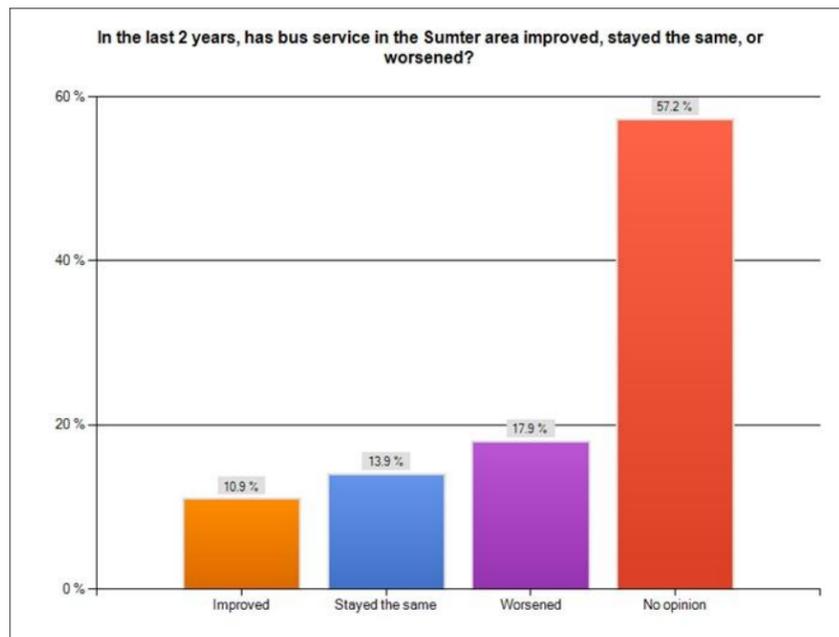


Figure 7.2 – Bus Service (LRTP Update Survey, 2012)

On-Board Survey

In the summer of 2010, Santee Lynches Council of Governments (SLCOG) assisted the Santee Wateree Regional Transportation Agency (SWRTA) to conduct a passenger survey on the grading of SWRTA services in Sumter. (See Santee Wateree Regional Transportation Authority Public Transportation Study, September 2010 prepared by SLCOG) The survey forms were distributed to passengers on buses and were collected before passengers got off. A total of 207 individuals responded to the survey. The survey questionnaire was composed of nine questions and printed in both English and Spanish. The number 1 question on the survey was “What grade would you give the Public Transportation services in

Sumter?” A letter grade A to F was given for passengers to rate the RTA services. “A” is the best service and “F” is the failing performance. However, passengers were given the option to describe why a certain grade was given. Figure 7.4 reflects the survey results.

Following are the survey respondents/passengers reasons for giving a specific grade for SWRTA services:

- Grade A—Friendly drivers, safe, and very reliable, longer hours needed on Friday and need Saturday services
- Grade B—Times are always switching, need more friendly drivers, need weekend services and longer weekday services.
- Grade C—Cannot find the bus stops—they need to be marked, bus needs to be on time, buses should operate consistently.
- Grade D—Only been riding for two days and do not know where the bus stops are, and do not know when to catch the bus.
- Grade F—Failure in bus services performance

As Figure 7.4 reflects, less than half of the survey respondents were totally satisfied with bus service performance. Respondents expected RTA to provide longer service hours on Friday and Saturday service.

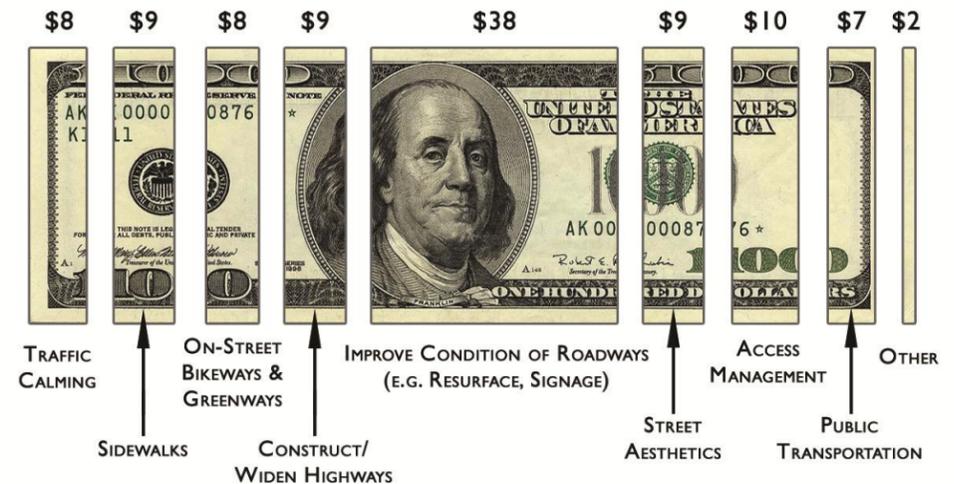


Figure 7.3 – How would you spend \$100 to improve transportation?

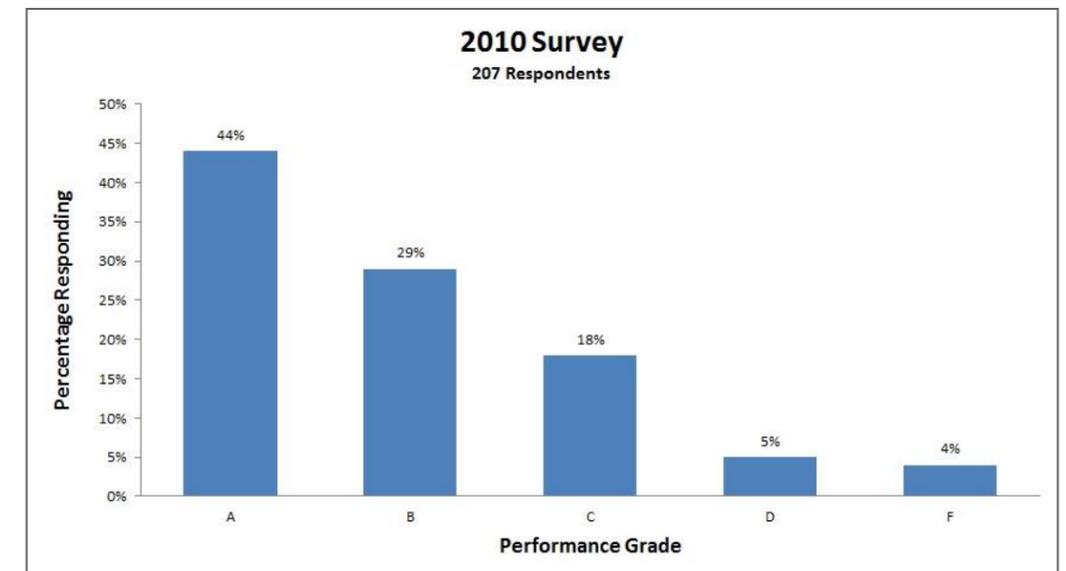


Figure 7.4 - What grade would you give the Public Transportation services in Sumter?



Financial Challenges SWRTA Faces

(This section is an insert of the 2012 report: [Executive Summary of Restructuring SWRTA Fixed Bus Routes Study in the City of Sumter, SC](#). The data referred to in this section may or may not necessarily reflect any data after March 2012)

Background

The Santee Wateree Regional Transportation Authority, commonly referred to as SWRTA, provides transit services in the Santee-Lynches region. The Santee-Lynches region covers the four counties of Clarendon, Kershaw, Lee, and Sumter. Additionally, SWRTA provides transit services for Lower Richland County, Calhoun, and Orangeburg Counties. It operates approximately 107 vehicles to provide public transit and contract services to these areas.

In the urbanized area of Sumter, SWRTA operates 18 vehicles to provide public transit fixed bus routes, commuter services, complimentary ADA paratransit services, “call in”— demand response services, and transit services for special events such as the Iris Festival and Shaw Fest. Approximately 114,000 annual passenger trips were provided in FY2010-FY2011. Additionally, approximately 40,000 annual passenger trips were provided under various human transportation service contracts and a brokerage contract to provide non-emergency medical transportation (NEMT) for the South Carolina Department of Health and Human Services.

