Salisbury Comprehensive

Bicycle Plan

PREPARED FOR:
City of Salisbury Department of Land Management and Development
&
NCDOT Divison of Bicycle and Pedestrian Transportation

WilburSmith ASSOCIATES

Cycle Salisbury

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

Division of Bicycle & Pedestrian Transportation

July 2009

FINAL DRAFT

Salisbury Comprehensive Bicycle Plan

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Prepared for:

City of Salisbury
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Divison of Bicycle and Pedestrian Transportation

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7/7/09

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Acknowledgements

The comprehensive Bicycle Plan for Salisbury has been prepared by Wilbur Smith Associates, in coordination with the City staff, North Carolina Department of Transportation (NCDOT), local bike clubs, and the citizens of Salisbury. This plan is a visionary, yet practical approach towards making Salisbury a better place to live and bike in the coming years.

WSA would like to thank the following individuals and their agencies that participated and assisted in the development of this plan.

NCDOT

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Executive Summary

The City of Salisbury was awarded a 2006 Comprehensive Bicycle Planning Grant from the North Carolina Division of Bicycle and Pedestrian Transportation. The Comprehensive Planning Grant Initiative is a matching grant program administered by the NCDOT Division of Bicycle and Pedestrian Transportation (DBPT) and the NCDOT Transportation Planning Branch with local matching funds provided by the locality.

The purpose of this Comprehensive Bicycle Plan (Plan) is to develop a dynamic and comprehensive bicycle planning tool for the City of Salisbury (City). This Plan will provide the City with documentation to assist in the expansion, promotion and funding of safe and efficient bicycle facilities, programs and initiatives throughout the City. An Implementation Plan (Constructability Analysis) included in Chapter 3 will become the 'handbook' for local officials and staff to reference when securing funds, budgeting and allocating local resources for improving the bicycle transportation system in the City.

While this document is focused on projects and benefits in the City of Salisbury, the close proximity to the National Transportation Museum in Spencer and other factors make it appropriate to consider the rural areas just outside of the City limits as part of the plan.

An important part of developing a successful and implementable Comprehensive Bicycle Plan is to integrate ample citizen input into the planning process and project prioritization. To gather input, the project team utilized four strategies:

1. Appointed a Steering Committee to guide the process and lead key decisions
2. Gained citizen input in conducting two public meetings
3. Advertised and distributed a public survey
4. The City hosted a booth at the summer bicycle races in downtown Salisbury

At the beginning of the planning process the Salisbury Bicycle Plan Steering Committee (BPSC) developed a vision statement and a list of goals for this plan. These goals served as the guide for the entire planning process.

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To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

The following Goals and Objectives were established as a guideline for the development of the Salisbury Comprehensive Bicycle Plan. The purpose of these goals is to ensure that the development of the Plan complies with the needs and input of the residents in Salisbury. These goals exemplify the foremost bicycling principles for local stakeholders, elected officials and residents, based on input provided by Salisbury BPSC members and City Staff. These goals will be referred to as the basis for identification of the project prioritization criteria.

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Goal 1 – Safety (Security)

Develop a 'tool box' of appropriate design standards, guidelines, recommendations and model ordinances that the City may use to create and design safe and secure bicycle environments for the residents of Salisbury.

Goal 2 – Interconnectivity

Create and implement policies that promote and encourage connectivity and an integrated bicycle network throughout the City.

Goal 3 – Accessibility

Design, develop and preserve bicycle facilities in Salisbury to ensure that all residents and visitors, regardless of socio-economic status; physical ability; or age, have convenient access to goods, services, jobs and recreation.

Goal 4 – Design

Develop and adopt innovative transportation technologies that are effective, efficient, affordable and feasible.

Goal 5 – Education

Create and promote multi-faceted educational programs that focus on safety, awareness, and benefits of bicycling.

Goal 6 – Encouragement

Encourage residents of Salisbury to embrace its City as a "bicycle friendly community" by organizing a series of events each year to promote bicycling and cycling safety such as Bike Rodeos, Cyclo-cross workshops, Giordana Cross Roads, and "Out Like a Lion" Bicycle Races.

Goal 7 – Enforcement

Encourage Salisbury Police Department to incorporate training of officers on motor vehicle laws as they relate to bicycles and shared use of roadways.

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To accommodate recreational as well as utilitarian cyclists, this plan proposes a wide range of programs, policies, and facilities based on the recommendations made through several Steering Committee meetings and public input.

Proposed Programs

- Partner with local retailers and organizations to provide enhanced parking facilities for bicyclists
- Team with local artists to provide public art that serves as functional bike racks
- Bike Share Program
- Equip the entire Salisbury Transit fleet with bike racks
- Continue to promote bicycling events and participate in national programs
- Enhance the City's website with bike and pedestrian tips, maps, and safety information
- Adopt a multi-lingual bicycle thoroughfare map
- Implement a wayfinding system of route signs and kiosks filled with information
- Implement a bicycle registration program
- Conduct educational workshops in conjunction with schools, church groups and scouting groups
- Conduct adult education workshops for law enforcement personnel and city staff
- Implement a small-scale and low cost maintenance request program for citizens such as sweeping, repairing surface problems, and replacing unsafe gratings.

Proposed Policies

- Provide sheltered, secure bicycle storage facilities (lockers) at retail locations and employment centers
- Provide sheltered, secure bicycle parking facilities at all transit centers and any future park and ride or park and bike lots

Proposed Facilities

The consultant team and the City staff developed a network of bicycle facilities based on many considerations and factors. Criteria considered by the working team included 85th percentile speed data along routes in Salisbury, average daily traffic volumes along those routes, the width of the streets proposed as bike facilities, the presence of curb and gutter, and vehicular parking restriction ordinances.

The Bicycle Network

This Comprehensive Plan recommends a network of bicycle facilities that, when implemented, will connect parks, schools, greenways, residential and commercial areas. The recommended Bicycle Facility Network and supporting actions will serve all types of bicyclists—from beginner bicyclists to experienced riders. Bicyclists must expend much more personal energy than motorists; therefore, bicyclists desire to take the most direct route to their destinations. The Bicycle Network is composed of streets that, because of their location, would be used by cyclists if the streets were perceived as being "bicycle friendly." Recommendations include striped bicycle lanes adjacent to vehicle travel lanes, edgeline markings, wide outside lanes on multi-lane streets, and paved shoulders to achieve more separation between bikes and vehicles throughout the city, along with other proposed improvements. Components of the Bicycle Facility Network include:

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Bicycle Loops
To provide safe, usable, and attractive recreational bicycle facilities, the City of Salisbury should designate loops that utilize existing streets and/or greenway trails/multi-use paths to serve adjacent uses such as parks, community centers, transit stops, and others. It is recommended that the City design and install special Bicycle Loop signs that would possibly have a different color or number and name of the Loop for each Loop proposed herein. The City should strive to develop and promote the following Loops inside and immediately adjacent to the City:

- Historic Districts Tourism Loop
- Family Friendly Loop
- Park Loop
- Southern Connection Loop
- YMCA Loop
- The Crescent Loop

"Out and Back" Routes
Also referred to as "folded loops", these are bicycle trips cyclists tend to take on weekends and other times and consist of a group of cyclists gathering at one location, traveling along one road to a destination, and returning along the same road. These routes are expected to complement the proposed loops and will challenge more experienced riders. The 'Out and Back' routes connect key recreation destinations such as Salisbury Community Park and Dan Nicholas Park that offer fun for a whole day. The following "Out and Backs" recommended in the plan include:

- Hurley Family YMCA to Community Park Out and Back
- Downtown Salisbury to Dan Nicolas Park & High Rock Lake Out and Back

The recommendations found in this plan represent a wide variety of projects, from very short connections that can open large portions of City to cycling, to long bicycle routes that, while large in length, may only serve the recreational user. With the focus on making bicycling a viable, convenient, and safe transportation choice throughout the City, the project team has developed a matrix of characteristics to rank the proposed facility recommendations in order to categorize these facilities into short term (less than 5 years), medium term (5 to 10 years) and long term (greater than 10 years) recommendations. The criteria included in this analysis were:

Short Term Recommendations

The short term (high) priorities were primarily focused on two objectives 1) Implement the projects that are low in scope and cost and easier to implement 2) Place a priority on proposed Loops and critical routes that provide the most enjoyable cycling experiences. The projects that are considered short term (high) priorities, listed alphabetically, include:

- Airport Road
- South Arlington Street
- Brenner Avenue
- Clubhouse Drive
- Confederate Avenue / Maxwell Street / 13th Street
- Crescent Loop
- Dogwood Road
- Enon Church Road
- Faith Road
- Family Friendly Loop
- Fulton Street
- Grove Street
- Hawkinstown Road
- Hidden Creek Circle / Hidden Creek Drive
- Historic Districts Tourism Loop
- West Innes Street
- Institute Street/Wilson Road
- Jackson Street
- Laurel Valley Way / Byron Drive / Hogans Valley Way
- Lee Street
- Lincolnton Road
- Mahaley Avenue
- South Main Street
- Martin Luther King Jr. Avenue
- West Miller Street
- Mitchell Avenue
- Mocksville Avenue / Cemetary Avenue
- Monroe Street
- North Road
- Park Loop
- East Park Road / West Park Road
- Parkview Circle
- Rich Street / 14th Street
- West Ridge Road
- Rowan Mill Road
- Sherrill's Ford Road
- Statesville Boulevard
- Union Heights Boulevard
- Wilson Road
- YMCA Loop

Medium Term Recommendations

The medium term priority projects were those that fall within and outside the City's boundaries, but are more difficult to construct and provide fewer benefits to residents of the City. The projects that belong in this group, listed alphabetically, are:

- Bringle Ferry Road
- Fulton Street
- Gold Hill Drive
- Harrison Road
- Heilig Road and Julian Road
- West Henderson Street
- Hurley School Road
- Industrial Avenue
- West Innes Street
- North and South Long Street
- South Main Street
- Newsome Road
- Old Concord Road
- Old Mocksville Road
- Sherrill's Ford Road
- Southern Connection Loop
- Ryan Street
- White Farm Road

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Long Range Recommendations

The remaining projects are considered long range priorities. These projects lie almost solely outside of the Town limits and serve primarily medium to advanced recreational cyclists. The desire to have bicycle facilities on these routes should be considered as the area develops. The projects in this group, in alphabetical order, are:

- Faith Road
- Forestdale / Welch Roads
- West / East Inness Street
- Majolica Road
- McCoy/Colonial / Milford Roads
- Mooresville Road
- Old Wilkesboro Road
- Stokes Ferry Road
- Sunset Drive

In summary, this plan is a visionary, yet practical approach toward making Salisbury a better place to live and bike in the coming years. Many thanks to the City staff, North Carolina Department of Transportation (NCDOT), Rowan County Staff, local bike clubs, and the citizens of Salisbury who participated on the Steering Committee and in the planning process and who will work to make the recommendations in this plan a reality.

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Chapter 1
Introduction

Chapter 1 - Introduction

1.1 INTRODUCTION

The City of Salisbury was awarded a 2006 Comprehensive Bicycle Planning Grant from the North Carolina Division of Bicycle and Pedestrian Transportation. The Comprehensive Planning Grant Initiative is a matching grant program administered by the NCDOT Division of Bicycle and Pedestrian Transportation (DBPT) and the NCDOT Transportation Planning Branch with local matching funds provided by the locality. The purpose of this Comprehensive Bicycle Plan (Plan) is to develop a dynamic and comprehensive bicycle planning tool for the City of Salisbury (City). This Plan will provide the City with a planning tool which will assist in the expansion, promotion and funding of safe and efficient bicycle facilities, programs and initiatives throughout the City. Generated from this Plan will be an Implementation Plan (Constructability Analysis) which will become the 'handbook' for local officials and staff to reference when securing funds, budgeting and allocating local resources for improving the bicycle transportation system in the City. The following is the outline developed by the DBPT for the development of the Comprehensive Bicycle Plan. This Plan has followed this outline accordingly and is as follows:

The following represents the outline for this plan:

Section 1: Introduction

- Introduction
- Study Area
- Public Involvement
- Vision, Goals, and Objectives
- Benefits of Bicycling

Section 2: Existing Conditions

- Overview
- Community concerns, needs and priorities
- Bicycle Friendliness Assessment of the Local Transportation System
- Current Usage and User Demographics

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- Inventory and Assessment of Existing Facilities
- Bicycle Statutes and Local Ordinances

Section 3: Recommendations

- Programs
- Policies
- Facilities

Section 4: Bicycle Facility Standards and Guidelines

- Wide Outside Lanes
- Wide Paved Shoulders
- Bicycle Lanes
- Edgelines
- Road Diets
- Shared Lane Markings (Sharrows)
- Shared-Use Paths (Greenways)
- Bicycle Routing
- Bicycling on Sidewalks
- Drainage Grates
- Bikeway Signing
- Bicycle Parking Guidelines

Section 5: Implementation

- Prioritization of Projects
- Funding Sources

1.2 STUDY AREA

From Civil War sites to modern parks, Salisbury is a city rich in history and southern hospitality. This growing city draws a lot of attention from its rich history and proximity to Charlotte to the south and Greensboro-Winston Salem to the north. It is located halfway between these two busy cities and is served by Amtrak, Interstate 85, US Highways 601, 29, 52 and 70, and the Rowan County Airport.

While this document is focused on projects and benefits to the City of Salisbury, with it the proximity to National Transportation Museum in Spencer, it is appropriate to consider the rural areas just outside of the City limits as part of the plan.

Figure 1-1 illustrates the study area for this project.

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1.3 PUBLIC INVOLVEMENT

An important part of developing a successful and implementable Comprehensive Bicycle Plan is to integrate ample citizen input into the planning process and project prioritization. To gather input from the public, the project team utilized four strategies:

1) Appointed a Steering Committee to guide the process and lead key decisions
2) Gained citizen input in conducting two public meetings
3) Advertised and distributed a public survey
4) The City hosted a booth at the summer bicycle races in downtown Salisbury

Steering Committee

An important part of developing a successful and implementable comprehensive bicycle plan is to integrate ample citizen input into the planning process and project prioritization. As a result, the City of Salisbury formed the Salisbury Bicycle Plan Steering Committee (BPSC) to assist and provide guidance in the development of the Comprehensive Bicycle Plan. The BPSC met four (4) times over a period of one year and provided ideas and guidance and identified the public needs for bicycle improvements in Salisbury which were all incorporated into the final plan. Minutes and notes from each of these BPSC meetings are included in Appendix A.

The following individuals participated in the Salisbury Comprehensive Bicycle Plan Steering Committee:

Name	Agency
William “Pete” Kennedy	Salisbury City Council
Preston Mitchell	City of Salisbury
Kathryn Clifton	City of Salisbury
Dan Mikkelson	City of Salisbury
Benita Staples	City of Salisbury
Catherine Goodnight	City of Salisbury / Catawba College
Trey Cleaton	City of Salisbury
Jennifer Goble	City of Salisbury
Bob Mosher	North Carolina Department of Transportation
Helen Chaney	North Carolina Department of Transportation
Randy Hemann	Downtown Salisbury Inc.
Michele d’Hemecourt	Landtrust / Surge / FHNA
Norde Wilson	Fulton Heights
Jack Owens	Confederate Heights
Jerry Shelby	Rowan County AARP, Planning, Council on Aging
Sean Meyers	N. Main District
Staton Carter	Summersett Funeral Home
Lynn Pitson	Salisbury OB / GYN
Paul A. Moore	Salisbury Parks & Recreation
Zorda Tucker	Windsong Bicycle Shop
Charlie Brown	Judge
Ester Burgess	Rowan County YMCA
Sara Phillips	RSS Schools
Phil Conrad	Mobility Solutions
Dale Privette	Wilbur Smith Associates
Anthony Isley	Wilbur Smith Associates
Rajit Ramkumar	Wilbur Smith Associates
Terry Snow	Wilbur Smith Associates
Deanna Berlin	Wilbur Smith Associates

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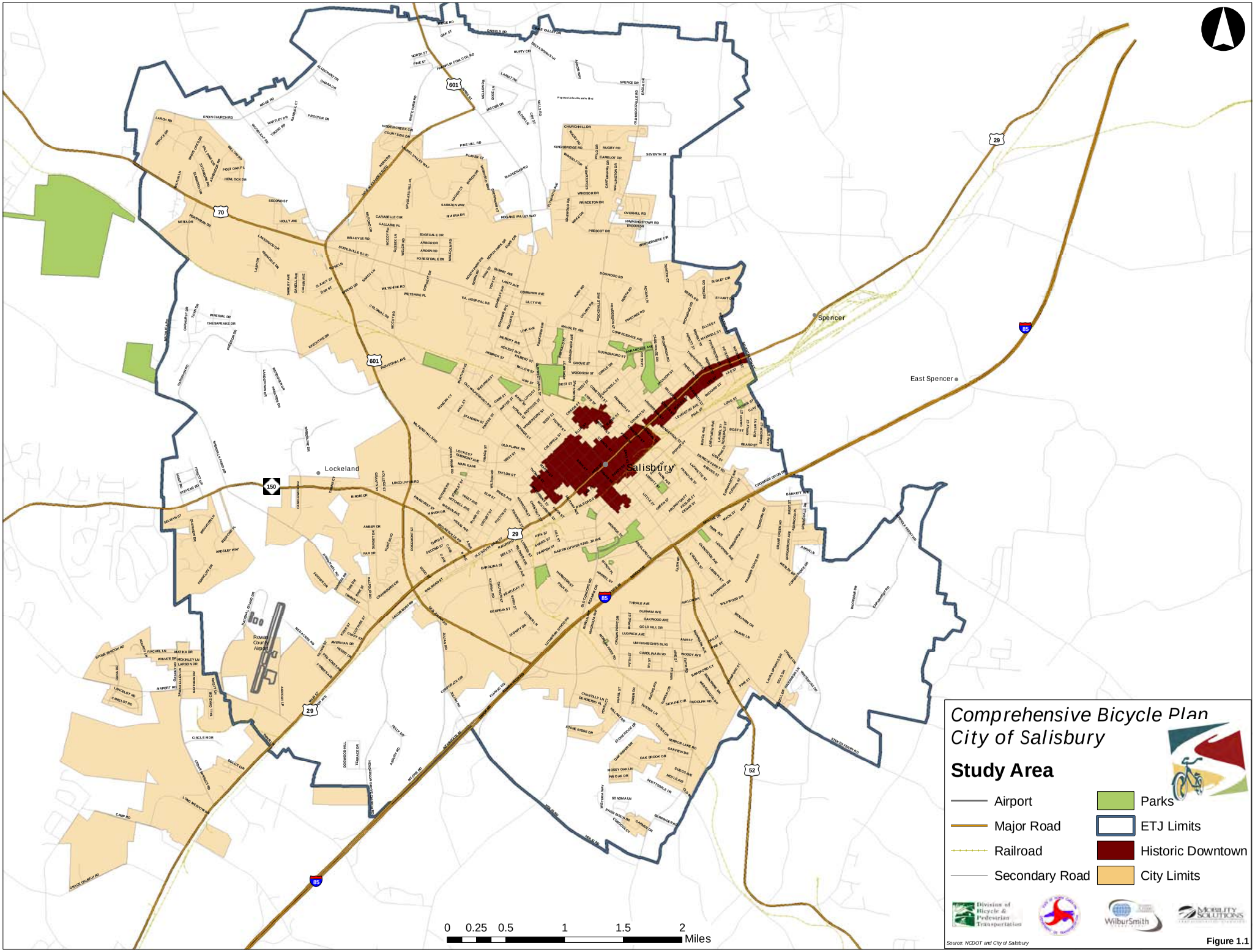
Comprehensive Bicycle Plan
City of Salisbury
Study Area
Airport
Major Road
Railroad
Secondary Road
Parks
ETJ Limits
Historic Downtown
City Limits
Salisbury
Spencer
East Spencer
Lockeland
Rowan County Airport
0 0.25 0.5 1 1.5 2 Miles
Source: NCDOT and City of Salisbury
Figure 1.1

Public Meetings

Another important part of the Comprehensive Bicycle Plan planning process was to provide the general public in Salisbury an opportunity to review and provide input on the draft Plan and maps. Two public meetings were scheduled over the one year planning process. The purpose of the first meeting, held on October 17, 2007, was to introduce the public to the project, discuss how the planning process was conducted, and discuss some draft recommendations that the Steering Committee and planning team had developed, and seek comments and input from the community regarding bicycle projects and program needs and expectations. Preliminary results from the public survey were discussed at this meeting and the audience was challenged to spread the word that this survey was available to all residents and visitors of Salisbury.