Currently, seven (7) fixed bus routes runs within the City of Sumter and two (2) fixed bus routes run between Sumter and Myrtle Beach and between Sumter and Columbia, which serve commuters. The one-way fare for all fixed bus routes within the City is \$1 for each passenger, except the Shaw Air Force Base route which charges \$1.50 per passenger. Senior citizens (65 or above), handicapped, or Medicare cardholders pay half fare and children under six ride for free. Transfers between routes are free. The Myrtle Beach commuter service charges \$3.50 per person one-way and the Eastover-Columbia service charges \$2.50. However, starting in late 2010, free-fare Fridays were implemented for all City fixed bus routes so that passengers could ride for free within the City limits on Fridays.

In the early spring of 2011, SWRTA received a financial warning from the Santee Lynches Regional Development Corporation, subsidiary of SLCOG, after the Corporation analyzed SWRTA’s income and expenditure data.

Restructuring Fixed Bus Routes Study

In February 2012, the SWRTA requested the Planning Department of Sumter to assist in restructuring the City of Sumter fixed bus routes as a possible way to reduce operating costs. The staff, in cooperation with the staff of SLCOG, has conducted a preliminary study on all seven fixed bus routes. The findings and recommendations of this study are described below.

Study Methodology

The findings and recommendations of restructuring fixed bus routes are based upon extensive research of published data and field observations. After careful data analysis and discussions with the staff of SLCOG, the study’s focus centered on how to increase ridership on the fixed bus route services within the City of Sumter.

Published Data Collection Approach

The Staff collected and analyzed various variables of transit data from the following sources:

- Transit Data Report by SCDOT Fiscal Year 2010-2011
- Santee Wateree Regional Transportation Authority Public Transportation Study, Sept 2010, by SLCOG
- SWRTA Business and Route Analysis by Profit Centers (Proforma: “As Is” Case) 12/31/2011 (cover 6-month period) data submitted by SWRTA (calculations by SLCOG)
- SWRTA Small Urban Fixed Route Trips (2001-2011 Fiscal Years and Includes Trips Through 1/31/12) submitted by SWRTA

Field Survey Approach

The Staff observed and identified the locations of the following potential passenger trip generators along all seven fixed city bus routes:

- Public Housing residential area
- Apartment complex
- Public schools
- Super markets
- Commercial strips (banks, restaurants, retail stores)
- Hospitals and clinics
- Low income and high density residential area
- Major employment /industry
- Social Facility such as Iris Garden, Opera House, Hope Centers etc.

Objective of the Study

The objectives of restructuring the City fixed bus routes Study are to:

- Increase ridership
- Reduce costs
- Discover underserved areas
- Improve visibility and awareness of transit services
- Enhance connectivity of bus services

One of the approaches to increase the ridership in the City is to serve the areas where there are high probabilities of using transit services. For example, car ownership is relatively low in low income and public housing residential areas. School buses do not pick up students within one mile radius of where schools are located. Blue collar workers need transportation for commuting to work places. Physical able retirees need to do grocery shopping in the nearby super market.

Findings

Overall Transit System

In accordance with the SCDOT Transit Data Report, the Staff has compared the transit data of FY 2009- FY 2010 with the one in FY 2010- FY 2011 and found the FY 10- FY11 has decreased in revenue by \$121,661 and loss in the fare box recovery ratio by 7.2%. (See Table 7.3 below) However, the ridership (the number of passenger trips) has increased substantially by 16,076 for the free fare Friday implementation in late 2010.

Table 7.3 – 2009 to 2011 Transit Comparison				
Urban Service Area Only*				
	FY 2009-FY 2010	FY 2010-FY 2011		Difference
Fleet size	18	18		0
Annual Pass. Trips	137,650	153,726		16,076
Annual Revenue Miles	371,652	366,435		-5,217
Annual Vehicle Revenue Hours	23,579	23,086		-493
Annual Operating Revenue	978,084	856,423		-121,661
Annual Operating Expenses	1,133,224	1,144,162		10,938
Cost per pass. Trip	8.23	7.44		-0.79
Cost per vehicle Revenue Mile	3.05	3.12		0.07
Fare box Recovery Ratio	29.60%	22.40%	decreased by	7.2%

*Urban Service Area is not clearly defined by SWRTA; but the seven fixed routes are in Urban service area.

During the field survey, the Staff found the following:

- 12 bus stop posts without bus schedules posted
- 7 bus shelters along all seven bus routes in the City
- The bus routes serve abandoned industrial areas
- Some social facilities such as parks, the Sumter Aquatic Center, and schools are not along the bus routes
- Some of the public housing residential areas are not along the bus routes
- Route 7 (Shaw shuttle) runs along Broad Street instead of the commercial/residential area on Carter Road.
- Lack of connectivity of bus services in shopping mall.
- No connectivity of bus service to Industrial Park where the major employers are located on Route 15 South.
- No school day fixed bus services to Sumter High School and Lakewood High School.
- Route 1 “on call” service runs through neighborhoods with higher than average income and vehicle ownership
- Route 1 runs along McCrays Mill Road with minimal residential ridership.
- No bus stop service available to Swan Lake.
- No bus route runs along the North Pike frontage road to Dillon Park where significant residential neighborhoods are in vicinity.
- No bus services to the Crosswell low income residential neighborhood
- Limited bus service area covers the vast number and area of trailers/mobile homes in Cherryvale area.

Individual Bus Route

Based on the redirected source of data from SLCOG, the staff has evaluated, as shown in the following table, the profitability of each route based upon cost and revenue per passenger.

Table 7.4 – Bus Route Profit Analysis			
Route	Cost (\$)/ Passenger	Revenue (\$)/ Passenger	Difference
9	5.89	3.50	(2.39)
8	12.91	12.49	(0.42)
7	8.79	7.63	(1.16)
6	6.41	4.23	(2.18)
5	6.15	3.86	(2.29)
4	6.17	3.91	(2.26)
1	6.16	3.86	(2.30)
Columbia	25.35	11.02	(14.33)
Myrtle Beach	17.06	15.56	(1.50)

Recommendations

Based upon the above findings, the Staff recommends the following:

Overall Transit System

- Active promotions of existing bus route services by mass media advertisements, place bus schedules in public places such as shopping mall, schools, and grocery stores.
- Improve the “on call”-demand response service by restructuring system requiring 24 hour advance call in and provide pick up services along major roadway intersections.
- Assign one vehicle (mini- van or 15 passenger bus) for “call in” – demand response services for reducing costs of operations.
- Designate a “at pulse” transfer point at the Wesmark Plaza by the Staples and Big Lots stores for Bus Route 7, and 9 and 4 for free transfer.
- Install more bus stop sign poles with bus schedules posted.
- Eliminate Bus Route 8 service which only carried 140 passengers in 6 months period, also the highest cost per passenger (\$12.91). Instead, assign another 15 passenger bus or mini- van to “on call” demand response system to transport customers to and from the Vocational Rehabilitation Center on North Main.

Individual Routes

An enlarged size individual bus route map is attached to this report. Each bus route map has a current bus route and a proposed new bus route for comparison of the changes. Also, a comparison of current and proposed revenue miles is shown below:

Table 7.5 – Bus Route Revenue Mileage		
Route #	Current Revenue Miles	Proposed Revenue Miles
1	8.15	12.94
1 by Request	3.85	-
4	10.71	33.16 *
4 by Request	0.48	0.48
5	9.47	9.26
5 Peak Hour	-	7.68
6	12.14	12.23
6 by Request	1.14	-
7	38.27	38.6
7 by Request	2.21	-
8	8.12	-
9	12.67	13.12
Total	107.21	127.47

* Route 4 has two buses running simultaneously in opposite directions.

The total cost for all bus routes revenue miles is \$466.69 for one loop. The individual route proposed cost is shown in the table below:

Table 7.6 – Proposed Route Revenue Mile Cost (Terminal to Terminal)

Route #	Proposed Revenue Miles	Cost per Revenue Mile *	Proposed Revenue Miles Cost
1	12.94	4.03	\$ 52.15
4 **	33.16	3.99	\$ 132.31
5	9.26	4.03	\$ 37.32
5 Peak	7.68	4.03	\$ 30.95
6	12.23	3.83	\$ 46.84
7	38.27	2.91	\$ 111.37
9	13.12	4.25	\$ 55.76
Total Routes Cost			\$ 466.69

** Two Buses Running Simultaneously in Opposite Directions

The following section describes the proposed changes for the various fixed-routes in Sumter.

Route 1 - West Liberty/ Guignard (Figure 7.5)

- The “on-call” demand response service from Wise Drive, via Henderson Street and Phelps Street, to W. Liberty Street is eliminated.
- The “on-call” service route to Sumter High School will be changed to regular bus service route.
- Designate a bus stop in the shopping center at the Bi-Lo Supermarket.
- Eliminate the loop portion on McCrays Mill Road to Birnie Hope Center. Designate Pinewood Road as a return route and designate bus stops at Swan Lake and Civic Center. Right turn on Liberty Street eastbound to stop at low income apartment units right across from the Birnie Hope Center and northbound on Guignard Drive back to Liberty Street toward the Terminal.

Route 4 - North Main/Sumter Mall & Wesmark Plaza (Figure 7.6)

- Two buses running simultaneously on opposite directions. Both buses leave the bus terminal simultaneously, with one bus going towards N. Main Street and the other going to N. Lafayette Drive to Loring and Croswell areas. Bus A goes toward Sumter Mall/Wesmark Plaza via Miller Road and Pullman Drive and stops at the Staples/Big Lots transfer point. Bus A waits for Bus B which heads towards the transfer points via N. Lafayette Drive and North Pike Frontage Road, through Dillon Park, Wise Drive and loops into a retirement apartment complex and stops at the transfer point.
- The connectivity point for bus A and bus B meet at the Staples/Big Lots (Wesmark Mall) transfer point.
- The transfer point is where Route 4, 7 and 9 meet.
- The Wall Street area “on call” services remains.

Route 5 - South Main/Pilgrim’s Pride (Figure 7.7)

- Route 5 will extend services to Pilgrim’s Pride industrial park during the morning and evening peak hours only. During off peak hours, bus will loop at S. Guignard Parkway and Pocalla Road for the returning trip.
- Bus will stop at Bates Middle School and the Southside Park (public housing).

Route 6 - East Liberty/ Aquatic Center (Figure 7.8)

- Route 6 bus will provide service along S. Main St. to Fulton Park low income area.
- Route 6 “on call” service extends to DMV of SCDOT along Oswego Road.
- Bus stop pole must be erected at the Aquatic Center.

Route 7 - Shaw Shuttle (Figure 7.9)

- Bus will meet at the Transfer Point in the Wesmark Plaza for connectivity for Bus Route 9 and Route 4.
- Bus service area will expand at Cherryvale (See Figure 7.9).
- City bound bus route 7 will turn at Wilson Hall Road, down on Wesmark, up on Alice Drive, and stop at Walmart before going to the Transfer point in Wesmark Plaza.
- Bus will go from Staples/Big Lots to Sumter Mall and then return to the bus terminal.

Route 8 - North Main/Vocational Rehab

- Eliminate Route 8 and have one bus designated for “on call” services.
- The “on call” service requires at least minimum of 24 hours advance reservations. Designate pick up locations on major roadway intersections. This “on call” service MUST NOT provide door to door services. The door to door services may be provided through the FTA human services coordination program

Route 9 - Broad Street (Figure 7.10)

- The diversion on Highland Avenue and Miller Road will be eliminated.
- Bus stop pole will be erected in front of the library.
- Bus will stop at K mart and the retirement apartment units behind such
- Bus will meet Route 4 and Route 7 buses at the Transfer point.
- Bus shelters are recommended on Broad Street in front of Aldi and Piggly Wiggly.

Conclusions

By restructuring the current bus routes, the proposed total revenue miles will be increased to 127.47 miles from 107.21. Ridership is most likely to increase for a significant percentage of the expanded service areas where passenger trip generators of grocery stores, schools, social facilities, and low percentage of vehicle ownerships residential areas. In addition, by improving the connectivity of bus services, passengers are more willing to use public transit for their choice of shopping malls, restaurants, clinics, and even employment places.