The 2nd public meeting is tentatively scheduled to occur in August of 2009. The Bicycle Plan is expected to be presented to the public to review and comment. This meeting will provide the public with the results of the previous received public survey responses, a review of proposed projects and programs, policies and an implementation schedule. A date for the 2nd Public Meeting will be announced to the public after the next Town Council Budget meeting in July of 2009.

During public meetings, the attendees are encouraged to provide comments on the plan. The public is given an opportunity to review draft maps including existing conditions, barriers and obstacles to safe cycling, bicycle crash locations, proposed bicycle thoroughfares including proposed and existing greenway trails, and many other considerations shown graphically. At the conclusion of public meetings, the citizens generally participate in a question and answer session. The summary for the 1st Public Meeting is summarized in Appendix A.

Public Survey

Comments from residents were solicited through an online Public Survey. The surveymonkey.com web service was employed to gain input from respondents on a variety of questions designed to gauge the public's interest and support of implementing a system geared toward reducing vehicle trips and increasing bicycle and pedestrian trips. In addition, survey questionnaires were handed out at public meetings and made available in Spanish language to obtain feedback from the Hispanic population. All input was tabulated and considered, and many of the ideas led to recommendations in this plan. A summary of the public survey is included in Appendix B.

Results of the survey that were particularly noteworthy and somewhat unexpected include:

- Providing safer facilities for cyclists was rated as the highest action the City could take to increase recreational bicycling, as well as bicycling used as a primary means of transportation.
- The overwhelming majority of cyclists in Salisbury currently ride for enjoyment, recreation, leisure, and exercise as opposed to cycling as a transportation mode choice.
- Very few survey respondents indicated that they had received any formal bicycle training.

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1.4 VISIONS, GOALS, and OBJECTIVES

At the Salisbury Bicycle Plan Steering Committee (BPSC) meeting held in April 2007 (see BPSC meeting minutes in Appendix A), participants noted that the need exists for both improved bicycle facilities as well as for supportive goals that will educate residents and increase awareness of bicycle usage and safety. The Salisbury area does not currently have an institutional framework to support bicycle transportation, but such a frame work is necessary to enable positive, continuing change to occur.

> *Vision:*
> *To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.*

BPSC members noted that bicycle facilities in Salisbury will not reach their potential if local residents are not educated about bicycle usage and safety. If Salisbury residents (bicyclist and non-bicyclist alike) are not aware of bicycle transportation issues, the local support will not exist to spur additional development of bicycle facilities. Therefore, goals and objectives to support bicycle transportation go hand-in-hand with the development of bicycle facilities. The policies and strategies described in Chapter 3 serve as a foundation for improving the bicycling environment in the Salisbury area.

Overall goals developed by the Salisbury BPSC members include the following seven major subject areas:

1) Safety
2) Interconnectivity
3) Accessibility
4) Design
5) Education
6) Encouragement
7) Enforcement

The following Goals and Objectives were established as a guideline for the development of the Salisbury Comprehensive Bicycle Plan. The purpose of these goals is to ensure that the development of the Plan complies with the needs and input of the residents in Salisbury. These goals exemplify the foremost bicycling principles for local stakeholders, elected officials and residents, based on input provided by Salisbury BPSC members and City Staff. These goals will be referred to as the basis for identification of the project prioritization criteria.

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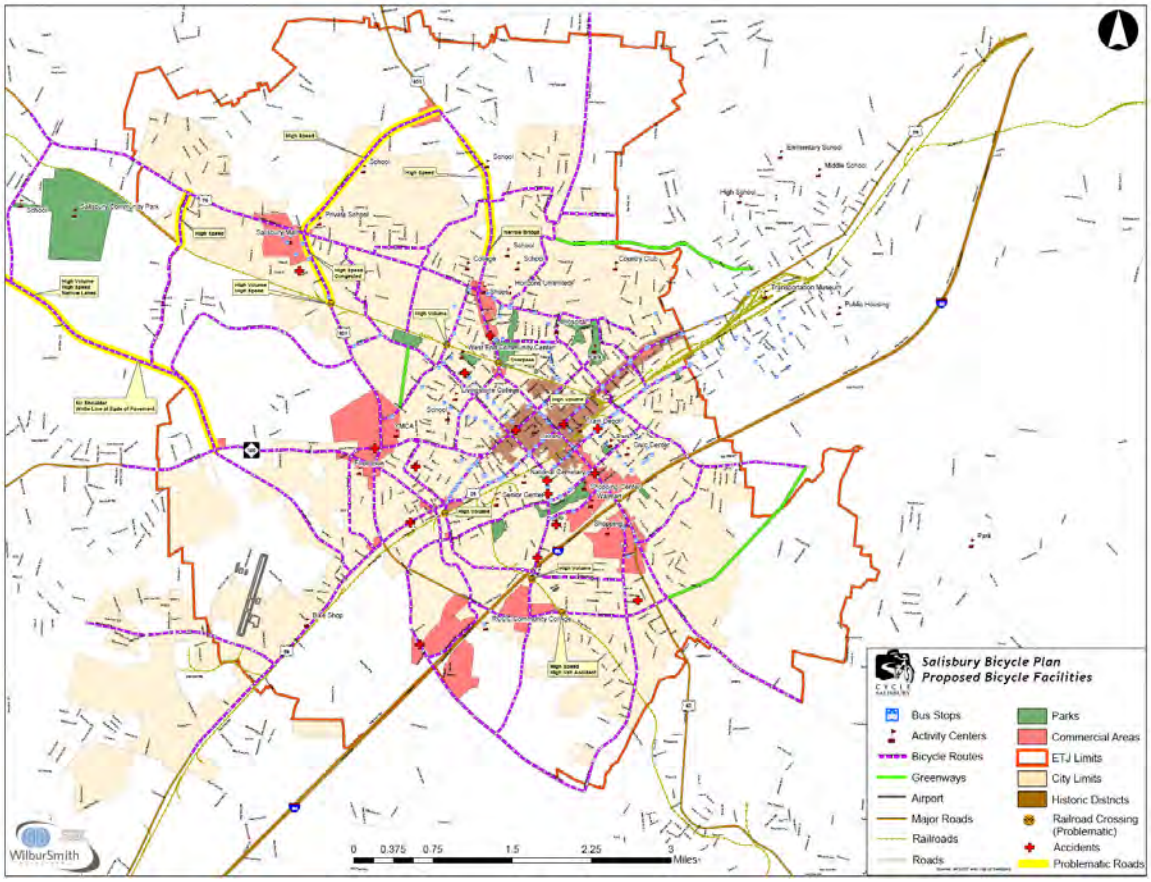

Working map showing proposed bicycle facilities used at the first steering committee meeting to identify potential obstacles and constraints.

Project prioritization criteria are tied to these goals in order to ensure the most economic and efficient bicycle improvement projects and programs are ranked according to the needs of the community. Connecting these goals to the project prioritization criteria is essential in the development of implementation recommendations (described later in Chapter 5) that will become the handbook for local officials and staff to reference when securing funds, budgeting and allocating local resources for improving the bicycle transportation system throughout the City. Any bicycle improvement completed within the City that addresses these goals will help Salisbury become a better community for bicyclists and residents.

Goal 1 – Safety (Security)

Develop a 'tool box' of appropriate design standards, guidelines, recommendations and model ordinances that the City may use to create and design safe and secure bicycle environments for the residents of Salisbury.

- Provide optimal safety recommendations that reduce bicycle and motor vehicle conflicts. Provide adequate separation between motorists and bicyclists using the same facility. Provide off-road facilities for less-experienced cyclists.

- Create transportation policies, practices and regulations that support the increase of bicycle safety throughout Salisbury.

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- Improve the safety and efficiency of arterials and residential streets for use by bicyclists and motorists. Ensure speed limits are consistent throughout the City on similar streets.

- Provide adequate space along greenways to accommodate pedestrians and bicyclists.

- Enhance security along Salisbury's greenway system.

Goal 2 – Interconnectivity
Create and implement policies that promote and encourage connectivity and an integrated bicycle network throughout the City.

- All new roadway and reconstruction projects should include an evaluation of appropriateness for inclusion of bicycle facilities.

- Resurfacing projects should be evaluated to include striping and signage where roadway width is suitable for bicycle facilities.

- Include bicycle amenities as a part of all new transit projects.

- Create development policies that encourage the use of greenways or multi-use paths between residential developments to enhance connectivity and accessibility.

- Local to Regional connectivity should be considered. Plans should be coordinated to connect neighboring cities and counties.

Goal 3 – Accessibility
Design, develop and preserve bicycle facilities in Salisbury to ensure that all residents and visitors, regardless of socio-economic status; physical ability; or age, have convenient access to goods, services, jobs and recreation.

- Provide bicycle access to and from major trip generators such as schools/colleges, grocery stores, parks/greenways, transit facilities, shopping, YMCA, movie theaters, and employment centers.

- Promote residential and commercial development and site plans that provide connectivity and accessibility for bicycling trips versus motorized trips.

- Provide accessibility design guidance for all new development plans.

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- Identify obstacles and barriers or "gaps" in the Salisbury bicycle network and connect all major destinations and activity centers.

- Provide 'end of trip' bicycle facilities (bicycle parking or storage) at destinations and activity centers.

Goal 4 – Design

Develop and adopt innovative transportation technologies that are effective, efficient, affordable and feasible.

- Develop design standards that encourage motor vehicle drivers to travel at reduced speeds, making public streets in Salisbury safer and more comfortable for bicyclists.

- Design bicycle facilities that will be convenient, comfortable and cost-effective.

- Design a transportation system in Salisbury that restores and maintains the quality of life and the quality of the environment.

- Develop a transportation system that reduces the number of motor vehicle trips by increasing the number of bicycle trips.

- Gather input regarding best practices from sister jurisdictions with Comprehensive Plans.

Goal 5 – Education

Create and promote multi-faceted educational programs that focus on safety, awareness, and benefits of bicycling.

- Promote bicycling skills events such as bike rodeos in elementary and middle schools.

- Encourage schools in Salisbury to take advantage of available funding opportunities for bicycle improvements through the NCDOT Safe Routes to School Coordinator.

- Work cooperatively with Public Health and Environmental Agencies to help educate the public of the positive impact bicycling can have on overall quality of life.

- Provide bicycle education programs for cyclists and motorists alike.

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Goal 6 – Encouragement

- Encouragement should begin at an early age. Elementary schools in the Salisbury area have purchased bicycle curriculums and supplies. Teachers need volunteers to assist them with pursuing these programs.

- Advertise, promote, and actively participate in national activities, such as Walk to School Day, Bike to Work Day, Earth Day, and Car Free Day. The City could sponsor these activities annually with refreshments, an informational booth, etc…

- Encourage residents of Salisbury to participate in local events that are already established in the City, such as cyclo-cross workshops, the Giordana Cross Roads, and Out Like a Lion bicycle races. Sponsor advertisement of these events, and actively participate in the preparation and on event day.

Goal 7 – Enforcement

- Encourage Salisbury Police Department to incorporate training of officers on motor vehicle laws as they relate to bicycles and shared use of roadways.

- Encourage Salisbury Police Department to incorporate training of officers on current bicycle and pedestrian laws.

- Promote and coordinate with Salisbury Police Department for the implementation of a Bicycle Patrol Unit.

1.5 BENEFITS OF BICYCLING

Creating alternatives to our current automobile-centered transportation system that are safe and welcoming can have profound encouraging influences on the quality of life in Salisbury. By becoming more bicycle and pedestrian-friendly, the Salisbury community can realize significant economic, environmental, and social benefits.

The City of Salisbury is not unlike most American communities where the automobile dominates transportation. The proliferation of the automobile in our public and private spaces is the greatest obstacle to the provision of safe, efficient and pleasurable walking and biking. The ability to travel under human-powered means, regardless if it is by foot, bicycle, wheelchair, stroller or skateboard, remains an essential part of our daily way of life.

In order to enjoy this quality of life, it is essential that we accommodate and promote walking and bicycling. These modes should not be used only when a practical necessity,

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but should also be used in order to enjoy the important economic, environmental, and social benefits that increased bicycle and pedestrian activity affords.

Economic Benefits of Making our Region More Conducive to Bicycling

One of the most economical forms of transportation in terms of cost is undoubtedly bicycling. Bicycling is relatively low cost and should be readily available to most residents of the City. In contrast, the expense required to maintain and operate a motor vehicle is very high and out of the realm of possibility to many that cannot afford the additional expense.

The average cost of operating a car for one year is approximately $5,170, as opposed to the cost of operating a bicycle for a year of only $120 [1]. The average family has to work for more than 6 weeks to pay a year's car expenses, compared to less than one day needed to pay for a year's bicycle expenses[2]. On average, the typical family makes ten trips by motor vehicle per day. Each of these trips is usually a one-way drive between two points by one person. The average American spends approximately 26 8-hour workdays behind the wheel of a car every year [3]. The average motorist also loses $625 per year in wasted time and fuel while idling in traffic [4]. The result is lost productivity and worsening air quality due to the large increase in noxious emissions.

Typical development patterns since World War II have forced residents to rely on the family car for almost every trip. Fortunately, downtown Salisbury and its surrounding historic neighborhoods have close proximity to mixed uses and good connectivity. Restoring these historic development patterns in new construction and providing safe, attractive facilities for walking and bicycling can begin to make an impact on the number of car trips and, in many instances, eliminates the need for a second car.

It is obvious that there is economic benefit in providing safe and convenient access for customers to the many commercial and activity centers located throughout Salisbury. Enhanced bicycling activity is likely to produce various other indirect economic benefits, as well as an increase in the quality of life. When new commercial interests are surveying a region for future development, they will often consider quality of life issues when selecting a location to invest in. Having access to multi-use trails, greenways and bicycle-friendly streets has been shown to have a positive effect on property values. Therefore, excellent bicycle and pedestrian facilities can attract tourists to the Salisbury area, both as a stop en-route and as an end destination.

Environmental Benefits of a Bicycle Friendly Community

The two major non-fuel-consuming, non-polluting forms of transportation in America are bicycling and walking. There are millions of Americans that ride bicycles and/or walk for a wide variety of purposes such as commuting to work, recreation, and conducting personal business such as shopping. For many of these individuals, bicycling or walking are the prime means of transportation.

[1] Pedestrian and Bicycle Information Center (www.bicylinginfo.com).
[2] U.S. Census, 1998 median family income figures.
[3] U.S. Census Bureau Census 2000 File 3.
[4] Road Information Program, Stuck in Traffic, May 2001.

The greatest environmental benefit of bicycling, by far, is that fossil fuel consumption, which our society has become so dependent, is avoided. Bicycling does not contribute to the environmental damage inherent in extracting, transporting, processing and burning petroleum or other fossil fuels. Bicycling can displace the short trips that would otherwise involve a motor vehicle. These short trips are the least fuel-efficient and generate the most pollution per mile traveled.

Bicycling is an underappreciated mode of mobility in the United States. Reports show that motor vehicle emissions account for 31% of total carbon dioxide, 81% of carbon monoxide, and 49% of nitrogen oxides released into the atmosphere in the United States[(5)]. It is important to continue to encourage individuals to cycle when making short trips to enhance the reduction of harmful auto emissions. For example, substituting a four-mile round trip by bicycle for a trip by motor vehicle keeps about 15 pounds of pollutants out of the atmosphere. Air pollution contributes to the deaths of 60,000 people annually nationwide. In urban areas with poor air quality, asthma is becoming a more significant health concern [(6)]. Decreasing the number of trips made by automobile will also result in less wear and tear on vehicles and the need for replacement of both parts and the vehicle itself. Reduced traffic levels also reduce noise pollution. In addition, decreasing the number of automobile trips reduces the cost of maintaining the public street system and could result in lower taxes.

Social and Health Benefits of Promoting Bicycling

Although very subjective, the social benefits of improved bicycle facilities are no less compelling. Public space gives the community a lively atmosphere that can generate more social and commercial activity. This is accomplished simply by having more people outside. In a community that is dominated by the automobile, contact between friends and neighbors is often reduced to a wave from the inside of an automobile. Improved bicycle facilities can provide residents the opportunity to gain a deeper understanding and appreciation of the region's built and natural environment.

As a result of all of these transportation-related improvements, communities can become more cohesive. Streets that are attractive and safe for all users encourage social interaction. They encourage children to ride bicycles to their friends' houses and adults to cross the street to talk to neighbors. Efficient public transit systems allow those without vehicles – the young, the poor, the elderly, and the handicapped – to participate more fully in civic life, providing a degree of independence they might not otherwise have. By understanding and addressing the unique needs of many different socioeconomic groups through early, inclusive, and meaningful public involvement, transportation facilities may be designed to

[5] The Green Commuter, A Publication of the Clean Air Council.
[6] Harvard University School of Public Health.

fit more harmoniously in communities.

North Carolina has the 15th highest level of adult obesity in the nation at 24.0 percent, and the 11th highest overweight high school student level at 12.5 percent. The state spent an estimated $254 per person in 2003 on medical-costs related to obesity, which was the 28th highest amount in the nation [(7)].

The beneficial impact of regular physical activity on health, like bicycling and walking, is far reaching. Its role in the prevention and management of coronary heart disease, hypertension, obesity, diabetes, osteoporosis and depression is well established. Increased bicycling and walking can have a positive effect on the overall health of a community. Living in a bicycle and pedestrian friendly environment can play a significant part in leading children to exercise more and to develop healthy habits for life.

Benefits of Mainstreaming Bicycle Facilities into the Overall Transportation System

Bicycle facilities are often viewed as attractive amenities, or non-essential add-ons, to expanding or redeveloping communities. However, with the current shift toward healthier, cleaner, and more economical modes of transportation, bicycle and pedestrian modes of travel are suddenly more attractive to visitors and residents alike. Thus mainstreaming these bicycle facilities into a communities' General or Comprehensive Plan has become essential, instead of being considered only as an option.

Summary of Opportunities and Benefits

As previously stated, there are numerous economical, environmental, and social benefits of utilizing a bicycle system over a conventional automobile-centered infrastructure. However, it is the responsibility of the City or City's elected officials to make the bicycle facility an integral part of the Comprehensive Plan and be mainstreamed into the daily decision making process. These changes will not only ensure the future development and revitalization of bicycle facilities, but aid in the City of Salisbury's quality of life and help it and its residents flourish well into the future.