Figure 7.5

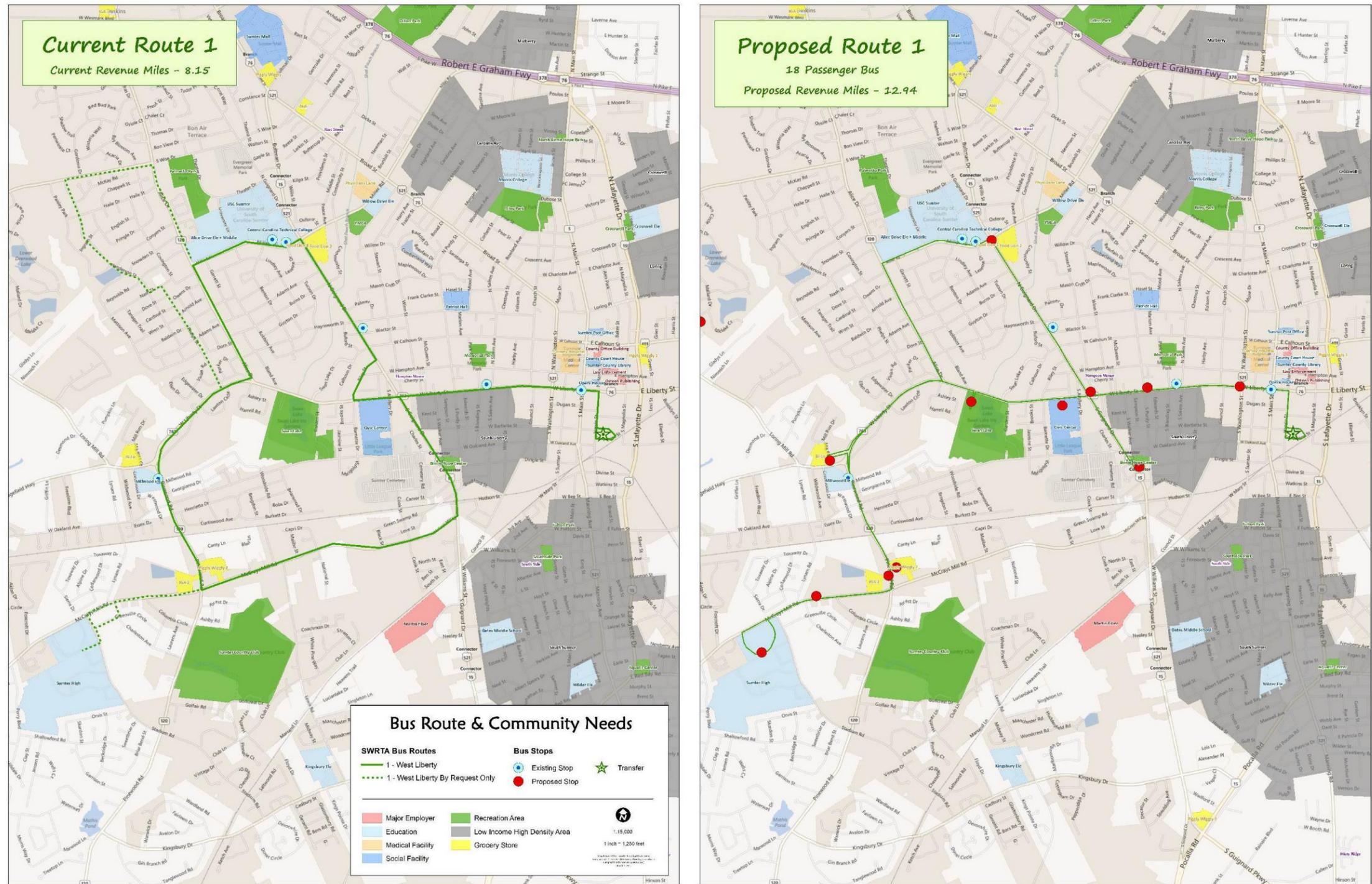


Figure 7.6

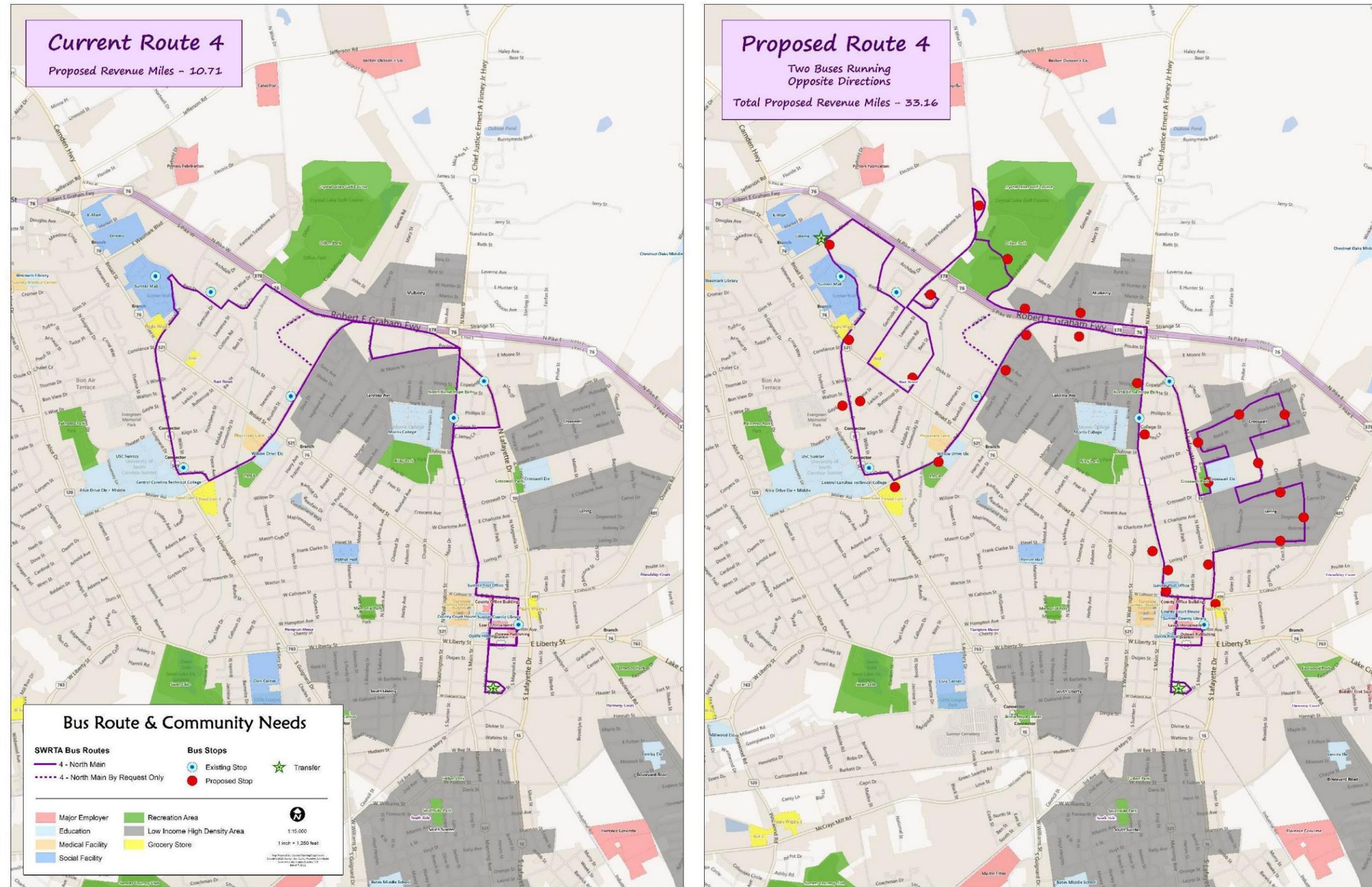


Figure 7.7

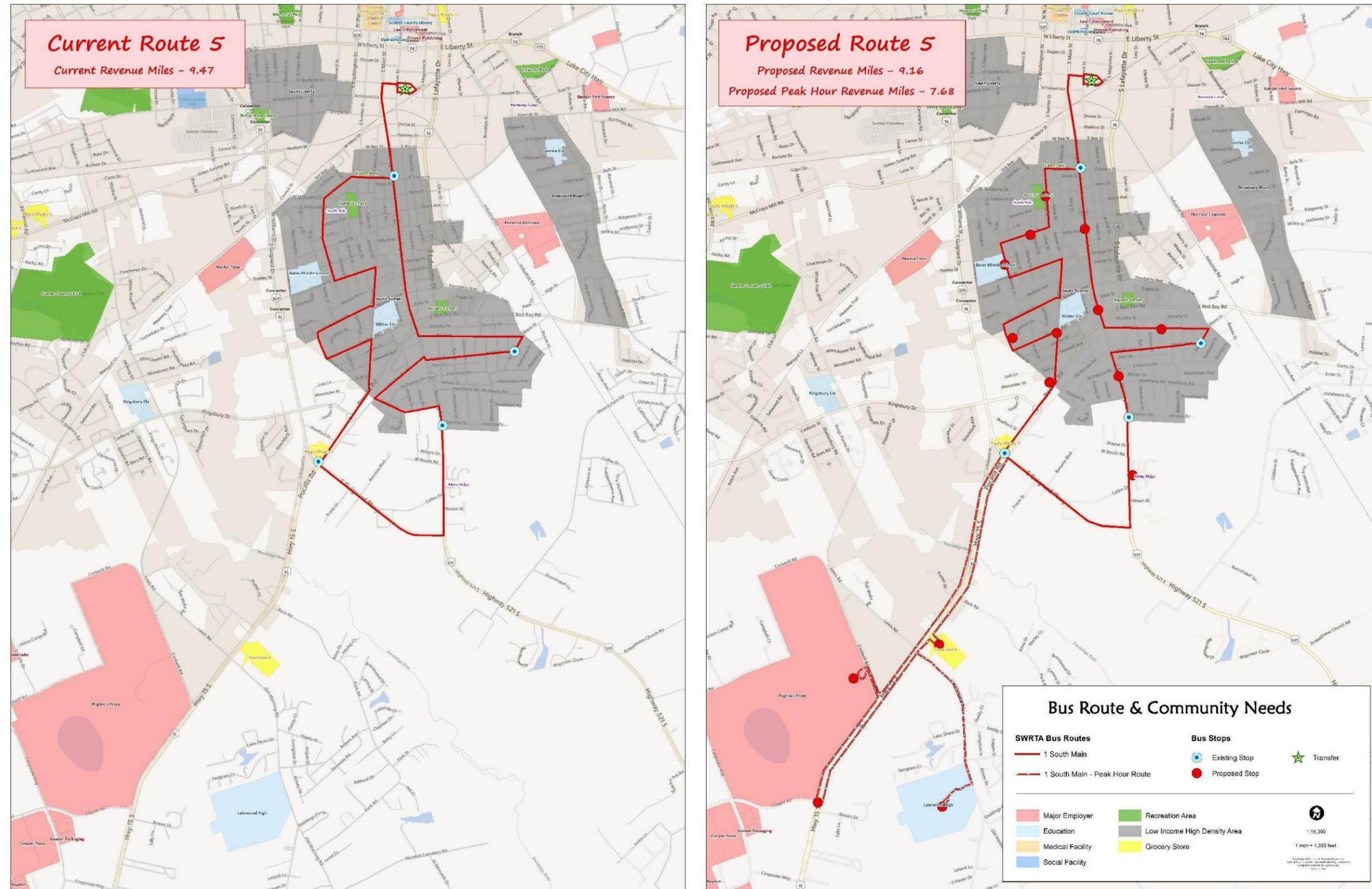