This comprehensive plan summarizes recommendations for the City of Salisbury to improve bicycling for both recreation and transportation. The proposed bicycle network is a combination of off-road trails and on road routes. Bicycle parking and safe routes to schools are addressed. Policies and programs and the three E's are discussed – Education, Encouragement, and Enforcement. Finally, implementation methods and cost estimates are described.

Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

[7] Trust for America's Health Report on America's Obesity, August 2006.

Chapter 2
Existing Conditions

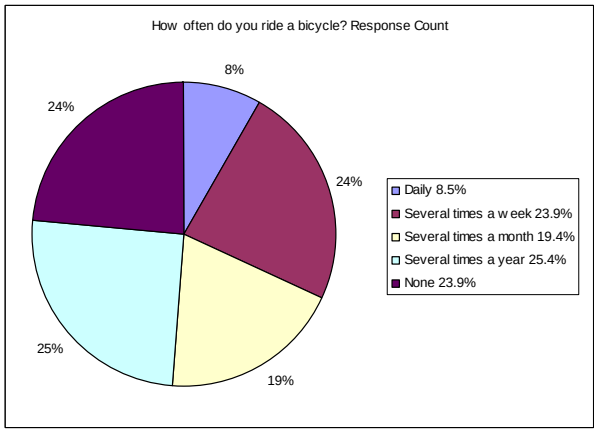
Chapter 2 – Existing Conditions

2.1 INTRODUCTION

From Civil War sites to modern parks, Salisbury is a City rich in history and southern hospitality. This growing City draws much attention from its rich history and proximity to Charlotte to the south and Greensboro-Winston Salem to the north. It is located halfway between these two busy cities and is served by Amtrak rail service, Interstate 85, US Highways 601, 29, 52 and 70, and the Rowan County Airport.

Established in 1753, Salisbury is home to the famous North Carolina soft drink, Cheerwine and the Food Lion grocery chain. The City is also a famous American Civil War site with a large historic home district and notable mansions, several of which are on the National Register of Historic Places.

In recent years, the City has been experiencing growth in non-residential land uses including business, commercial, institutional, and industries opening in the past few years, with many more under construction. While the City of Salisbury is a growing urban center, many of the streets within the City and within Salisbury's planning jurisdictions still maintain a rural character, with narrow to moderate widths, and narrow or no shoulders. As new development has occurred in the City, particularly residential development in the north and west, the facilities within the developments have typically been constructed in a manner that is accommodating to cyclists, but often connections between adjacent



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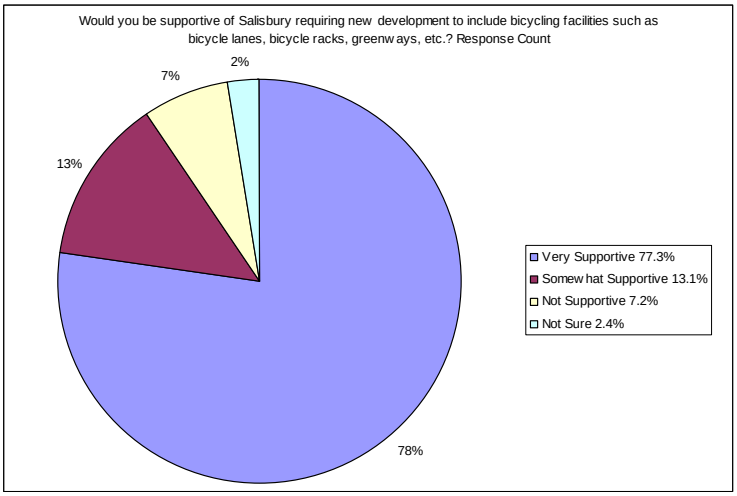
developments have not been made. Additionally, high traffic volumes and speeds on the US 29, 70, 601 and 52 corridors provide barriers to inexperienced cyclists.

Biking in Salisbury is a popular recreation choice among residents and tourists, even with the lack of designated bike routes. Outside of residential developments, recreational cycling is typically performed by more serious on-road cyclists who travel moderate to long distances on roads that border the City. The public survey responses indicate at least 8.5% of the respondents' bike daily with 25.4 % biking several times per year.



As shown in the vision statement and in discussions with the public, the Bicycle Plan Steering Committee, and City staff, all have indicated that the residents of the City desire that all groups of individuals be accommodated with bicycle facilities within the City. As shown in the chart above, the residents are very supportive (77%) of the City's plan to include bicycle facilities as a requirement for new developments. This study provides the framework and actions needed to create designated bicycle routes and develop the supporting facilities and programs necessary to ensure that bicycling is not only for recreation, but is a viable choice for a wide variety of trips within the City. This plan will recommend convenient and safe bicycle routes that will facilitate cost-effective, healthy, and convenient transportation alternatives within the City. Increased biking will enhance social interaction on streets and trails, offer alternatives to driving, and reduce pollution, all qualities enhancing the quality of life for the citizens of Salisbury.

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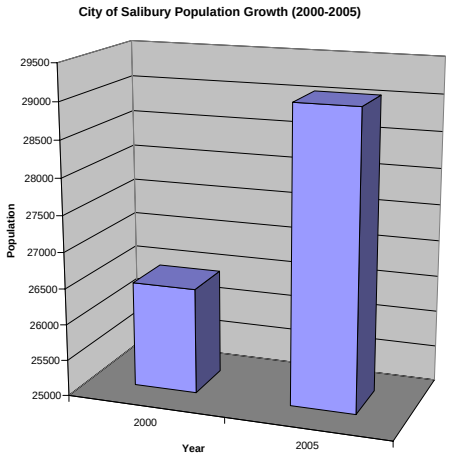
2.2 USER DEMOGRAPHICS

Population

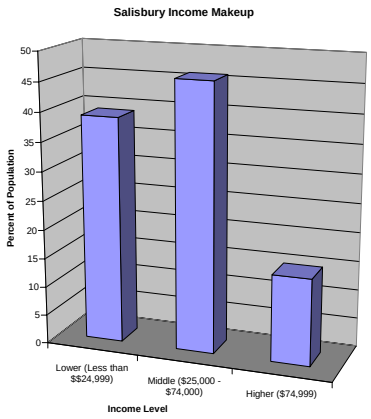
Between 2000 and 2005 the City of Salisbury's population grew 9.8% from 26,462 residents to an estimated 29,058 residents ([1]).



Between 2000 and 2005, Rowan County grew 2.3% to an estimated 133,339 residents from 130,340. The City of Salisbury accounts for approximately 22% of the county's overall population.

Income

Income levels are used to reveal important demographic characteristics of Salisbury. In general, high income groups ($75,000 or more in annual income) and middle income groups ($25,000 to $74,000) tend to be more active and participate in types of activities with relative to high expenses. However, the lower income groups (less than $24,999) tend to rely on the availability of economic and passive recreational activities. In Salisbury, middle income residents make up 46% of the total population, followed by lower income residents (39%). The high income groups of Salisbury make up approximately 15% of the total population.



The Salisbury economy has experienced substantial growth through most of the 2000's as a result of the increase in population and development. The City has experienced growth while diversifying its economy. This is important since the quality of life Salisbury has to offer has a tremendous effect on the diversification of the economy to fuel further economic growth. New economic investment interests that are considering a move to Salisbury will partially base decisions to locate by the quality of life an area has to offer for its employees. Safe and effective bicycle facilities play a key role in this and have an important part in the future health of the economy of the Salisbury area.

Housing

The City of Salisbury is primarily residential with single-family and mobile home residential units comprising approximately 70% of the total housing units in the town. According to the 2000 U.S. Census Data, approximately 44% of the total residential units were valued between $50,000 and $99,999 followed by 23% of residential units valued

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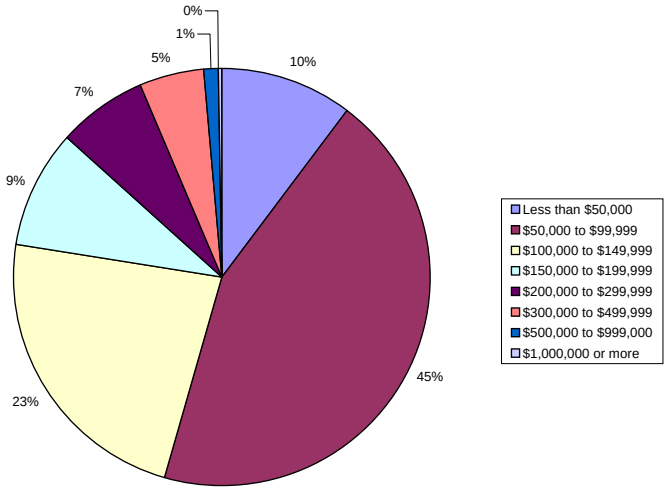
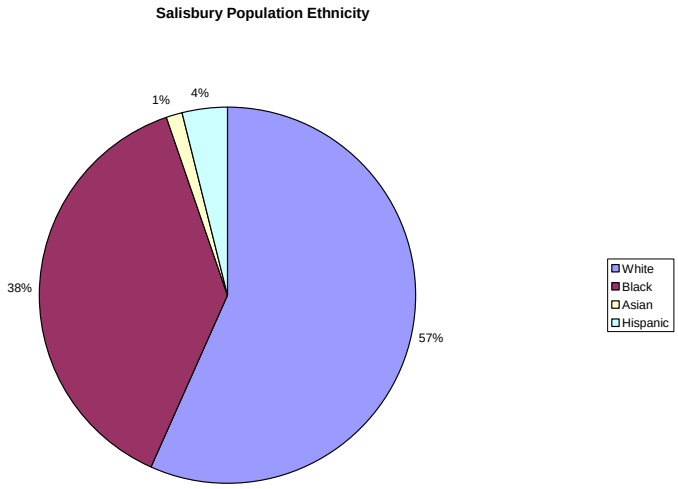
between $100,000 and $149,999. The median value for housing units in Salisbury is estimated at $93,800.



Ethnicity

Many ethnic groups have a greater participation level in specific types of recreational activities, which would increase the demand for certain types of facilities.



Based on the information gathered from North Carolina State Data Center, the population in Salisbury is predominately White (57%), but Salisbury is becoming more diverse each year. In 2000, races other than white made up approximately 20% of the total ethnicity of Salisbury. The largest non-white group in Salisbury is Black or African American (38%). Hispanic or Latinos make up 4%, and Asians make up approximately 1.4%.

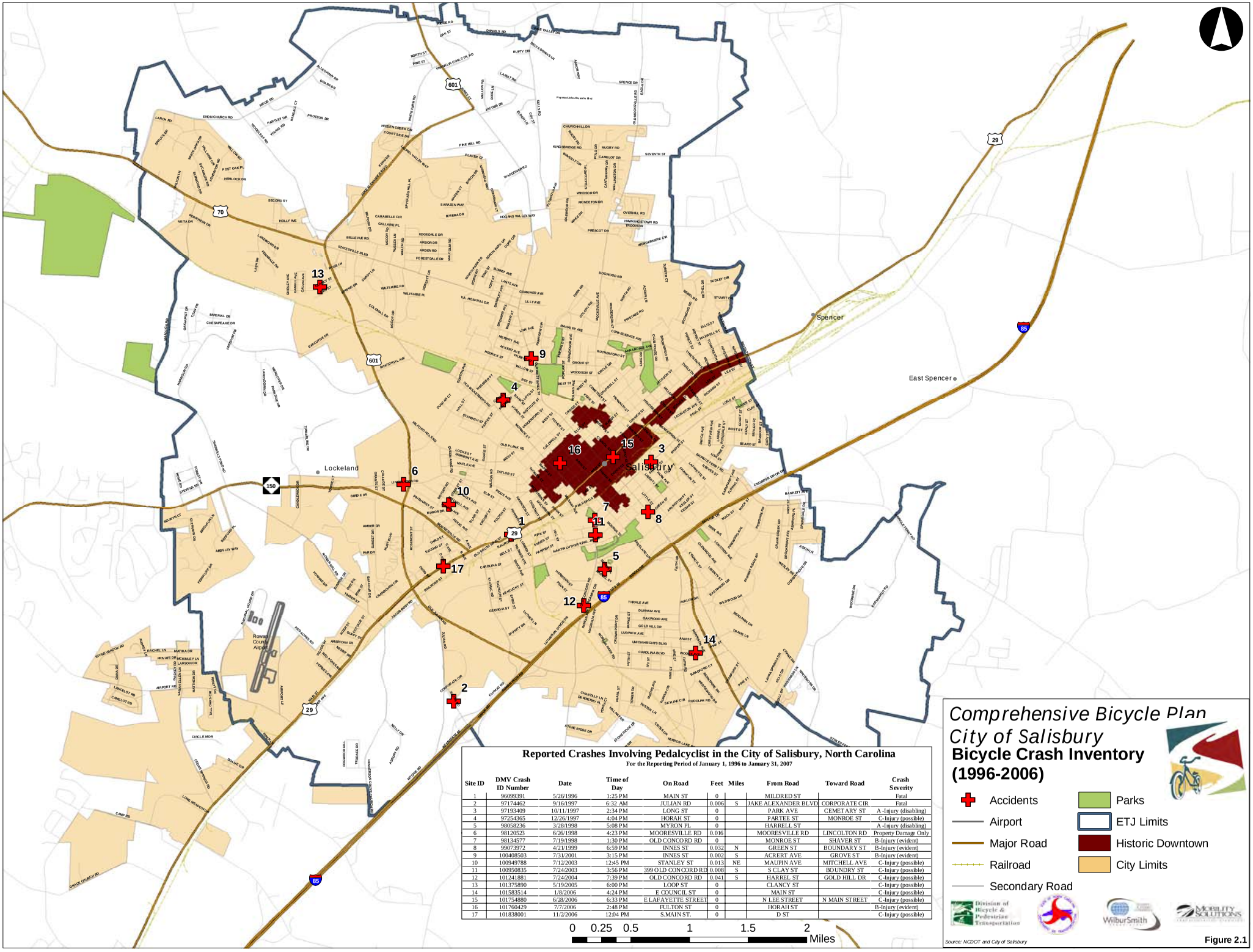
2.3 BICYCLE CRASH DATA

Bicycle crash data was collected from the North Carolina Department of Transportation, the Highway Safety Research Center (HSRC), and the Salisbury Police Department. Data from these sources was compared for consistency. The NCDOT database identified one incident than was not reported by the Salisbury Police Department. Bicycle crash locations are shown on **Figure 2-1**.

According to the HSRC and Salisbury Police Department, bicycle crashes occurred at the following locations:

Table 2-1 Bicycle Crashes

Date	Time of Day	On Road	From Road	Toward Road	Crash Severity
5/26/1996	1:25 PM	MAIN ST	MILDRED ST		Fatal
9/16/1997	6:32 AM	JULIAN RD	JAKE ALEXANDER BLVD	CORPORATE CIR	Fatal
10/11/1997	2:34 PM	LONG ST	PARK AVE	CEMETARY ST	A -Injury (disabling)
12/26/1997	4:04 PM	HORAH ST	PARTEE ST	MONROE ST	C-Injury (possible)
3/28/1998	5:08 PM	MYRON PL	HARRELL ST		A -Injury (disabling)
6/26/1998	4:23 PM	MOORESVILLE RD	MOORESVILLE RD	LINCOLTON RD	Property Damage Only
7/19/1998	1:30 PM	OLD CONCORD RD	MONROE ST	SHAVER ST	B-Injury (evident)
4/21/1999	6:59 PM	INNES ST	GREEN ST	BOUNDARY ST	B-Injury (evident)
7/31/2001	3:15 PM	INNES ST	ACRERT AVE	GROVE ST	B-Injury (evident)
7/12/2003	12:45 PM	STANLEY ST	MAUPIN AVE	MITCHELL AVE	C-Injury (possible)
7/24/2003	3:56 PM	399 OLD CONCORD RD	S CLAY ST	BOUNDRY ST	C-Injury (possible)
7/24/2004	7:39 PM	OLD CONCORD RD	HARREL ST	GOLD HILL DR	C-Injury (possible)
5/19/2005	6:00 PM	LOOP ST	CLANCY ST		C-Injury (possible)
1/8/2006	4:24 PM	E COUNCIL ST	MAIN ST		C-Injury (possible)
6/28/2006	6:33 PM	E LAFAYETTE STREET	N LEE STREET	N MAIN STREET	C-Injury (possible)
7/7/2006	2:48 PM	FULTON ST	HORAH ST		B-Injury (evident)
11/2/2006	12:04 PM	S.MAIN ST.	D ST		C-Injury (possible)



Reported Crashes Involving Pedalcyclist in the City of Salisbury, North Carolina

For the Reporting Period of January 1, 1996 to January 31, 2007

Site ID	DMV Crash ID Number	Date	Time of Day	On Road	Feet	Miles	From Road	Toward Road	Crash Severity
1	96099391	5/26/1996	1:25 PM	MAIN ST	0		MILDRED ST		Fatal
2	97174462	9/16/1997	6:32 AM	JULIAN RD	0.006	S	JAKE ALEXANDER BLVD	CORPORATE CIR	Fatal
3	97193409	10/11/1997	2:34 PM	LONG ST	0		PARK AVE	CEMETARY ST	A -Injury (disabling)
4	97254365	12/26/1997	4:04 PM	HORAH ST	0		PARTEE ST	MONROE ST	C-Injury (possible)
5	98058236	3/28/1998	5:08 PM	MYRON PL	0		HARRELL ST		A -Injury (disabling)
6	98120523	6/26/1998	4:23 PM	MOORESVILLE RD	0.016		MOORESVILLE RD	LINCOLTON RD	Property Damage Only
7	98134577	7/19/1998	1:30 PM	OLD CONCORD RD	0		MONROE ST	SHAVER ST	B-Injury (evident)
8	99073972	4/21/1999	6:59 PM	INNES ST	0.032	N	GREEN ST	BOUNDARY ST	B-Injury (evident)
9	100408503	7/31/2001	3:15 PM	INNES ST	0.002	S	ACRERT AVE	GROVE ST	B-Injury (evident)
10	100949788	7/12/2003	12:45 PM	STANLEY ST	0.013	NE	MAUPIN AVE	MITCHELL AVE	C-Injury (possible)
11	100950835	7/24/2003	3:56 PM	399 OLD CONCORD RD	0.008	S	S CLAY ST	BOUNDRY ST	C-Injury (possible)
12	101241881	7/24/2004	7:39 PM	OLD CONCORD RD	0.041	S	HARREL ST	GOLD HILL DR	C-Injury (possible)
13	101375890	5/19/2005	6:00 PM	LOOP ST	0		CLANCY ST		C-Injury (possible)
14	101583514	1/8/2006	4:24 PM	E COUNCIL ST	0		MAIN ST		C-Injury (possible)
15	101754880	6/28/2006	6:33 PM	E LAFAYETTE STREET	0		N LEE STREET	N MAIN STREET	C-Injury (possible)
16	101760429	7/7/2006	2:48 PM	FULTON ST	0		HORAH ST		B-Injury (evident)
17	101838001	11/2/2006	12:04 PM	S.MAIN ST.	0		D ST		C-Injury (possible)

0 0.25 0.5 1 1.5 2 Miles

Comprehensive Bicycle Plan
City of Salisbury
Bicycle Crash Inventory (1996-2006)

- Accidents
- Airport
- Major Road
- Railroad
- Secondary Road
- Parks
- ETJ Limits
- Historic Downtown
- City Limits

Division of Bicycle & Pedestrian Transportation

WilburSmith Associates

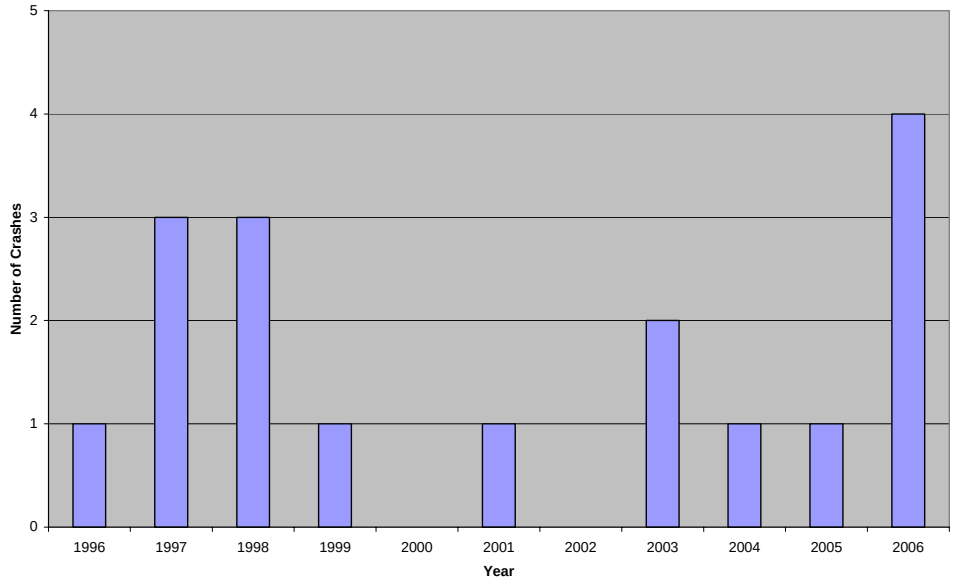
Mobility Solutions

Source: NCDOT and City of Salisbury

Figure 2.1

Data provided by NCDOT between January 1996 and December 2006 is illustrated in Exhibits 2-1 through 2-6 below. Exhibit 2-1 displays the total bicycle crashes in Salisbury by year.