Figure 7.8

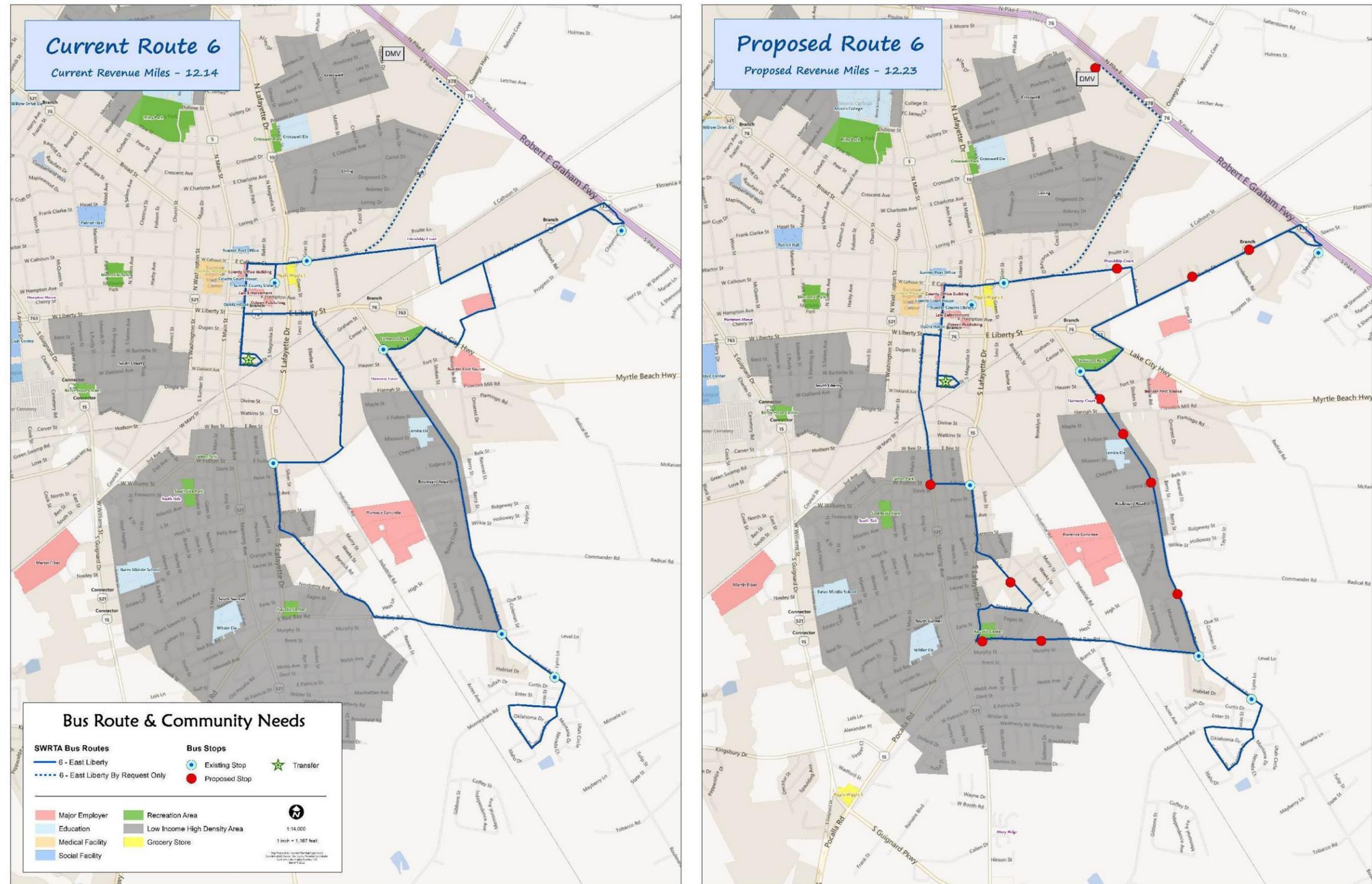
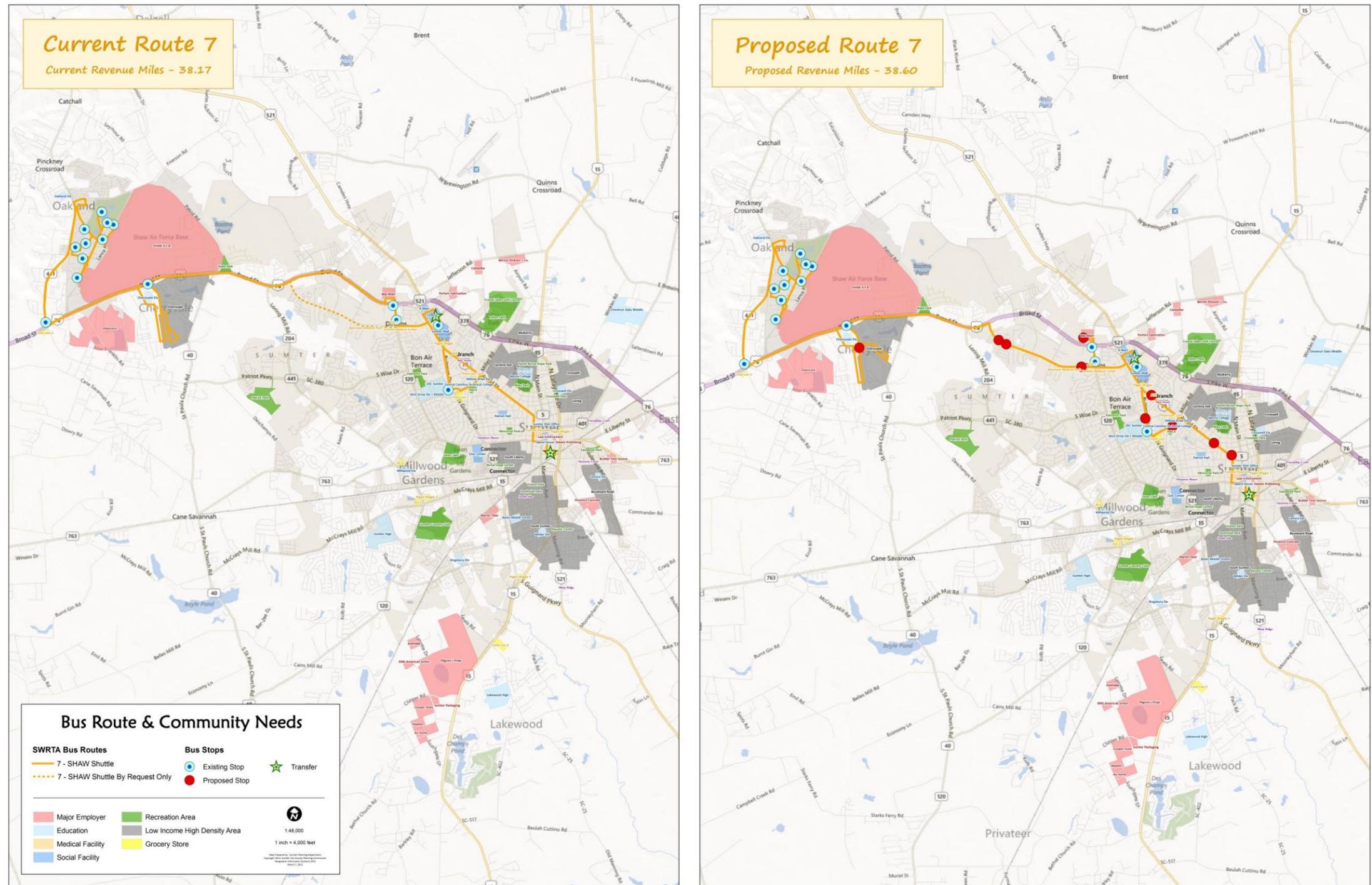
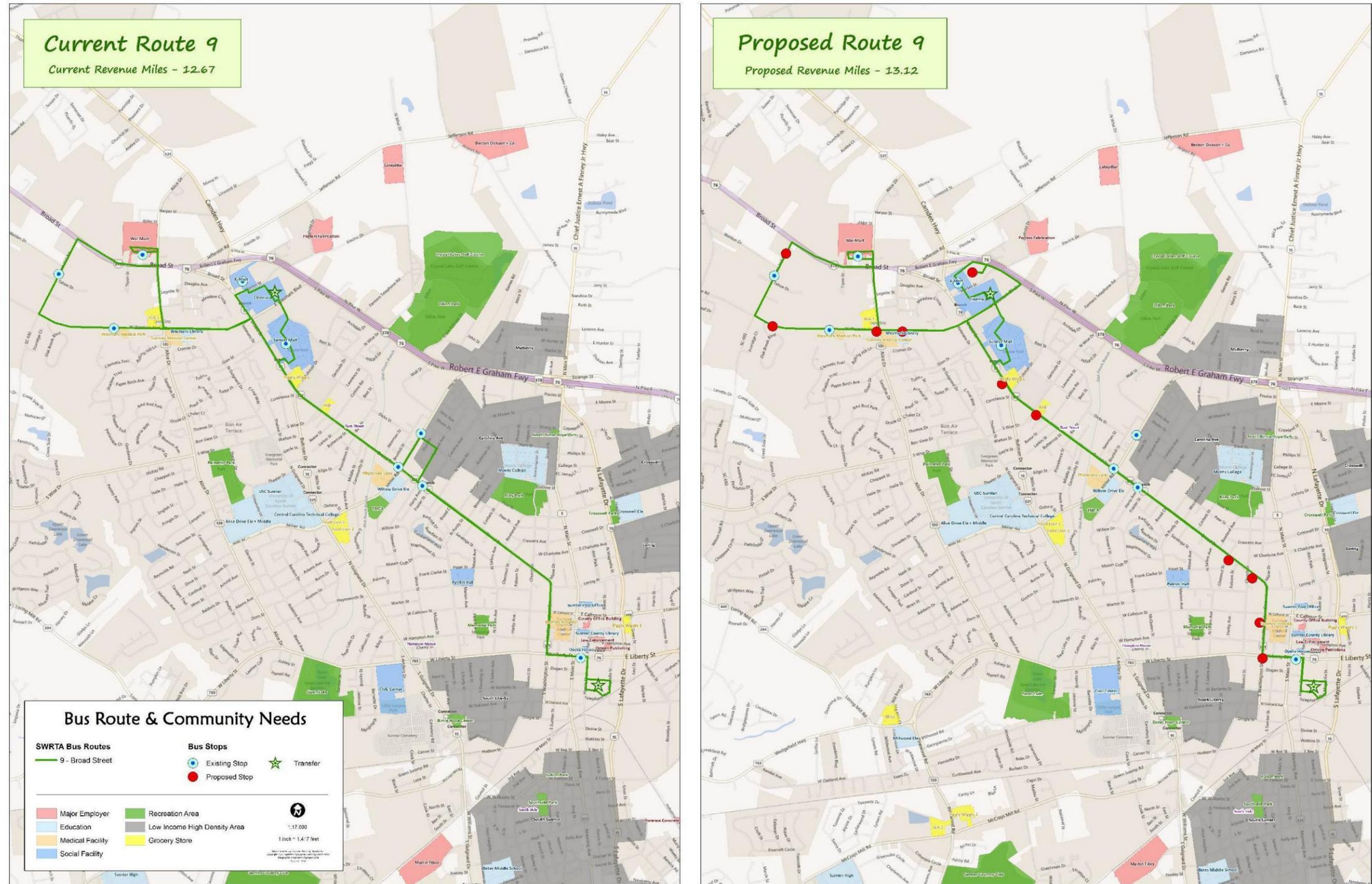