Exhibit 2-1: Total Bicycle Crashes (1996-2006)



The North Carolina Highway Safety Research Center reports that statewide, an average of 988 bicycle-vehicle crashes occur annually in North Carolina.

The severity of bicyclist injuries related to the reported crashes is shown in Exhibit 2-2. Since 1996, two bicycle crashes resulted in fatal injuries while two reported crashes resulted in Type A (disabling injuries). Four crashes resulted in Type B injuries (evidence of injury). Most crashes were minor in severity and one resulted in property damage only.

Exhibit 2-2: Bicycle Crashes by Injury (1996-2006)

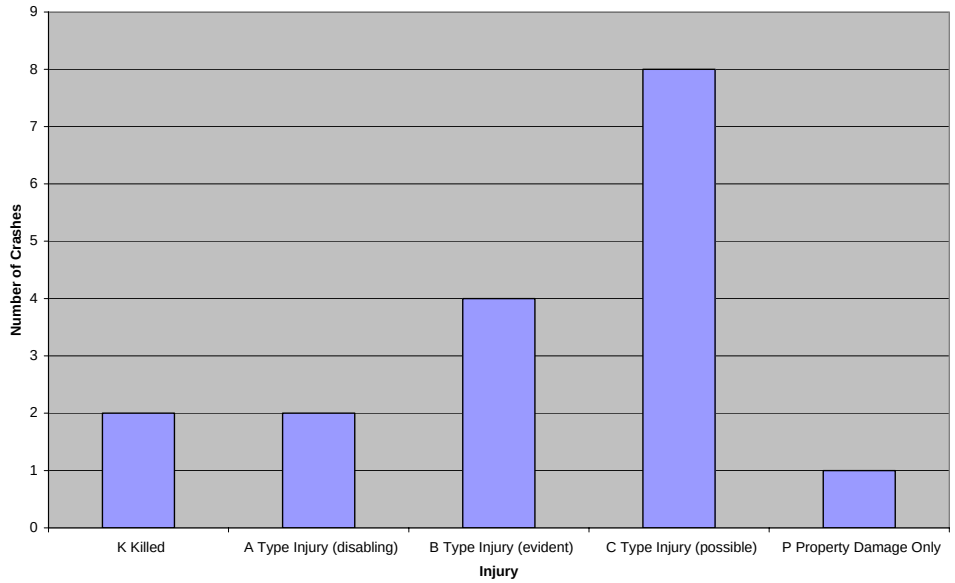
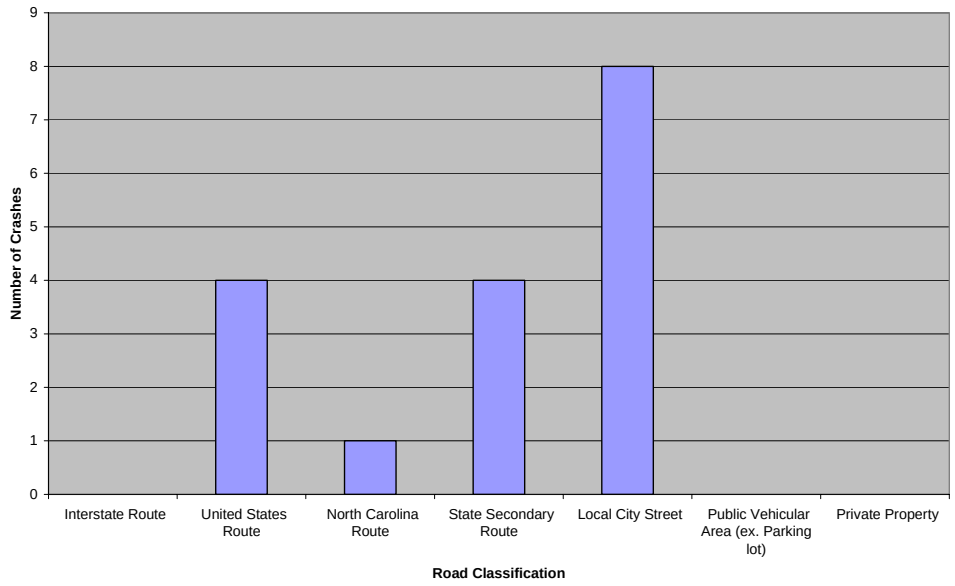


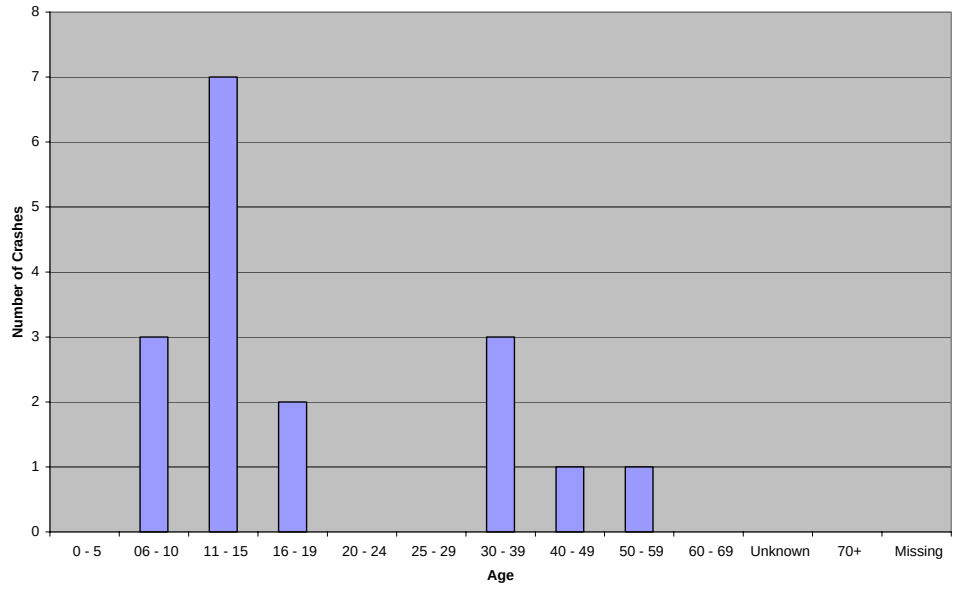
Exhibit 2-3 identifies the types of street classifications that bicycle crashes occurred along. The data suggests that the highest number of reported bicycle crashes occurred on local City streets. Local streets generally experience lower speeds and tend to access residential areas more than the higher speed and more congested highways and secondary roads. Areas of vehicular parking present potential hazards for bicyclists and pedestrians alike. It is essential that safety education be addressed in these areas.

Exhibit 2-3: Road Classification (Bicycle Crashes 1996-2006)



The age of bicyclists involved in crashes is illustrated in Exhibit 2-4. Cyclists between the ages of eleven and nineteen account for sixty percent of the bicycle crashes that have occurred in Salisbury. This is logical since most teens are dependent on alternative transportation modes due to minimum driver licensing age requirements in North Carolina. Three crashes involved cyclists younger than ten years old, evidence of a level of possible inexperience in cycling.

Exhibit 2-4: Crashes by Bicyclist Age (1996-2006)



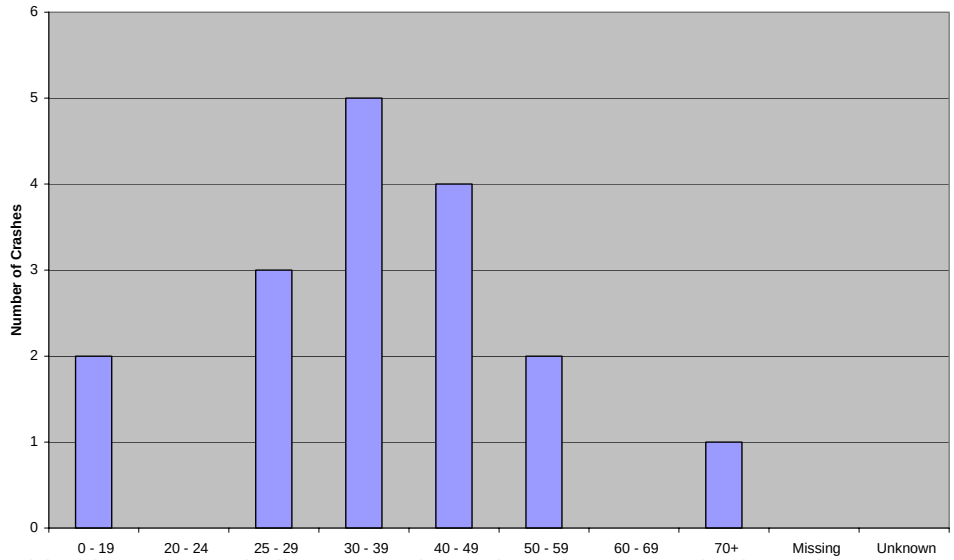
Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

Salisbury's Bicycle Age data aligns with similar trends statewide. During the same time period, North Carolina's statewide averages are as follows:

- 19% of all bicycle crashes involved bicyclists in the 11-15 age category, the highest percentage among all age categories
- 10% of all bicycle crashes involved bicyclists in the 16-19 age category
- The second highest age group statewide was 30-39, accounting for 15% of all crashes statewide.
- The 6-10 age group accounted for 13% of the statewide total.

Exhibit 2-5 shows that the bulk of motorist ages involved in these crashes are consistent with the age groups found most commonly on today's highways. Nine of the seventeen motorists involved were between the ages of 30 and 49, which is not surprising. One crash involved a motorist beyond the age of 70, and another two involved young drivers less than twenty years old. This data supports the continued need to develop and expand bicycle safety and education programs for all ages.

Exhibit 2-5: Crashes by Motorist Age (1996-2006)



Data provided by NCDOT indicates "fault" assigned to one or both parties. In the case of these crash statistics, the bicyclist was found to be at fault in ten of the seventeen, or 59% of the crashes reported, while motorists were at fault in seven, or 41%.

Statewide, over the same time period, bicyclists were found to be at fault in 52% of the reported crashes, 23% of the crashes were found to be the fault of the motorist, and the reporting officer cited both the bicyclist and motorist in 14% of the crashes.

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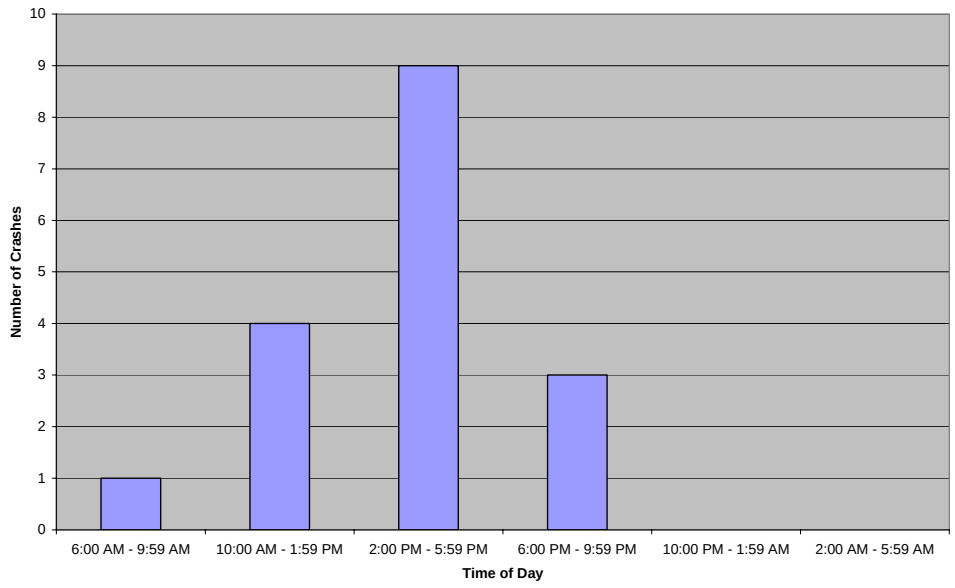
Exhibit 2-6 indicates the time-of-day when bicycle crashes occurred in Salisbury. The majority of crashes reported occurred during the early afternoon hours between 2:00 and 6:00 PM. As shown in Exhibit 2-4, the prevalent age of bicyclists involved in crashes is consistent with school ages. It is likely that this is the time that most young cyclists ride bikes, immediately after school in the afternoon. In the winter, darkness falls in early evening hours and visibility is reduced, resulting in more difficulty for motorists to see bicyclists riding along the roadways. This data supports the need for developing educational programs to remind bicyclists to wear reflective clothing and have lights mounted on the bicycle.

Exhibit 2-6: Time of Day of Accidents (1996-2006)

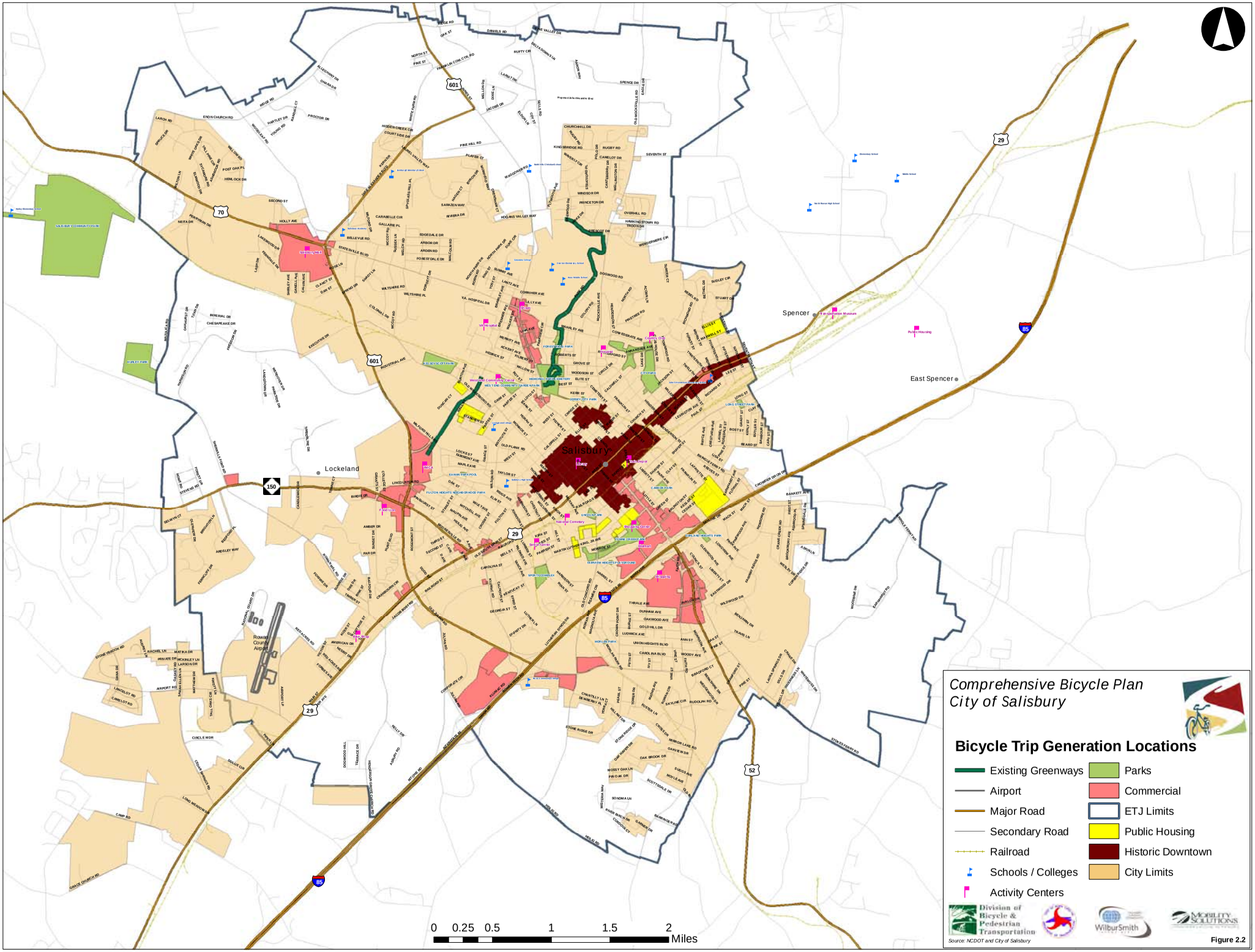


2.4 CURRENT BIKE USAGE

There are no current bicycle counts available for the City of Salisbury that can be analyzed to determine current usage. However, recent observations by the Project Team and Town Staff during numerous site visits to the Salisbury area indicate that there is a growing trend in bicycle usage. Most bicycle activity was observed along the Fulton Street and Lincolnton Road/Salisbury High School areas. The 2000 U.S. Census indicates 10,433 workers age 16 and over commute to work in the City of Salisbury. Of these, 9,758 or 93.5% either drive alone or carpool. Another 2.7% walk to work, 2.1% work at home, and 0.9% use public transportation. This leaves 85 workers or 0.8 percent of the total who commute to work by some other means, which can be assumed from the data to be via bicycle. This is well above the national average of 0.4 percent of bicycle commuters.