Figure 7.9



Figure



System Recommendations

Transit riders typically fall into one of two categories – captive or choice. Choice transit riders choose to leave their vehicle at home to save time and money or for other reasons. Captive transit riders use transit because they have no other choice. This may be because they lack access to a personal vehicle or because they have a physical impediment. Captive riders also include those too young to drive, the elderly, persons with disabilities, and those without the financial means to own and operate a personal vehicle.

Figures 7.11 and 7.12 show the existing SWRTA fixed-routes in relation to Sumter’s population density and percentage of persons without access to a personal vehicle. Figure 7.11 indicates the more dense areas of the city are served by transit with the exception of southwestern portions of the city between McCrays Mill and Pinewood Roads. Information in Figure 7.12 is based on census block groups, the smallest census geography for which the information is available. While the image indicates households near downtown without access to automobiles are served by bus routes, pockets of households in the county that need transit are forced to rely on paratransit if they qualify or seek alternative options such as taxis.

The recommendations that follow recognize the need to enhance existing service in order to meet the needs of both choice and captive transit users. An underlying goal is to encourage further dialogue regarding the benefits of transit for choice riders and the critical role transit plays in the life of captive users. The recommended improvements were established through analysis and public outreach efforts and balanced with the needs identified for other elements presented in the *SUATS Long-Range Transportation Plan*. The recommended improvements are grouped by general findings. Many of the recommendations will address more than one finding.

Finding: Public perception of transit limits its effectiveness. The general perception of transit in the Sumter area is that transit serves only those people without access to or the ability to use personal automobiles. In order to establish transit as a viable mode for choice riders and to encourage those in need of the mobility offered by transit to use the service, public perceptions must be identified and addressed.

Recommendations:

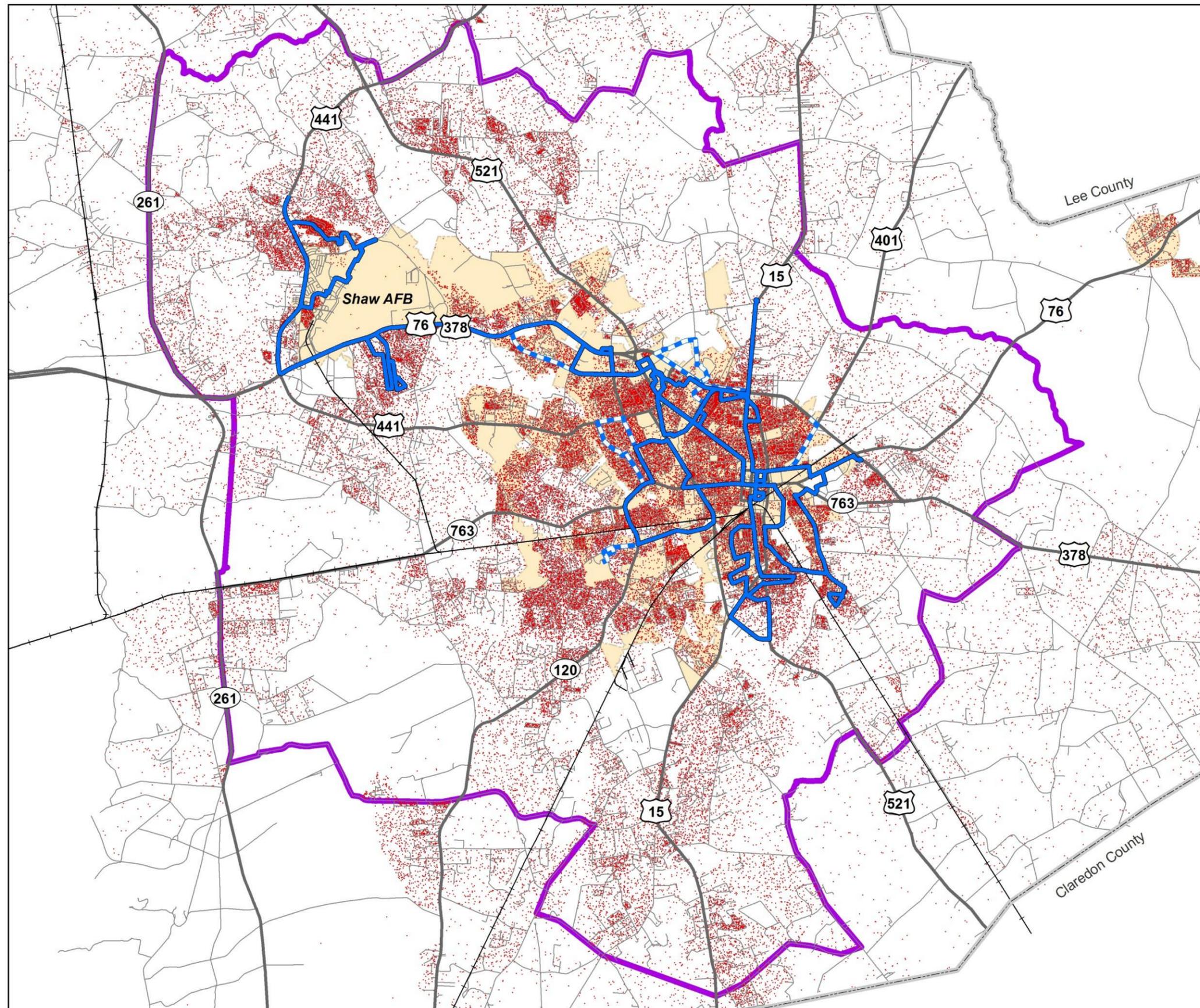
- **Conduct a ridership survey.** A focused ridership survey with proper distribution will go a long way in determining overall levels of customer satisfaction and help identify issues of importance for transit users. The results of the survey should help reaffirm the transit initiatives launched as part of the *SUATS Long-Range Transportation Plan* while also serving as a prelude to a new transit master plan.
- **Develop a transit master plan.** A transit master plan should be developed to explore multiple alternatives and detailed solutions for the near- and long-term transit needs of the Sumter community. The master plan should include a detailed review of existing conditions (ridership trends, travel times, customer preferences, etc.), recommended bus routes and service improvements, recommended delivery system upgrades (bus stops, sidewalks, etc.), implementation strategies, and funding resources. A detailed plan coordinated with the recommendations presented throughout the *SUATS Long-Range Transportation Plan* can help inform the land development review process in addition to transportation project prioritization.
- **Introduce a coordinated marketing plan.** The indication in the survey that the public does not want to spend more money on transit shows the benefits of this mode of travel is not reaching the general public. A marketing effort through print and broadcast media outlets should be coordinated with improved signage and informational handouts (route maps, fare books, etc.). SCDOT is exploring how to approach some of these issues on a statewide basis, which should provide opportunities for local agencies to collaborate.