Bicycle clubs exist in the City of Salisbury, one such being a somewhat consistent group of cyclists organized by the Windsong Bicycle Shop and Zorda Tucker, who gather on weekends for long rides to various points of interest statewide. In addition, national bicycling programs are held every year such as National Bike to Work Day, held on the third Friday in May annually, and Bike to Work Month, the entire month of May.

Local attractions most likely generating bicycle and walking trips in and around Salisbury are shown in **Figure 2-2.**


Comprehensive Bicycle Plan
City of Salisbury
Bicycle Trip Generation Locations
Existing Greenways
Airport
Major Road
Secondary Road
Railroad
Schools / Colleges
Activity Centers
Parks
Commercial
ETJ Limits
Public Housing
Historic Downtown
City Limits
Source: NCDOT and City of Salisbury
Figure 2.2
0 0.25 0.5 1 1.5 2 Miles
Salisbury
Spencer
East Spencer
Lockeland
Rowan County Airport

2.5 EXISTING PLANS, PROGRAMS AND POLICIES

The City of Salisbury currently possesses several approved planning documents, of which many elements have been integrated into this Plan. This section evaluates these plans, programs and policies that impact the bicycle transportation system in Salisbury. Highlights of these existing planning elements are listed below.

Comprehensive Bicycle Plan

The City of Salisbury selected Wilbur Smith Associates to develop this Comprehensive Bicycle Plan. The purpose of this Plan is to identify current and future bicycle facility needs, programs and initiatives to make Salisbury a safer and more bicycle friendly community. The Plan is expected to be adopted by the City Council in early 2009.

Salisbury Vision 2020 Plan

Adopted in March 2001, this Plan was intended to continue the type of successful community planning that the original Salisbury 2000 Plan began, while bringing some of the most current and effective approaches to growth management into the body of the policies. Elements of this Plan regarding provisions for cyclists include:

Policy B-1: Bikeways shall be planned for as a system-wide component of Salisbury's transportation planning.

Policy B-2: The City shall facilitate a multiple option approach to bikeway development, including: 1) compatible bike lanes on major streets, 2) paths not on the street but within rights-of-way, 3) separated off-street trails, and 4) effective use of minor streets and alleyways. Emphasis shall be placed on option 4.

Policy B-3: All future road construction and improvements shall be examined for bikeway feasibility and conformity with the citywide bikeway plan. As appropriate, bikeways shall be included in the road construction or improvements.

Policy B-4: All future subdivision plats and site plans shall be examined for bicycle compatibility and conformity with the citywide bikeway plan. As appropriate, bikeway routes shall be identified and planned for in the construction of such subdivisions or other development projects.

Policy B-5: The provision of secure bike storage shall be encouraged at shopping and work places.

Policy C-6: Bicycle routes shall be planned and implemented to serve older commercial areas. Bicycle racks shall be encouraged at appropriate points of destination.

Policy C-14: Bicycle and pedestrian access to newer, existing commercial areas shall be encouraged.

Policy S-16: The City shall employ traffic calming methods on neighborhood streets as necessary to enhance livability and restore the balance between pedestrian, bicycle and automobile use. Implementation of such methods shall be conducted with full participation and input from neighborhood residents.

Policy N-10: Working in cooperation with neighborhood residents, the City shall support the provision of bikeways and walkways within existing neighborhoods.

This section comments the need for trails, greenways, bike lanes and signage to encourage enhanced bicycle usage and change public perceptions of the automobile being the only viable transportation alternative. Also mentioned is the requirement to construct bikeway trails from residences to shopping or even to places of employment. In many instances, this requires the construction of "neighborhood connectors" or "spurs" leading from a neighborhood area to a greenway trunk line.

The Salisbury Vision 2020 Plan is a comprehensive planning resource that provides the framework for the adoption of major ordinances and policies aimed at improving the balance between vehicular, bicycle, and pedestrian modes of transportation. This Comprehensive Bicycle Plan document is a key requirement of the Vision 2020 Plan.

City of Salisbury Land Development Ordinance (LDO)

The City of Salisbury adopted the new Land Development Ordinance on December 18, 2007 with an effective date of January 1, 2008. The City of Salisbury's Land Development Ordinance (Chapter 10.3) includes requirements for bicycle parking standards of at least 5 percent of the required number of vehicular parking spaces for the following:

1. General Office, Business, or Personal Service
2. Medical/Dental Office
3. Retail
4. Restaurant / Bar
5. Entertainment / Recreation / Fitness
6. Theater
7. Civic / Institutional

In addition, the LDO includes requirements for parking standards of at least 2 percent of the required number of vehicular parking spaces for the following:

1. Lodging
2. Manufacturing / Wholesale / Storage

The LDO also requires that 5 percent of the required number of vehicle parking spaces be required for multi-family residential developments with 4 or more units per building.

Possible future additions/clarifications that would enhance the LDO language include:

- Parking garages, park-and-ride lots – Provide bike rack and bike locker spaces equivalent to at least five percent of the vehicle parking capacity.
- Schools – Provide one bike rack space for every 20 students. The City should closely coordinate with School System administrators in crafting a recommendation such as this that all stakeholders agree with the proposed language.

Roadway Project Plans

There are several approved and proposed NCDOT Transportation Improvement Program (TIP) projects in and near the City of Salisbury. R-2911 involves widening of US70 (Statesville Avenue) to multiple lanes, partially within the City limits. This project was recently completed and includes wide outside lanes to accommodate bicycles.

U-3623 is identified as an unfunded need in the TIP. This project would widen NC150 (Mooresville Road) to multiple lanes from Grants Creek, eastward to SR1516. The City

is encouraged to coordinate with NCDOT to ensure the design plans for this project include bicycle accommodations.

U-3460 is also identified as an unfunded need. This project would provide a grade separated railroad crossing on Bringle Ferry Road between Main Street and Long Street. Again, close coordination with NCDOT is recommended as Bringle Ferry Road is identified as a proposed Bicycle Thoroughfare in this Plan and borders part of the proposed Downtown Historic Tourism Bicycle Loop.

U-3821 is a proposed southern spur off of Jake Alexander Boulevard from Harrison Road southward to Peach Orchard Road. This unfunded need is proposed to provide two lanes on a multi-lane right of way.

U-3459 is another proposed grade separation over the North Carolina railroad tracks on Klumac Road just south of Main Street. Klumac Road has been identified as a potential bicycle thoroughfare in this Plan.

Two bridge rehabilitation/replacement projects are planned for the area; the replacement of the Ellis Street bridge over the Southern Railway and the replacement of the Fisher Street bridge over the Southern Railway. Both streets will be posted with 20 MPH speed limits once the projects are complete. Ellis Street provides a parallel routing to Fulton Street, with Fulton being the preferable route for cyclists to utilize. Alternative parallel routes to Fisher Street (Innes Street and Monroe Street) are both recommended in this Plan for improvements to enhance cycling safety and usage.

2.6 EXISTING LAWS AND REGULATIONS

Bicycle and Bikeway Act of 1974
This Act marked the start of North Carolina establishing a state bicycle program which would later become a national model for other states. The legislation established the following provisions: supported a bicycle as a vehicle, defined bicycle facilities as a "bona fide highway purpose", designated NCDOT to carry out the provisions of the article, as well as established the North Carolina Bicycle Committee.

Child Bicycle Safety Act of 2001
In addition to the general laws that bicyclists must abide by, the Child Safety Act of 2001 requires that all bicycle operators under 16 years of age must wear a bicycle helmet on public roads and all child passengers under 40 pounds or 40 inches tall must be seated and secured in a child seat of a bicycle trailer.

Existing Local Ordinances

The Salisbury Code of Ordinance contains legal language regarding laws applicable for bicyclists. These include:

Sec. 13-14 states "The operator of a motorcycle or bicycle, when upon a street, shall not carry any person upon the handlebars, frame or tank of such motorcycle or bicycle, nor shall any person so ride upon such motorcycle or bicycle."

Sec. 13-18 states "Any person riding upon any bicycle, motorcycle, coaster, sled, roller skates or any toy vehicle shall not attach the bicycle or other device, or himself, to any moving vehicle upon any roadway."

Sec. 13-19 states "No operator of a motorcycle or bicycle shall ride thereon on any street without having his hands upon the handlebars thereof."

Sec. 13-303.C. states "The driver of a vehicle emerging from or entering an alley, building entrance, private road or driveway shall yield the right-of-way to any pedestrian, or person riding a bicycle, approaching on any sidewalk or walkway extending across such alley, building entrance, road or driveway."

Sec. 16-63.b. states "Non-motorized vehicles, pedal bicycles, tricycle, scooters, skateboards, roller skates and roller blades are to be used in/on designated areas only." Note that this Section of the Ordinances refers to City Parks."

Pertaining only to the East Innes Street Gateway Plan:

Article XV - Sec. 15.05.E. states "Encroachments: Canopies, awnings, bicycle parking, and outdoor seating areas may encroach into the front setback up to 8 feet."

Article XV - Sec. 15.06.B. Bicycle parking: A secure bicycle rack may reduce the number of required parking spaces by one parking space for every one secure bicycle slot, though not to exceed Ten (10) percent of the total number of required parking spaces in Section 15.06.A above. Bicycle parking may be placed in the front yard in accordance with Section 15.05.F."

The City of Salisbury Land Development Ordinance, adopted in January 2008, contains legal language related to bicycle usage:

Sec 4.10 – Connectivity and Street Stubs – this section encourages connected street patterns that will promote safer, better interconnected bicycling.

Section 4.12 – Bicycle Accommodations – this section is reserved as language in *this Plan* will provide Code language for this section of the LDO. See Chapter 3.

Section 10.5 – Bicycle Parking Provisions – this section provides standards for the placement of bicycle racks in the City.

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2.7 Existing Conditions – Greenway Trails

This trail provides an excellent off-road/on-road path for cyclists and pedestrians to jointly use. The off-road trail presently extends from the Harris-Teeter shopping center driveway entrance on Brenner Avenue, northward to the intersection of West Horah Street. The on-road trail continues along West Horah Street, providing a connection between Kelsey Scott Park and the Hurley Family YMCA. The entire trail measures approximately one mile in length. Kelsey Scott Park offers basketball courts, baseball and softball fields, and a nine-hole Frisbee golf course, all amenities that a cyclist might easily enjoy.

Greenway Entrance (multi-use trail) at end of West Park Street at Overton School

This trail provides another excellent off-road path for cyclists and pedestrians to jointly use. This trail presently extends from the north end of East Park Street, northward to Prescot Drive, then westward to its present terminus near Idlewood Road (approximately 0.8 miles in length). Plans exist to extend this trail westward across West Innes Street and connect at the end of Forestdale Drive. An extensive greenway connection will then exist that will connect the Knox and Overton Schools area with the many amenities at Catawba College.

Greenway entrance at Mahaley Drive at Forest Hills Park and Emerald Street

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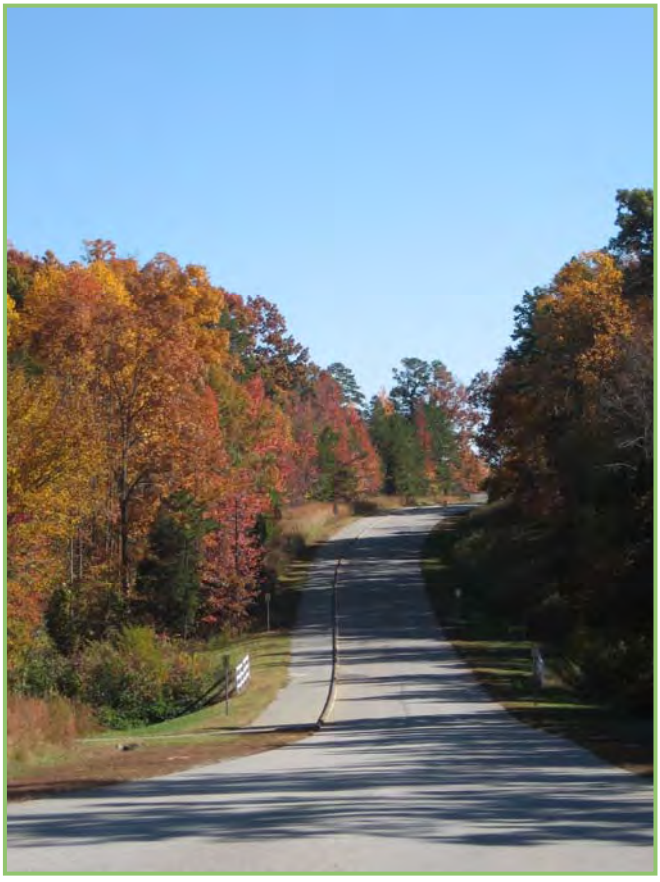
This trail provides another excellent off-road path for cyclists and pedestrians to jointly use. This is a southern extension of the trail mentioned above that provides access to Forest Hills Park and its amenities. This trail extends southward across Grove Street and intersects West Innes Street across from Willow Street. The total approximate length of this trail is 0.7 miles.

Salisbury Community Park entrance and multi-use trail along the entrance



Park Entrance along Hurley School Road

Another example of the City's initiative to provide off-road access to the same amenities that motorists can easily access by automobile, this multi-use path extends from the Park entrance on Hurley School Road into the Park facility, approximately 0.4 miles in length. The Salisbury Community Park provides a host of options for recreation and competitive activities including baseball, softball, and soccer fields and a large lake. Bicycle access to this site should be improved by providing additional pavement width on Hurley School Road north of the Park entrance, as well as improvements to Sherrill's Ford Road.

Other Examples of Existing Street Conditions

As can be seen, this grate presents two hazards to bicyclists: The drop inlet in the picture sinks below the road surface, and the direction of the openings in the grate are parallel to the direction of travel and wide enough for a bicycle tire to sink into.

Storm Drainage Grate and drop inlet on North Main Street near 12th Street.

As is the case at several locations in and around the City, most bridges present a challenge to bicyclists due to their narrow cross-section and lack of separation between automobiles and bicycles.

Narrow Bridge over the Southern Railway on Hurley School Road

2.8 Barriers and Constraints

Existing conditions that pose obstacles to the implementation of safe and efficient bicycle thoroughfare route planning include at-grade railroad crossings, narrow bridges, streets with high average or 85th percentile speeds, and streets with heavy average daily traffic volumes. These and other barriers and constraints have led the steering committee and city staff representatives to eliminate certain proposed thoroughfares such as Jake Alexander Boulevard from consideration as a safe bicycle route. Route planning generally consisted of avoiding rough railroad crossings as much as practical, as well as avoidance of roads with narrow bridges that would be too environmentally unfriendly and costly to widen.

A map illustrating the City of Salisbury's Barriers & Constraints is shown in **Figure 2-3.**

A map illustrating approved Rowan County Bicycle Thoroughfares is illustrated in **Figure 2-4.**

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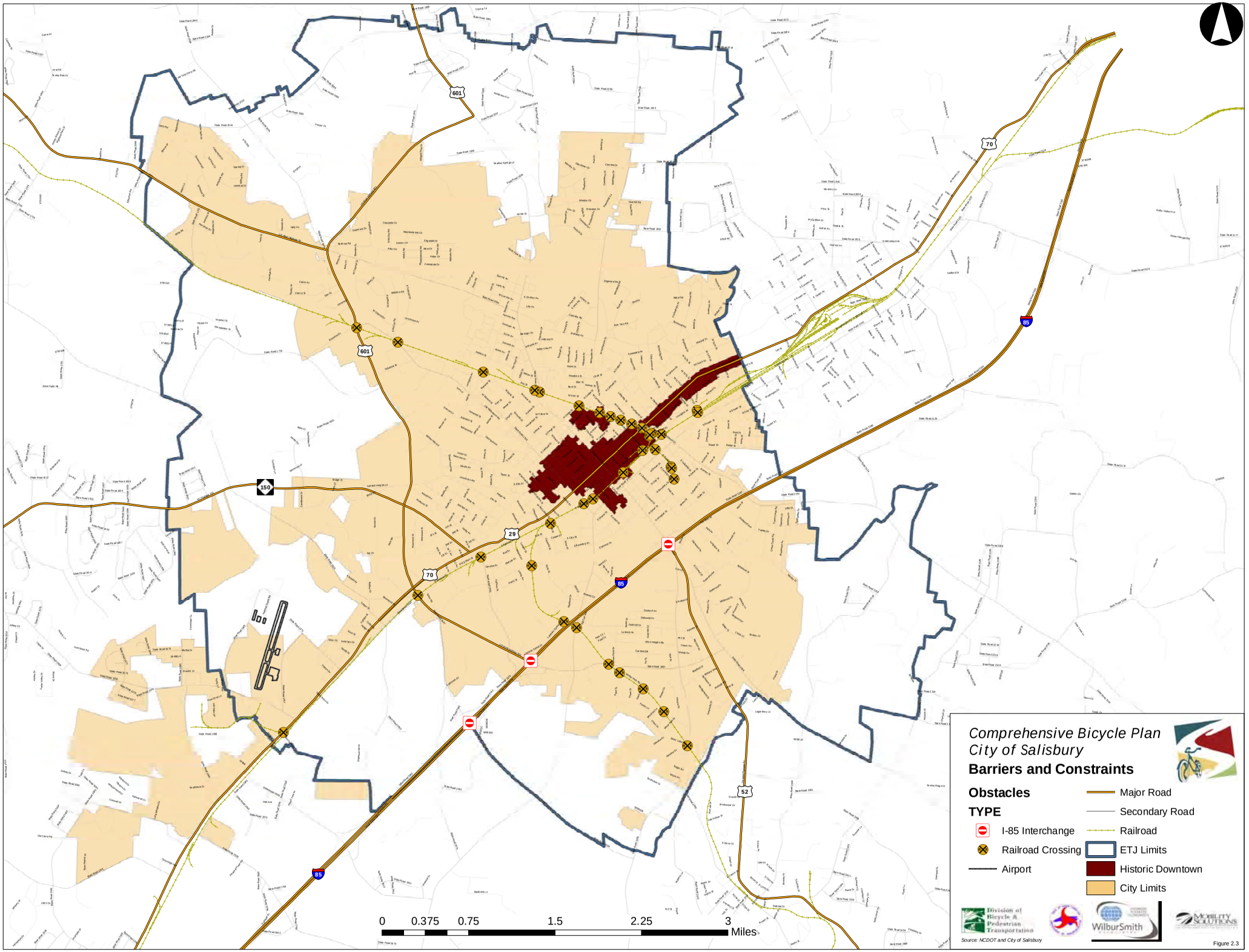
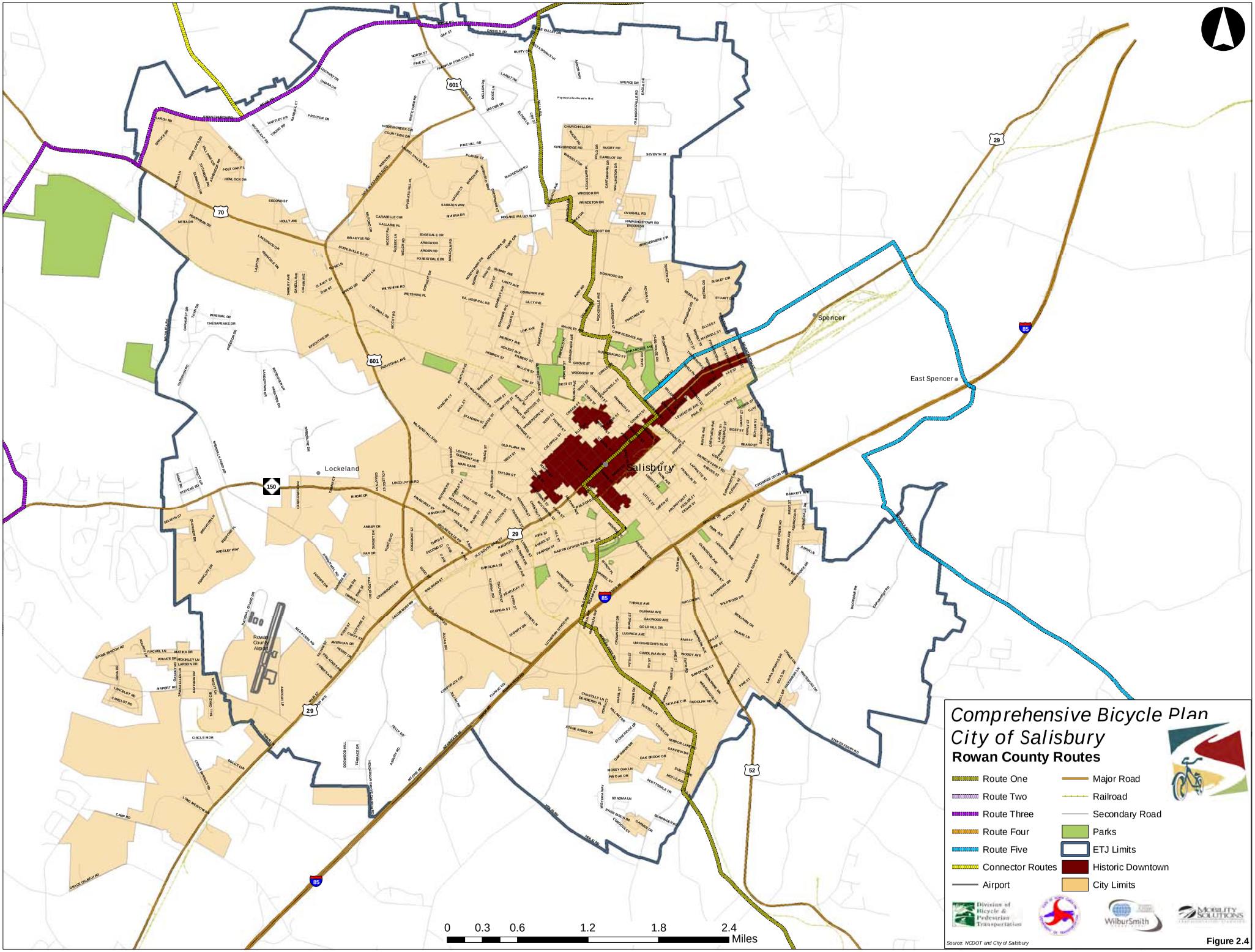