Finding: Transit does not fulfill the existing needs of some captive users. As shown in Figures 7.11 and 7.12, SWRTA’s routes provide critical access to persons that require transit to access jobs and services. Additional routes or changes to existing routes can fill holes in the region’s transit service without incurring unnecessary costs. In addition, the frequency and operating hours of some routes need to be altered to meet the needs of existing and potential customers.

Recommendations:

- **Extend duration of routes.** Extending the duration of routes, particularly during the evening for Route 7 Shaw Shuttle, will accommodate evening commutes for the region’s largest employment generator.
- **Utilize the master planning process to assess current service and explore changes in route frequency and duration.** The transit master plan should be targeted to the needs of captive users while accommodating potential increases in choice riders. Public outreach efforts for the LRTP identified a need to re-evaluate the location, frequency, and headway times between transit stops, a process that should be a key component of the transit master planning process. Discussions with the community and analysis of existing conditions show the overall route system accommodates many of the more dense areas in Sumter. However, changes to some routes or the addition of new routes is needed to serve the growing population in the southwest planning area along Loring Mill Road, McCrays Mill Road, Wedgefield Highway, and Pinewood Road.
- **Improve the quality of taxicab services.** The presence of taxi companies is indicative of the need to give residents and visitors a means of travel other than privately owned automobiles. However, compared to other South Carolina metropolitan areas the taxi companies in Sumter provide a lower quality of service, which adversely could impact customer service as well as the image Sumter is trying to create for the area. City and County officials should investigate how other metropolitan areas have been able to improve the quality of their taxicab services without causing undue financial hardships on this industry.

Population Density and Transit Routes



Legend

- 1 Dot = 1 Person
- Source: U.S. Census Bureau 2010*
- Bus Route
- Call In Bus Route
- SUATS 2010 Study Area Boundary
- County
- City Limits
- Road
- Railroad

September 22, 2012

0 0.5 1 2 Miles



Vehicle Available and Transit Routes

Legend

Percent of Households with no Access to a Vehicle

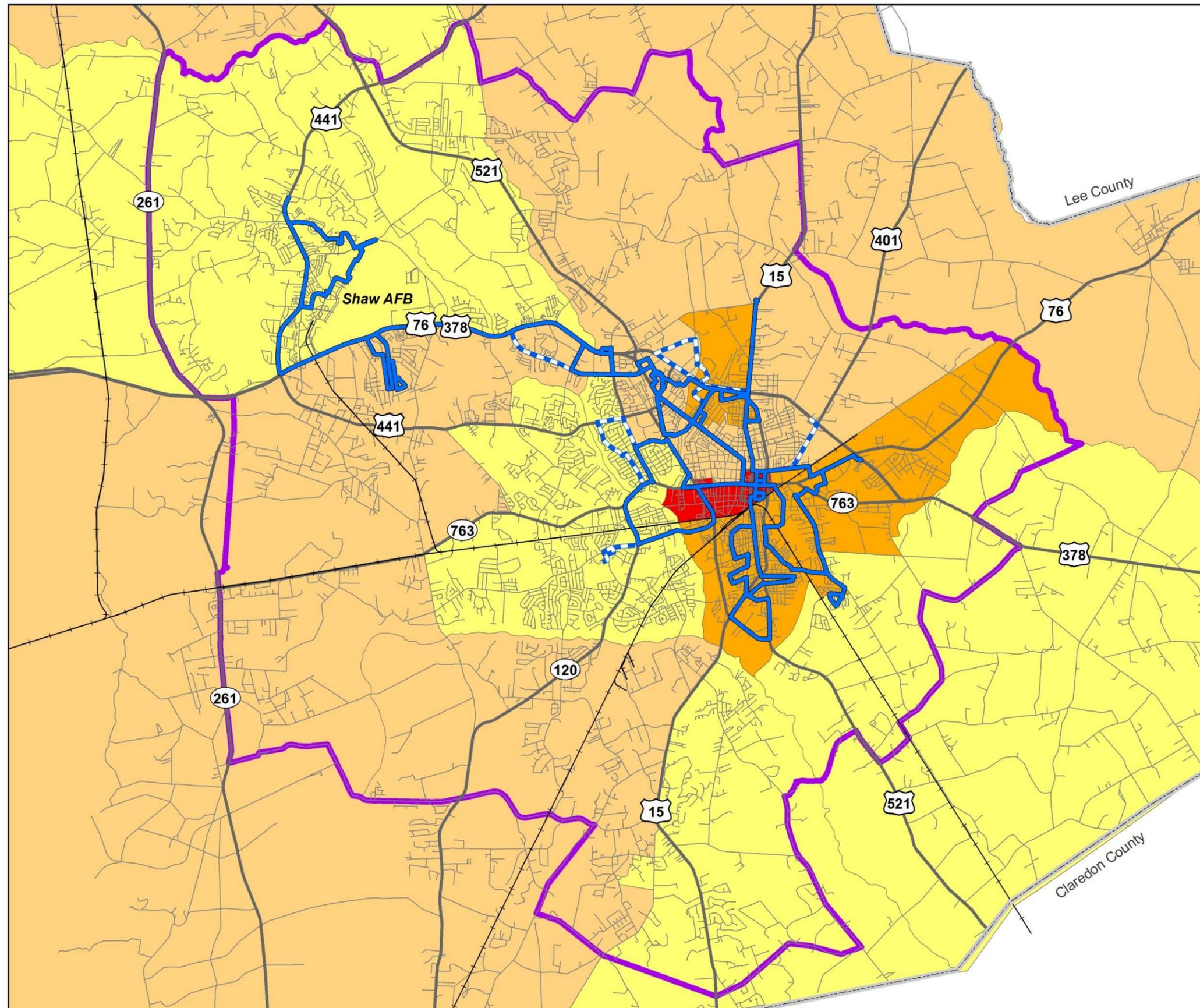
- Less than 5%
- 5 to 15%
- 15 to 30%
- More than 30%

Source: American Community Survey 2006-2010

- Bus Route
- Call In Bus Route
- SUATS 2010 Study Area Boundary
- County
- Road
- Railroad

September 22, 2012

0 0.5 1 2 Miles



Finding: Hub and spoke design may become ineffective as the region grows. The hub and spoke layout of the SWRTA fixed-route system supports the downtown area by emphasizing trips originating from or destined to the downtown area. The long headways created by these one-way routes may become outdated as the region's activity centers become more diverse.

Recommendations:

- **Identify satellite transfer stations for future expansion.** As the system grows to accommodate new demand, locations near emerging activity centers where multiple routes converge should be designated as satellite transfer stations. The exact location of these facilities should be determined through additional study and in coordination with property owners, SWRTA, and local officials. Amenities at these stops should be enhanced to include shelters, informational boards, benches, route information, and bus pull-outs.

Finding: Transit must be flexible to growth within the region. Growth in Sumter will increase the burden on the area's transportation system and will bring to the region more persons dependent upon public transportation for their daily traveling needs. Both situations require a flexible system designed to grow with the region and meet changing travel patterns and trends.

Recommendations:

- **Promote coordination and collaborative partnerships between the urban and rural transportation programs of SWRTA as well as with other public transit and human service agencies.** Fixed-route and paratransit services provide complementary services that reach out to those with easy access to a bus stop as well as rural residents who depend on public transportation to access services and employment. The existing partnership between these two segments of SWRTA should continue to be evaluated to ensure no gaps in coverage exist. As part of the Regional Transit Council at the Santee-Lynches Council of Governments (COG), SWRTA is working with other regional partners to provide comprehensive transit service. Current efforts include coordinating Section 5310 (elderly and persons with disabilities) programs and Medicaid services with

the Lower Savannah COG as well as working to develop a SmartRide program in the Orangeburg area. SWRTA also works closely with the Central Midlands COG and coordinates with CMRTA in Columbia for its SmartRide and Eastover Services. These partnerships should be enhanced where appropriate.

- **Utilize technology to ensure reliability of the transit system.** Because the extent of SWRTA's coverage area – 5,000 sq. mi. – is so large, emerging technology designed to coordinate scheduling, determine efficient routes, and provide real-time information to customers should be implemented. SWRTA currently utilizes a Route Match Scheduling and Dispatch Program for its paratransit (dial-a-ride) service. In 2004, SWRTA became the first transit system in the state to operate the Palmetto 800 system, a radio communication-based public safety network. Such progressive use of technology should be encouraged. The ability to provide real time information to customers should be explored as funding permits.
- **Future routes should be responsive to future land use patterns.** SWRTA should work alongside the City and County planning departments to ensure transit service is considered in future development projects. In locations with larger scale development and redevelopment impacts, the review process should ensure transit-ready development features such as a mixture of land uses at appropriate densities, interconnected streets, and pedestrian-friendly design.
- **Civic land uses should be within walking distance of public transit.** Civic land uses such as libraries, parks, city/county administration, and social services should be located within walking distance of public transit service. Existing transit routes and amenities should be evaluated to ensure equal accessibility to those choosing to ride transit. In addition, when evaluating locations for future public facilities the ability to provide access via transit should be a priority.
- **Maximize the use of the James E. Clyburn Intermodal Transportation Center.** Named for Sumter native and U.S Representative James E. Clyburn, the redeveloped historic warehouse at Harvin and Telephone Streets opened in Spring 2008 as a hub for local and regional bus service as well as intercity and interstate bus service provided by Southeastern

Stages (Greyhound). The Center also houses offices for SWRTA and rents office space to other companies. The strategic location of this project can serve as a catalyst for the revitalization of the southern edge of the central business district. Its location adjacent to the city's CSX rail yard also can help support the potential long-term implementation of Amtrak service or commuter rail from Greenville through Charleston by way of Sumter.

Finding: Services for commuters must be a priority for the regional transportation system. Many residents of the Sumter region depend on jobs in other locations – whether service jobs in Myrtle Beach or government jobs in Columbia. Services designed to encourage alternatives to single-occupant private vehicles can help alleviate traffic congestion at the regional level.

Recommendations:

- **Expand carpool matching service.** The current carpool matching service offered through AlterNetRides on the SWRTA homepage provides a forum to match potential carpoolers. This service should be promoted through the coordinated marketing plan as a way to save commuters time and money. In particular, vanpooling for Shaw AFB personnel should be promoted.
- **Expand SmartRide service in the Sumter market.** SmartRide is marketed as a safe, comfortable, and convenient commuter service between Camden, Lugoff, and Columbia. The current vanpool from Sumter to Columbia operates as a SmartRider Service and has carried more than 17 people for more than three years. To provide opportunities for more riders, vehicle capacity should be added as funding permits. In addition, vanpools can provide an opportunity for focused commuter purposes.

Finding: Focus is needed on increasing passenger amenities such as sidewalks, shelters, and benches. A successful and thriving transit system depends on a system of safe and convenient sidewalks and bikeways to delivery users to transit stops. The stops themselves should provide a safe and comfortable environment while users wait for the bus to arrive.

Recommendations:

- **Coordinate upgrades to transit stops with improvements to the pedestrian and bicycle network.** The *SUATS Long-Range Transportation Plan* recommends strategic sidewalks and bikeways designed to connect activity centers and neighborhoods. Improvements to the pedestrian and bicycle network, especially those constructed as part of new road construction and/or widening, should be coordinated with existing and future transit needs.
- **Enhance bus stops.** Current bus stops are little more than a sign on the side of the road. To encourage new riders and better accommodate existing users, bus stops should be enhanced to include benches and shelters. Initial locations for transit stop improvements should be identified during the master planning process. Where possible, partnerships between SWRTA and land owners should be established to provide funding for shelter construction with the understanding the land owner can advertise his or her property on the shelter. In locations where sheltered bus stops are not possible or necessary, bus stop signs should be updated to include route information.
- **Right sized fleet.** The size of buses used to carry passengers should reflect the usual average number of passengers of the route.

Conclusion

Many of the recommendations for transit in Sumter involve promoting transit as a safe, convenient, and dependable form of transportation. An improved image and appearance can be achieved using short-term, low-cost measures. Long-term solutions target improvements for captive and choice riders to ensure transit exists as a sustainable transportation alternative. For overall success to be achieved, Sumter must make a commitment to provide and support

alternative modes of travel. Efforts independent of SCDOT and SWRTA must be initiated to promote mobility choices throughout the City and County.

Strategies for transit extend beyond the realm of what typically is considered transit planning. Many of the strategies presented throughout the *SUATS Long-Range Transportation Plan* can help make transit a viable alternative for residents and visitors. Improving roadways and creating a more connected roadway network can allow transit vehicles to service people more efficiently. Constructing a consistent bicycle and pedestrian network can help residents move between bus stops and their final destination. Coordinating the land use and transportation decision-making process ensure new development – whether roads, homes, offices, or shops – support existing and future transit service.

As stated in the introduction to this chapter, transit enhances the access and mobility for those who have no other transportation options. The transit-dependent population will continue to grow as the Baby Boomer generation ages. At the same time, the City continues to reach out to the senior population and market the area as an attractive place for retirees. Improvements to transit service will help make the area a more attractive location for retirees.

Perhaps the two most critical elements for transit to flourish in the region is progressive planning and dedicated funding. A more detailed transit master plan can explore the underlying issues presented in this chapter and help develop comprehensive strategies to ensure the fulfillment of long-term needs of choice and captive riders. Likewise, local and regional planning efforts should continue to leverage on-going statewide transit planning efforts. As for funding, SWRTA notes the region often does not pursue federal grants due to a lack of local and state match funds. Dedicated funding for transit must be emphasized.