Comprehensive Bicycle Plan
City of Salisbury
Barriers and Constraints
Obstacles
TYPE
I-85 Interchange
Railroad Crossing
Airport
Major Road
Secondary Road
Railroad
ETJ Limits
Historic Downtown
City Limits
0 0.375 0.75 1.5 2.25 3 Miles
Source: NCDOT and City of Salisbury
Figure 2.3


Comprehensive Bicycle Plan
City of Salisbury
Rowan County Routes
Route One
Route Two
Route Three
Route Four
Route Five
Connector Routes
Airport
Major Road
Railroad
Secondary Road
Parks
ETJ Limits
Historic Downtown
City Limits
Salisbury
Spencer
East Spencer
Lockeland
Rowan County Airport
0 0.3 0.6 1.2 1.8 2.4
Miles
Source: NCDOT and City of Salisbury
Figure 2.4

Chapter 3
Recommendations

Chapter 3 - Recommendations

The recommendations developed as part of this Comprehensive Bicycle Plan fall into three main categories; Programs, Policies, and Facilities. The Program recommendations deal primarily with education and enforcement of bicycle laws and promotion of the City and bicycling within the City. The Policy recommendations are aimed at helping the City establish new policies and laws to ensure that the appropriate facilities and connections are being provided for cyclists when new development, especially bicycle and pedestrian generators, occurs. The Facility recommendations provides a comprehensive listing of Salisbury's thoroughfares and are aimed at the establishment of bicycle thoroughfares and routes within and around the City and new connections between existing City facilities that will open portions of the City to travel via bicycle.

3.1 PROGRAMS

Developing a safe and effective bicycling environment requires a fully comprehensive strategy that includes extensive education, enrichment, enforcement, and engineering. The following is an inventory of recommendations for programs that Salisbury may use as a guideline for developing a more bicycle-friendly community.

Program 1 - Enhancements

In areas with existing activity centers, or possibly along Main Street in the center City area, the City should investigate partnering with local retailers and organizations to provide parking facilities for cyclists. "Adopt a Bike Rack" programs are used in some communities. These programs team with local artists to provide public art that serves as functional bike racks. An example of an aesthetically pleasing bike rack is shown here. Further discussion of end of trip facilities is included in the "Policies" section in this chapter.

Bike Share Programs

An eco-friendly program that is gaining national and international recognition and implementation is a program that provides bicycles at "docking" stations strategically located near transit stops and activity centers. Citizens simply obtain a bicycle with the swipe of a card, similar to credit or ATM cards, at one station and deposit it at another station. Weekly, monthly, or annual passes may be purchased as nominal fees are levied for the service. Such programs were started in Paris, France in July 2007, and similar programs have been in existence even longer in Brussels, Berlin, Stockholm, and Barcelona. In Paris, a one-day pass costs $1.50, a weekly pass $7.50, and an annual

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pass $44.00. Additional fees are automatically deducted for rentals extending beyond thirty minutes. Theft is generally non-existent due to the plentiful number of bicycles available (some 20,000), the need for a credit subscription card, and the bicycles themselves are constructed of unique parts unlike mainstream bikes, making them unattractive to thieves. In the United States, a pilot program was implemented in the Soho district of New York City in July 2007. The Cities of Philadelphia, San Francisco, Portland Oregon, and Chicago are considering implementing similar programs. Pittsburgh currently has twenty bicycles available for recreational rides. [1] A Parisian docking station is shown above.

Public-private partnerships could be considered to offset startup costs of such a program. In exchange for advertising rights on transit station benches, for example, companies may be willing to participate financially. Obviously, the City of Salisbury's population is significantly less than those cities mentioned above. Nonetheless, Salisbury experiences some of the same problems that these cities are experiencing, including rising gas prices, heavy congestion on certain routes during certain periods of the day, growing air quality concerns, and increased levels of obesity among all age groups. A significant amount of preparation, possibly led by a task force or special committee, would be required to begin serious consideration of a bike share plan in Salisbury.

Bike Racks on Transit Vehicles

Carrying bicycles on transit vehicles increases the range and convenience of both modes of travel. The City of Salisbury currently provides bike racks on transit vehicles, but should support and encourage efforts by Amtrak, Salisbury Transit, and Greyhound to accommodate bicycles on all existing and future transit vehicles. The entire Salisbury Transit fleet should be equipped with bicycle racks that can accommodate at least two bicycles. Providing adequate bicycle parking at the stations, which was mentioned in previous chapters, also promotes the environmental and social benefits of bicycle access vs. auto access.

[1] *The Philadelphia Inquirer*, January 16, 2008.

Program 2 - Promotion and Encouragement

The promotion of existing and future facilities and services, as well as the promotion of Salisbury as a "bicycle friendly community" plays an important role in achieving the vision set forth by the Bicycle Plan Steering Committee. To achieve this vision, the following is recommended either as new programs or continuations of existing programs:

Elementary and Middle School Curriculums

As stated in Chapter 2, encouragement to use cycling as a fun, healthy recreation choice, as well as a potential transportation mode, should begin to be cultivated at a young age. Bicycling curriculums are available to elementary and middle schools for implementation as a part of health and physical education classes. Due to the heavy volume of students in most of today's classrooms and gyms, teachers must rely on parent volunteers and teacher's assistants to successfully implement such programs. One way the City could encourage volunteers to commit to assist teachers in this regards is sponsorship of prizes, awards, or other forms of recognition for students for the successful completion of such programs.

Existing Salisbury Bicycling Events

The City, along with bicycling enthusiasts organize and hold a series of events each year to promote bicycling and cycling safety:

- Parks and Recreation Department conducts a Bike Rodeo each October at the Salisbury Civic Center
- Cyclo-cross workshops and a cyclo-cross races are conducted at the Salisbury Community Park
- The Giordana Cross Roads bicycle races are planned each August downtown
- The "Out Like a Lion Bicycle Race" occurs in March at City Park
- A sprint triathlon is held each July and sponsored by the YMCA

Website

The City's web site should include a new page (or pages) dedicated to bicycle and pedestrian travel. The Web site could provide information such as route maps, points of interest along routes, route conditions, bicyclist and pedestrian traffic laws and safety tips, community events, links for local bicycle and pedestrian groups, and other related links. The City should add specific greenway trail maps to its existing Parks and Recreation Department webpage at http://www.salisburync.gov/pkrec/. Once maps are provided, it is essential they be updated as new facilities become available. In addition to the City's website, staff should ensure that these maps are shared with NCDOT and the Cabarrus-Rowan MPO.

Bicycle Map

The City of Salisbury should adopt a multi-lingual bicycle route map that indicates the location and types of existing and future bicycle facilities. These facilities should include

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on-road facilities (striped bike lanes or edge lines, paved shoulders, wide-outside travel lanes) and greenway trails to accommodate all users. Salisbury could be considered "compact" in terms of land area (20+/- square miles), suggesting bicycle trips across the City are not unreasonable expectations for cyclists.

The City core is characterized by numerous rectangular "blocks" created by a defined grid network of streets. A series of proposed cycling blocks (Loops) in and around the City is proposed herein. These loops, their approximate lengths, and estimated difficulty for bicycling, should be clearly stated on the map. This map should also include pertinent laws and safety information.

Other Program Recommendations

A way-finding system for bicyclists and pedestrians should be established by the City, including kiosks that provide route maps, transit information, tourist information, directions to destinations and end-of-trip facilities.

The City should participate in national activities, such as *Walk to School Day*, *Bike to Work Day*, *Earth Day,* and *Car Free Day;* events designed to promote the widespread use of bicycles as alternative modes of transportation.

The City should establish a Bicycle Registration Program that encourages bicyclists to register their bicycles with local law enforcement agencies to aid in their recovery in the event of theft.

Program 3 - Education

The education of citizens, City Leaders, and City Staff is an important component of developing a viable, convenient, and particularly safe transportation system.

The City should coordinate with local bicycle groups to provide informational workshops to educate both motorists and cyclists.

The City should work with local churches, schools, youth groups, Cub Scout troops, etc. to promote the material provided by NCDOT. The NCDOT Division of Bicycle and Pedestrian Transportation has developed several resources to improve bicycle safety and to educate bicycle riders. The following key resources are available online at the NCDOT Division of Bicycle and Pedestrian Transportation Resources and Links webpage: http://www.ncdot.org/transit/bicycle/ safety/safety_materials.html.

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- Pamphlets and Handouts
- Tests
- Curriculum for Teachers
- Manuals/Guidebooks/Information Sheets
- Posters
- Video Library

Of particular use is the Bicycle Smart Safety Tips. In North Carolina, bicycles are treated as vehicles and share the right and duties as all other vehicles on the road. Cyclists are expected to be responsible and obey road signs and rules for interacting safely with other roadway users. A general Safety Tips poster is available through the NCDOT Division of Bicycle and Pedestrian Transportation website that explains the legal requirements for cyclists and offer guidelines for preventing crashes and protecting the rider in traffic. The key safety tips are:

- Bicycle = Vehicle
- Basic Traffic Riding Techniques
- Bike Handling Skills
- Share the Road
- Wearing a Helmet
- Dealing with Hills

The City should continue to educate it's planning, engineering, and law enforcement staffs regarding bicycle and pedestrian rules, regulations, and safety. *A Guide to North Carolina Bicycle and Pedestrian Laws* is just one of the NCDOT publications that can help local police officers and City Staff interpret the law correctly. This publication can be easily stored in police officer's vehicles as well as in police bike bags.

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Program 4 - Safety

One of the main portions of the Steering Committee's vision for Salisbury was safety-related. While comprehensive education recommendations are important in increasing cyclist safety, other initiatives are needed.

After educating law enforcement personnel, the City should promote increased enforcement of bicycle-related violations on the part of both motorists and bicyclists. Additionally law enforcement personnel should pay particular attention to motorists who intentionally attempt to distract bicyclists as they pass. Whenever a bicyclist or pedestrian is a victim of a collision with a motor vehicle, or if an unlawful activity is witnessed, cyclists should have a quick and easy method of reporting the event directly to the police. Establishment of a Bicycle Enforcement Hotline that would enable residents to call in and speak with a live operator or leave a message about the activity they have witnessed would be of major benefit to all citizens, including cyclists.

The City should support *Safe Routes to School (SRTS)* efforts that include educational and incentive programs to encourage more students to bicycle or walk to school. The NCDOT SRTS program includes a grant reimbursement program to fund infrastructure and non-infrastructure projects, a program to award consultant services to develop Action Plans, spot improvement project funds administered by the NCDOT Highway Divisions, and facilitator support for presenting community-based SRTS workshops. This could be a potential funding source to link Overton Elementary and Knox Middle School with Catawba College along the greenway and make spot improvements near Salisbury High School, for example.

Program 5 - Maintenance

A bicyclist rides on two very narrow, high-pressure tires, what may appear to be an adequate roadway surface for automobiles (with four wide, low-pressure tires) can be treacherous for bicyclists. Small rocks have the potential to deflect a bicycle wheel, a minor ridge in the pavement can cause a spill, and a pothole can cause a wheel rim to bend. Wet leaves are slippery and can cause a bicyclist to fall. The gravel that gets blown off the travel lane by vehicular traffic accumulates against the curb, in the area where bicyclists ride. Bikeways will always be subject to debris accumulation and surface deterioration. Thus, it is important to properly maintain existing facilities. Adequate maintenance will help to protect the investment of public funds in bikeways, so they can continue to be used safely. Poorly maintained facilities will become unusable and may become a legal liability. Cyclists who continue to use them may risk personal injury and equipment damage. Others will choose not to use the facility at all.

- City of Salisbury and NCDOT resurfacing programs should be evaluated prior to award annually to identify opportunities for cost-effective pavement marking changes.

- In the winter months, maintenance crews should pay special attention to any concrete surfaces that may freeze over quicker than asphalt surfaces to ensure these areas do not become a hazard for cyclists.

- The City should develop a maintenance request program to allow the City to respond to requests for small-scale and low-cost maintenance activities, such as sweeping, repairing surface problems, and replacing unsafe gratings.

- Utility cuts across travel lanes usually leave a rough surface for cyclists if not back-filled and patched with care. The City should require that cuts be back-filled in bike lanes to the level of the roadway as an exaggerated hump will not get packed down by bicycle traffic as one would by vehicular traffic.

- When an existing sidewalk, pedestrian path or bicycle facility is closed for construction or maintenance reasons, an adequate detour route should be established. Consider closing on-street parking or a lane of traffic as a temporary pedestrian or bicycle route or establish a temporary crosswalk to a walkway or bike lane on the other side of the street.

Program 5a -Resurfacing

As stated in the first bullet above, City of Salisbury and NCDOT resurfacing activities present an opportunity for bicycle enhancements should funding be available. The City of Salisbury currently resurfaces each City-maintained street every twenty years. It is unknown whether the City will increase or decrease funding for this program in future years. However, at the present, this program provides opportunities to provide bicycle facilities as a part of the scope of some or all future resurfacing projects.

Should the City agree to accommodate bike facilities as a part of future resurfacings, it is recommended that the following guidelines be adopted to streamline the plan review and approval processes. Recommendations generally follow guidance in *A Policy On Geometric Design of Highways and Streets*, 2004, American Association of State Highway and Transportation Officials:

- Local Roads and Streets – These are streets that primarily provide access to residences and businesses and may serve a limited amount of through traffic. Recommendations for the widths of travel way (for automobiles) for these streets are based on posted speed and average daily traffic (ADT) as follows on Table 3.1.

Table 3.1 Minimum Travel Lane Widths for Local Roads and Streets

Minimum Travel Lane Widths (feet) for Local Roads and Streets			
Posted Speed (mph)	ADT under 800 vpd	ADT 800-2000 vpd	ADT > 2000 vpd
25 mph – 30 mph	9 feet	10 feet	10 feet
35 mph	10 feet	10 feet	11 feet
45 mph	11 feet	11 feet	11 feet

On these streets, the addition of bicycle lanes should require the addition of a minimum of 3 feet of pavement when adding an edgeline or bicycle lane line on streets with 85th percentile speeds less than 40 mph. Where speeds exceed 40 mph, or where curbs and gutters are present, consideration should be given to an additional 5 feet of pavement to accommodate a bicycle edge line or lane line.

- Collector Roads and Streets – These are streets which can be either urban or rural roadways that accommodate vehicular, bicycle, and pedestrian traffic. Collector Roads are designed to balance the provision of access to residences and businesses with serving through traffic. Recommendations for the widths of travel way (for automobiles) for these streets are primarily based on design speed and average daily traffic (ADT) as follows in Table 3.2.

Table 3.2 Minimum Traffic Lane widths for Collector Roads and Streets

Minimum Travel Lane Widths (feet) for Collector Roads and Streets				
Design or 85th %ile Speed (mph)	ADT under 800 vpd	ADT 800-2000 vpd	ADT 2000-4000 vpd	ADT > 4000 vpd
20 mph – 30 mph	9 feet	10 feet	10 feet	10 feet
35 mph – 50 mph	10 feet	10 feet	11 feet	11 feet
55 mph – 60 mph	11 feet	11 feet	12 feet	12 feet

On these streets, the addition of bicycle lanes should require the addition of a minimum of 4 feet of pavement when adding an edgeline or bicycle lane line on streets with 85th percentile speeds less than 35 mph. Where speeds exceed 35 mph, or where curbs and gutters are present, consideration should be given to an additional 5 feet of pavement to accommodate a bicycle edge line or lane line.

- Arterials – Rural and urban arterials vary in design from two-lane roads to multi-lane divided freeways with fully controlled access. These arterials primarily serve through-traffic and may provide access to residences and businesses on a limited basis.

Adhering to these guidelines will enhance the bicycle network being provided by the City and NCDOT. These guidelines might also serve as criteria for the City to consider when reviewing development plans and/or requiring developer-funded off-site road improvements.

3.2 POLICIES

As discussed earlier, the City of Salisbury is experiencing growth in both the residential and retail sectors. The establishment of sound, reasonable development policies can be a mechanism for ensuring that adequate bicycle facilities are provided as the City grows. However, it should be noted that the City cannot rely solely on new developments to provide bicycle facilities. These policies must be accompanied by an investment by the City in bicycle facilities and connections, as described in section 3.3.

Bicycle facilities should be integrated into all new development and roadway planning, design, and construction projects. Provisions of the recently adopted Land Development Ordinance (LDO) discussed in Chapter 2 should be closely adhered to. Of particular importance are provisions for secure bicycle storage and end of trip facilities including covered lockers at both shopping areas and places of work. As stated in Policy B-5 of the Salisbury Vision 2020 Plan, business owners, governmental agencies, industries and medical facilities, all prominent in the City of Salisbury, should all be contacted and encouraged to provide these facilities for their employees and patrons.

Enhancements to the LDO and Vision 2020 Plan language, as mentioned in Chapter 2, would serve to bring Salisbury in line with jurisdictions ranked the very highest in bicycle friendliness. Regarding bicycle parking facilities, we recommend that bicycle parking lockers and covered (sheltered) spaces be made available. Similar to many municipalities in large urban areas in the U.S. and abroad, the City should consider requiring these at existing park-and-ride and future park-and-bike lots at the Salisbury Transit Transfer Site and Train Depot. Bike lockers typically hold two bikes and provide enhanced security for more expensive bicycles than at regular bicycle racks. Fees for the rental of bike lockers, possibly on a weekly or monthly duration, should be considered to help offset the capital costs of implementing such facilities, which are far less expensive than comparative costs of providing vehicular parking areas. However, these fees should be set at a rate that is less than any similar fees charged for vehicle parking at these lots to further encourage this mode of transportation. Space requirements should not be an issue as ten to twelve bikes can be parked in a single vehicular parking space. Long term bike parking, such as over an entire weekend, should be made available so long trips and train-train and train-bus connections are convenient for cyclists.

These enhancements should also be considered at major activity centers to encourage more access for bicyclists. Where bike trips are likely to be of the long recreational or competitive type, shower facilities, restrooms, and personal lockers should be considered. These activity centers include community centers, public parks, private recreational clubs (golf, tennis, etc.) and others. Where new developments include such centers, these facilities should be required to be provided by the developer.

The following policies are recommended as part of the comprehensive bicycle plan:

- When and where the City collects loose leaves that are placed curb-side, the City's maintenance department should prioritize collection schedules, ranking streets with bicycle accommodations higher than those streets not identified in the Salisbury Comprehensive Bicycle Plan.

- Street sweeping activities should be prioritized, giving higher rank to those streets identified in the Salisbury Comprehensive Bicycle Plan. Annually, in the fall months, street sweeping activities on identified Bicycle routes should occur twice as often as streets not identified as Bicycle thoroughfares.

- Curb-side parking within or blocking a marked bicycle lane is prohibited.

- Curb-side parking on streets marked with a double-yellow centerline is prohibited, except on streets with dedicated parking spaces and signage provided.

- Wide outside lanes or wide paved shoulders shall be incorporated into the design of all new and/or improved arterial streets. Bicycle lanes and/or wide outside lanes shall be incorporated in the design of all minor collectors. On local streets low traffic speeds and volumes allow bicyclists and motorists to safely share the road. Sidewalks are not acceptable as substitutes for bike lanes. Bike lanes shall be a minimum of four feet in width (excluding adjacent curb and gutter).

- Development projects shall provide appropriate bicycle amenities to encourage cycling. Acceptable rack elements, rack location and access, rack area and site conditions such as protection from the elements and visibility shall conform to the Association of Pedestrian and Bicycle Professionals Bicycle Parking Guidelines adopted in spring of 2002. The guidelines are available at http://www.bicyclinginfo.org/de/parkguide.htm. Should a topographical or other site constraint create a situation in which the bicycle parking requirements require reduction, modification, or deletion, the Planning Department Director will have the ability to approve such changes.

- Signage indicating the presence and location of such amenities shall be scaled for easy reading by bicyclists and pedestrians as well as motorists.

- While not encouraged to substitute for a good system of on-street facilities, multi-use paths may be used to enhance pedestrian and bicycle travel where the existing circulation system does not serve these patrons well, or where abandoned railroads or other open spaces provide corridors free of obstacles.

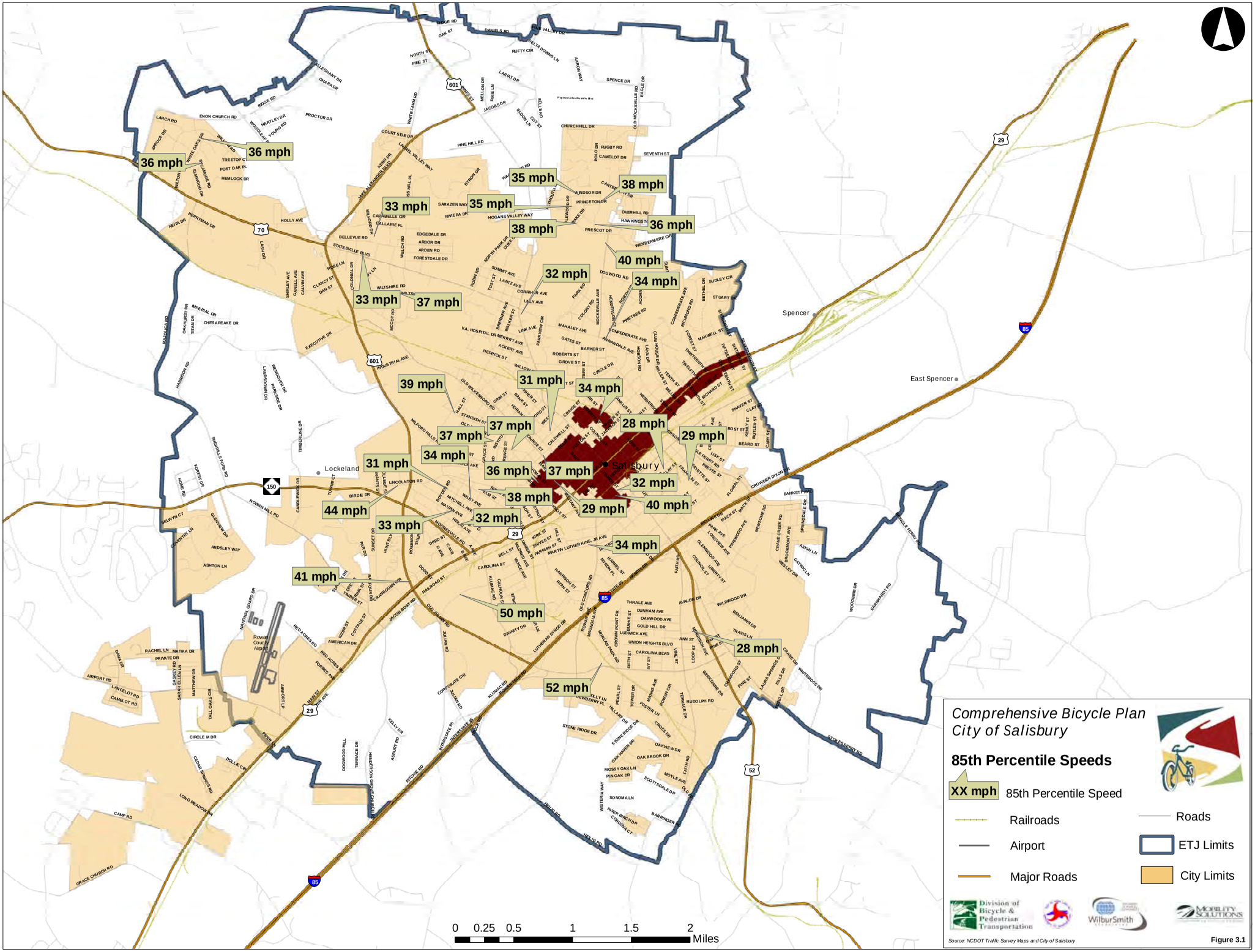
- At intersections controlled by traffic signals on streets identified as bicycle thoroughfares in the Salisbury Comprehensive Bicycle Plan, the City shall ensure detection is provided for bicycles. Detection may include push-buttons scaled for easy access by bicyclists. Other forms of detection are sensitive vehicle-detection loops embedded in the pavement.

These policies might also help the City when preparing policy language pertaining to bicycles in the Land Development Ordinance (LDO).

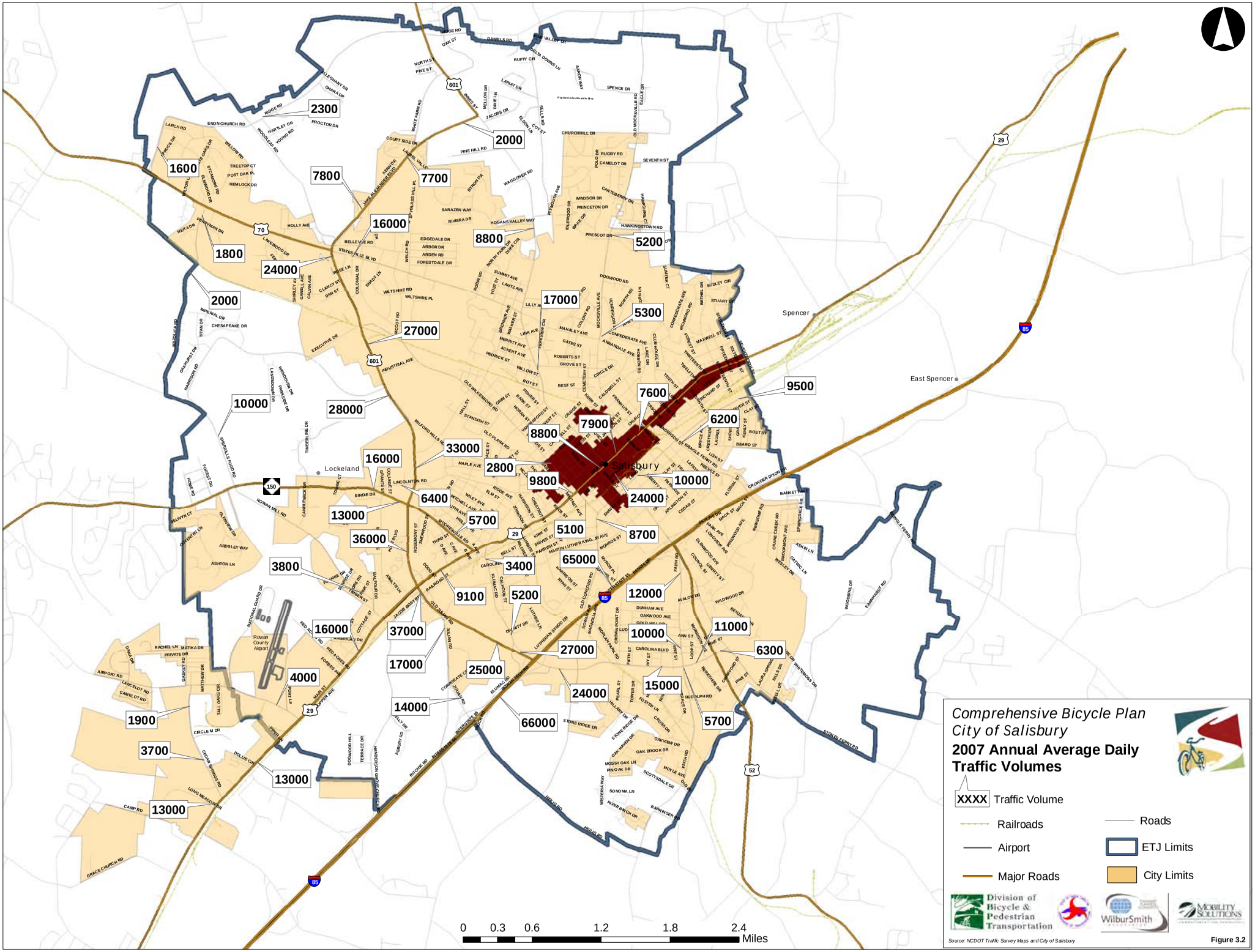
3.3 FACILITIES

As discussed above the City cannot rely solely on new developments to provide bicycle facilities. These policies must be accompanied by a commitment of investment by the City for bicycle facilities. For many months, the consultant team has worked with the Steering Committee and City staff to plan a network of bicycle facilities based on many considerations and factors. Criteria considered by the working team included 85th percentile speed data along routes in Salisbury, average daily traffic volumes along those routes, the width of the streets proposed as bike facilities, the presence of curb and gutter, and vehicular parking restriction ordinances.

The 85th percentile speed is the speed at which 85% of motorists are driving at or below. This speed is commonly recognized by state and local Departments of Transportation as the speed at which most motorists feel comfortable operating their vehicles at along a particular road. Many jurisdictions ordinance and post speed limit signs in accordance with the 85th percentile speed. This speed is a consideration of this Plan for many reasons, one being that this is the vehicle speeds that cyclists are likely to encounter when cycling on these routes. **Figure 3.1** shows 85th percentile speeds in Salisbury as provided by the City staff.


Comprehensive Bicycle Plan
City of Salisbury
85th Percentile Speeds
XX mph 85th Percentile Speed
Railroads
Airport
Major Roads
Roads
ETJ Limits
City Limits
Division of Bicycle & Pedestrian Transportation
WilburSmith
Mobility Solutions
Source: NCDOT Traffic Survey Maps and City of Salisbury
Figure 3.1
0 0.25 0.5 1 1.5 2 Miles
Salisbury
Spencer
East Spencer
Lockeland
36 mph
36 mph
33 mph
35 mph
35 mph
38 mph
38 mph
36 mph
40 mph
32 mph
34 mph
33 mph
37 mph
39 mph
31 mph
34 mph
37 mph
37 mph
28 mph
29 mph
31 mph
34 mph
36 mph
37 mph
32 mph
38 mph
29 mph
40 mph
44 mph
32 mph
33 mph
34 mph
41 mph
50 mph
28 mph
52 mph

Average Daily Traffic Volumes were also considered by the working group, as volumes are an indicator of how challenging a particular road may be for the cyclist to navigate. Experienced cyclists may feel comfortable riding in the traffic stream on streets with heavy volumes, while beginning cyclists might prefer to only ride on low volume streets until they attain higher skill levels. **Figure 3.2** shows 2007 Average Daily Traffic volumes in Salisbury as provided by City staff.


Comprehensive Bicycle Plan
City of Salisbury
2007 Annual Average Daily Traffic Volumes
XXXX Traffic Volume
Railroads
Airport
Major Roads
Roads
ETJ Limits
City Limits
Salisbury
Spencer
East Spencer
Lockeland
Rowan County Airport
0 0.3 0.6 1.2 1.8 2.4 Miles
Division of Bicycle & Pedestrian Transportation
WilburSmith
Mobility Solutions
Source: NCDOT Traffic Survey Maps and City of Salisbury
Figure 3.2

Constructability Analysis Tool

To assist in the prioritization of potential enhancements to improve cyclist's safety and accessibility, a Constructability Analysis Tool was developed. This tool provides a comprehensive engineer's opinion of probable cost for each street in which one or more recommendations have been made. In addition, each street was ranked in terms of accessibility, safety, interconnectivity, education, enforcement, and design from low (1) to high (6) to arrive at a total score for each street. These scores then provided the basis for ranking streets from highest to lowest priority for improvements. The Constructability Analysis Tool is found at the end of this Chapter.

The Bicycle Network

This Comprehensive Plan recommends a network of bicycle facilities that, when implemented, will connect parks, schools, greenways, residential and commercial areas. The proposed bicycle network is shown in **Figure 3.3.** The recommended Bicycle Facility Network and supporting actions will serve all types of bicyclists—from beginner bicyclists to experienced riders. Bicyclists must expend much more personal energy than motorists; therefore, bicyclists desire to take the most direct route to their destinations. The Bicycle Network is composed of streets that, because of their location, would be used by cyclists if the streets were perceived as being "bicycle friendly." Recommendations include striped bicycle lanes adjacent to vehicle travel lanes, edgeline markings, wide outside lanes on multi-lane streets, and paved shoulders to achieve more separation between bikes and vehicles throughout the city. Components of the Bicycle Facility Network include:

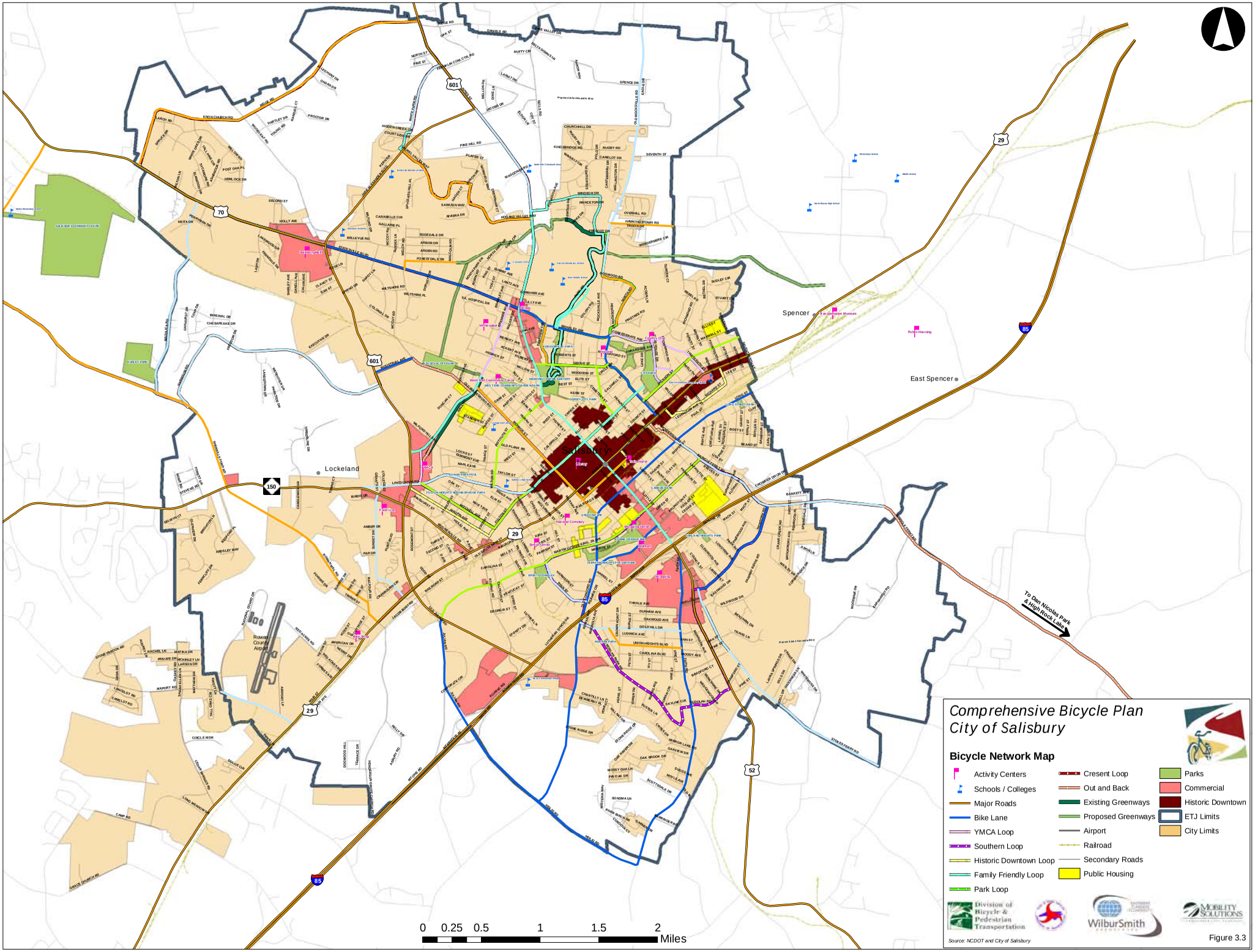
Bicycle Loops

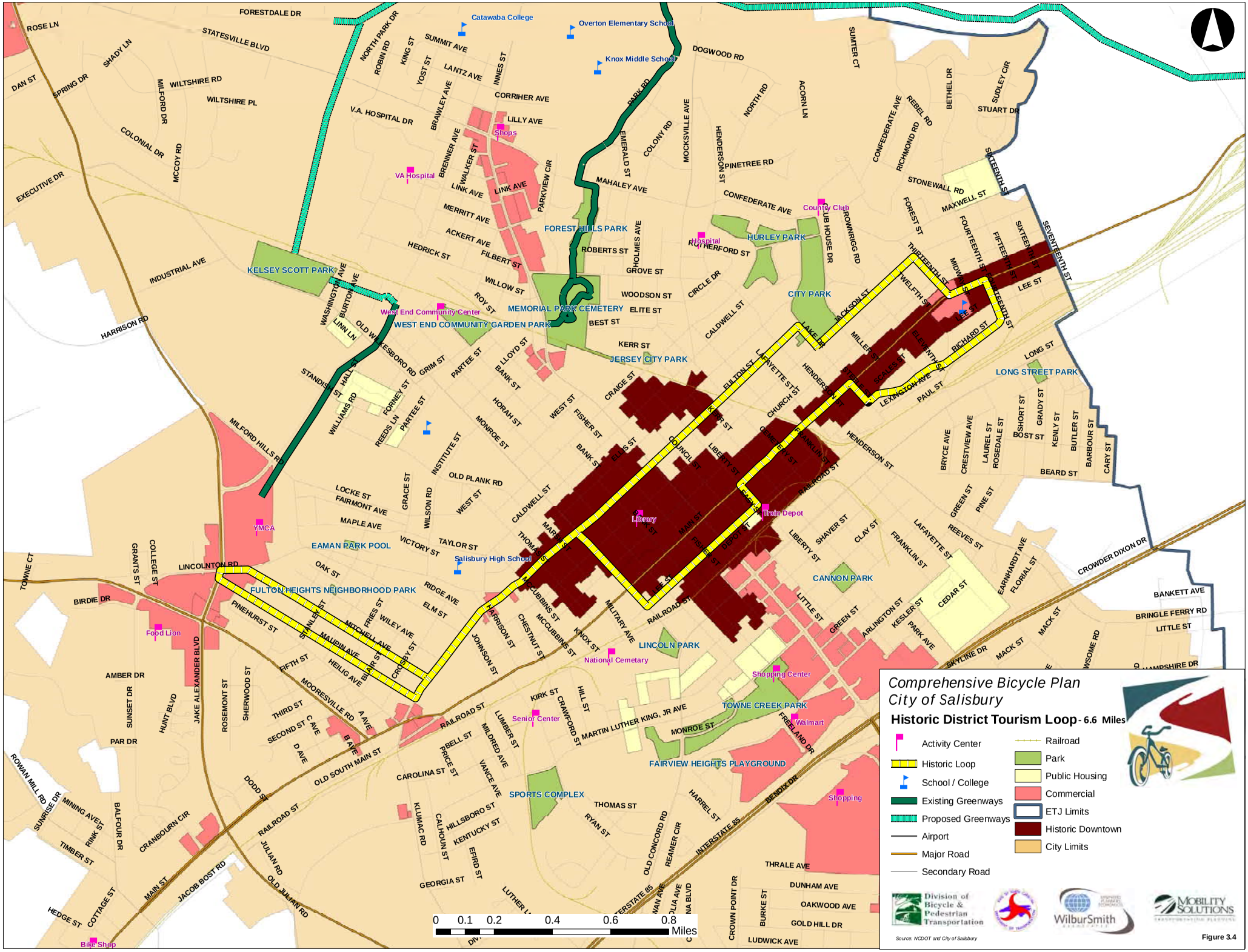
To provide safe, usable, and attractive recreational bicycle facilities, the City of Salisbury should designate loops that utilize existing streets and/or greenway trails/multi-use paths to serve adjacent uses such as parks, community centers, transit stops, and others. It is recommended that the City design and install special Bicycle Loop signs that would possibly have a different color or number and name of the Loop for each Loop proposed herein. The City should strive to develop and promote the following Loops inside and immediately adjacent to the City:

1. Historic Districts Tourism Loop (6.6 miles) – The Historic Districts Tourism Loop is comprised of the following streets:
   a. Lake Drive
   b. Jackson Street
   c. Thirteenth Street
   d. Main Street
   e. Fourteenth Street
   f. Richard Street
   g. Steele Street
   h. Liberty Street
   i. Lee Street
   j. Monroe Street
   k. Fulton Street
   l. Mitchell Avenue
   m. Lincolnton Road
   n. Maupin Avenue

Historic Districts Tourism Loop will provide a historic tour of downtown Salisbury. Salisbury is rich in history with several properties listed in the National Registry of Historic buildings. This Loop would be available for tourists who would like to bike to various historic places of interest in the City of Salisbury. The loop connects the historic downtown with Hurley Family YMCA. Bicyclists might gather at the YMCA for rides along this and other loops and routes, or gather at City Park on the east end of this Loop. Some of the streets included in this Loop are in need of improvement before being considered bicycle friendly. Improvements needed on this loop are primarily related to small sections of widening, and the provision of pavement markings and/or resurfacing and remarking suitable for shared bicycle use. Drainage grates along Main Street between 12th Street and 13th Street should be replaced with bicycle-friendly grates and drop inlets should be raised to the current pavement elevation. More information on the streets above is included below in the "Recommended Bicycle Thoroughfare Improvements" section. The Historic Districts Tourism Loop is shown in **Figure 3.4.**

As can be seen in **Figure 3.4**, several smaller "mini-loops" exist within the Historic Districts Tourism Loop proper, such as the "mini-loop" bounded by Mitchell Avenue, Lincolnton Road, Maupin Avenue, and Fulton Street. This mini-loop might include a short section of Jake Alexander Boulevard as Mitchell and Maupin do not intersect at this site. An alternative to using Jake Alexander would be for cyclists to cut through the Bank of America parking lot from Maupin, proceed to Lincolnton Road, then turn onto Mitchell. Since much of the downtown street network exists in a grid pattern, multiple "mini-loops" may be formed on any number of city blocks. However, the occasional tourist, the somewhat inexperienced cyclist, and those desiring a routine ride along a specific loop will certainly enjoy the history along the Historic Districts Tourism Loop.

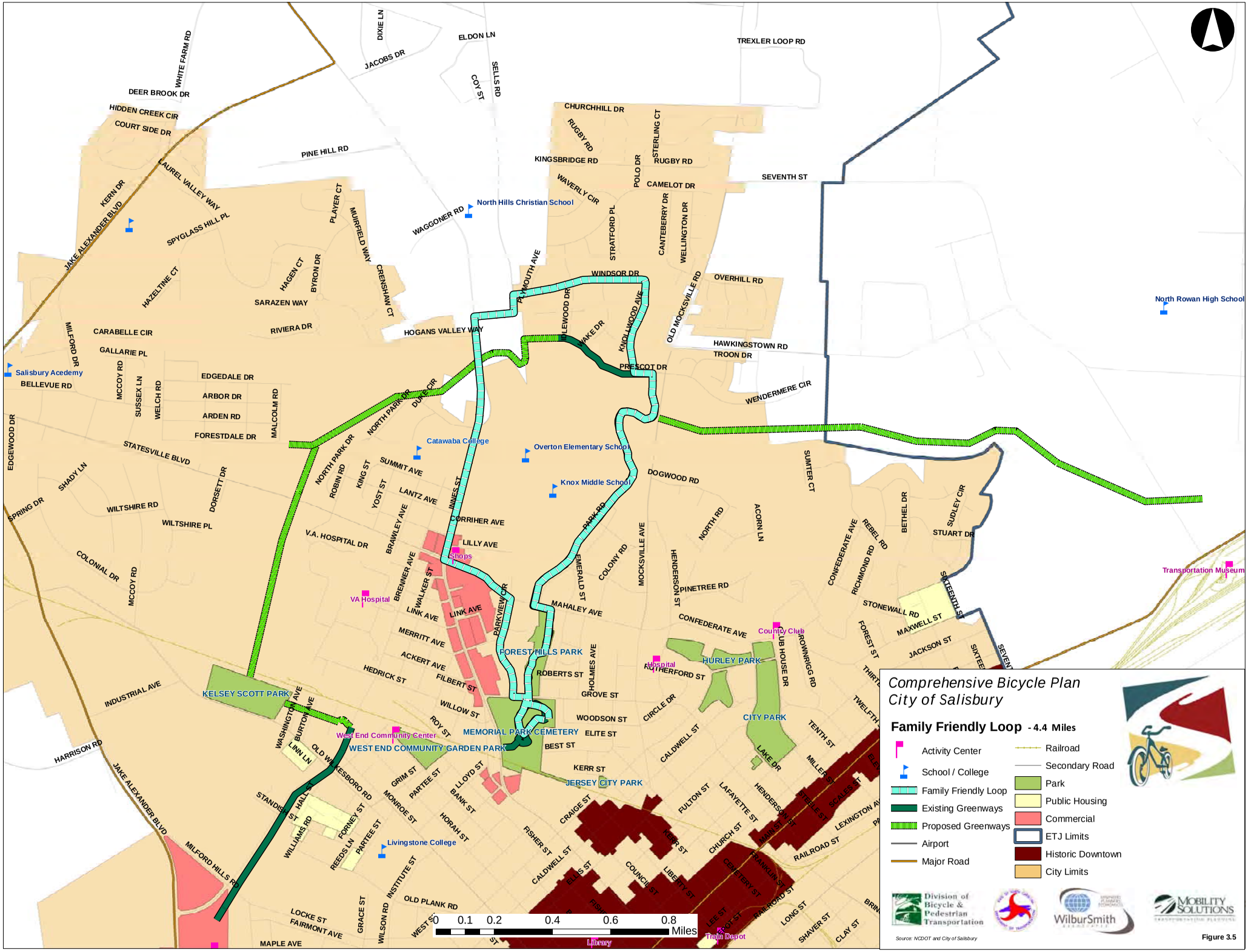

Comprehensive Bicycle Plan
City of Salisbury
Bicycle Network Map
Activity Centers
Schools / Colleges
Major Roads
Bike Lane
YMCA Loop
Southern Loop
Historic Downtown Loop
Family Friendly Loop
Park Loop
Cresent Loop
Out and Back
Existing Greenways
Proposed Greenways
Airport
Railroad
Secondary Roads
Public Housing
Parks
Commercial
Historic Downtown
ETJ Limits
City Limits
Salisbury
Spencer
East Spencer
Lockeland
Rowan County Airport
To Dan Nicolas Park & High Rock Lake
0 0.25 0.5 1 1.5 2 Miles
Division of Bicycle & Pedestrian Transportation
WilburSmith
Mobility Solutions
Source: NCDOT and City of Salisbury
Figure 3.3


Comprehensive Bicycle Plan
City of Salisbury
Historic District Tourism Loop - 6.6 Miles
Activity Center
Historic Loop
School / College
Existing Greenways
Proposed Greenways
Airport
Major Road
Secondary Road
Railroad
Park
Public Housing
Commercial
ETJ Limits
Historic Downtown
City Limits
Division of Bicycle & Pedestrian Transportation
WilburSmith
Mobility Solutions
Source: NCDOT and City of Salisbury
Figure 3.4
0 0.1 0.2 0.4 0.6 0.8 Miles
Catawba College
Overton Elementary School
Knox Middle School
Shops
VA Hospital
Country Club
Hospital
West End Community Center
Salisbury High School
YMCA
Food Lion
Bike Shop
Library
Train Depot
Shopping Center
Walmart
Senior Center
National Cemetery
KELSEY SCOTT PARK
FOREST HILLS PARK
MEMORIAL PARK CEMETERY
WEST END COMMUNITY GARDEN PARK
HURLEY PARK
CITY PARK
JERSEY CITY PARK
LONG STREET PARK
EAMAN PARK POOL
FULTON HEIGHTS NEIGHBORHOOD PARK
CANNON PARK
LINCOLN PARK
TOWNE CREEK PARK
FAIRVIEW HEIGHTS PLAYGROUND
SPORTS COMPLEX
FORESTDALE DR
STATESVILLE BLVD
WILTSHIRE RD
WILTSHIRE PL
MILFORD DR
COLONIAL DR
MCCOY RD
EXECUTIVE DR
V.A. HOSPITAL DR
BRENNER AVE
WALKER ST
LILLY AVE
LINK AVE
PARKVIEW CIR
MERRITT AVE
ACKERT AVE
HEDRICK ST
FILBERT ST
ROBERTS ST
GROVE ST
WOODSON ST
ELITE ST
BEST ST
KERR ST
WILLOW ST
ROY ST
INDUSTRIAL AVE
HARRISON RD
WASHINGTON AVE
BURTON AVE
LINN LN
OLD WILKESBORO RD
GRIM ST
PARTEE ST
LLOYD ST
BANK ST
HALL ST
STANDISH ST
WILLIAMS RD
FORNEY ST
REEDS LN
MILFORD HILLS RD
INSTITUTE ST
MONROE ST
HORAH ST
WEST ST
FISHER ST
CRAIGE ST
OLD PLANK RD
LOCKE ST
FAIRMONT AVE
GRACE ST
WILSON RD
MAPLE AVE
VICTORY ST
TAYLOR ST
OAK ST
RIDGE AVE
ELM ST
LINCOLNTON RD
TOWNE CT
GRANTS ST
COLLEGE ST
BIRDIE DR
PINEHURST ST
FRIES ST
WILEY AVE
MITCHELL AVE
MAUPIN AVE
HEILIG AVE
FIFTH ST
MOORESVILLE RD
AMBER DR
SUNSET DR
HUNT BLVD
JAKE ALEXANDER BLVD
ROSEMONT ST
SHERWOOD ST
THIRD ST
SECOND ST
C AVE
B AVE
A AVE
D AVE
PAR DR
OLD SOUTH MAIN ST
DODD ST
RAILROAD ST
JULIAN RD
OLD JULIAN RD
JACOB BOST RD
MAIN ST
COTTAGE ST
HEDGE ST
TIMBER ST
CRANBOURN CIR
BALFOUR DR
RINK ST
MINING AVE
SUNRISE DR
ROWAN MILL RD
DOGWOOD RD
SUMTER CT
PARK RD
EMERALD ST
COLONY RD
MAHALEY AVE
MOCKSVILLE AVE
HENDERSON ST
PINETREE RD
CONFEDERATE AVE
NORTH RD
ACORN LN
CONFEDERATE AVE
REBEL RD
RICHMOND RD
BETHEL DR
SUDLEY CIR
STUART DR
SIXTEENTH ST
STONEWALL RD
MAXWELL ST
FOREST ST
CLUB HOUSE DR
ROWANRIGG RD
HOLMES AVE
CIRCLE DR
CALDWELL ST
JACKSON ST
THIRTEENTH ST
MIDWAY LN
FOURTEENTH ST
FIFTEENTH ST
SIXTEENTH ST
SEVENTEENTH ST
LEE ST
LAKE DR
MILLER ST
ELEVENTH ST
RICHARD ST
SCALES ST
HENDERSON ST
LEXINGTON AVE
PAUL ST
LONG ST
BRYCE AVE
CRESTVIEW AVE
LAUREL ST
ROSEDALE ST
BOST ST
SHORT ST
GRADY ST
KENLY ST
BUTLER ST
BARBOUR ST
CARY ST
BEARD ST
FULTON ST
LAFAYETTE ST
CHURCH ST
COUNCIL ST
LIBERTY ST
CEMETERY ST
FRANKLIN ST
RAILROAD ST
MAIN ST
DEPOT ST
FISHER ST
GREEN ST
PINE ST
REEVES ST
SHAVER ST
CLAY ST
LIBERTY ST
FRANKLIN ST
LAFAYETTE ST
EARNHARDT AVE
FLORIAL ST
CROWDER DIXON DR
BANKETT AVE
BRINGLE FERRY RD
LITTLE ST
MACK ST
SKYLINE DR
HAMPSHIRE DR
CEDAR ST
LITTLE ST
GREEN ST
ARLINGTON ST
KESLER ST
PARK AVE
MILITARY AVE
KNOX ST
MCCUBBINS ST
CHESTNUT ST
HARRISON ST
JOHNSON ST
THOMAS ST
MARSH ST
CROSBY ST
KIRK ST
CRAWFORD ST
HILL ST
LUMBER ST
MILDRED AVE
VANCE AVE
PRICE ST
BELL ST
CAROLINA ST
KLUMAC RD
CALHOUN ST
CALHILLSBORO ST
KENTUCKY ST
EFIRD ST
GEORGIA ST
LUTHER
THOMAS ST
RYAN ST
OLD CONCORD RD
REAMER CIR
INTERSTATE 85
HARREL ST
MARTIN LUTHER KING, JR AVE
MONROE ST
FREELAND DR
BENDIX DR
Shopping
THRALE AVE
DUNHAM AVE
OAKWOOD AVE
GOLD HILL DR
LUDWICK AVE
CROWN POINT DR
BURKE ST

2. Family Friendly Loop (4.4 miles) – The Family Friendly Loop is comprised of the following streets and off-road trails:

    a. Greenway trail from south of Grove Street, northward to Mahaley Avenue
    b. Mahaley Avenue
    c. East Park Road
    d. Greenway trail from end of East Park Road to Prescot Drive
    e. Prescot Drive
    f. Knollwood Avenue
    g. Windsor Drive
    h. Sells Road
    i. West Innes Street
    j. Parkview Circle
    k. Grove Street

As its name suggests, Family Friendly Loop may serve as a "training loop" for beginners and children who are just learning to ride. Much of the Loop is off-road on greenway trails and minor-volume streets. This loop provides scenic vistas along the greenway trails surrounding Overton Elementary School, Knox Middle School, and Catawba College and includes the Forest Hills Park area. Bicyclists could gather at Memorial Park Cemetery or Forest Hills Park and start training sessions. When the proposed greenway connection is made to the end of the existing greenway, this Loop should be routed along the new greenway and Knollwood Avenue, Windsor Drive, and Sells Road should be removed from the routing. Improvements required for this Loop include upgrading the traffic signal on Mahaley Avenue at Park Street to provide pedestrian signals and crosswalk markings. Parkview Circle, Mahaley Avenue and the section of West Innes Street included in the Loop are of sufficient widths to add edgeline and/or bicycle lane striping and signage. Due to the temporary nature of Knollwood Avenue, Windsor Drive, and Sells Road, no improvement beyond temporary signage is recommended for these streets. The Family Friendly Loop is shown in **Figure 3.5.**


Comprehensive Bicycle Plan
City of Salisbury
Family Friendly Loop - 4.4 Miles
Activity Center
School / College
Family Friendly Loop
Existing Greenways
Proposed Greenways
Airport
Major Road
Railroad
Secondary Road
Park
Public Housing
Commercial
ETJ Limits
Historic Downtown
City Limits
Division of Bicycle & Pedestrian Transportation
WilburSmith
Mobility Solutions
Source: NCDOT and City of Salisbury
Figure 3.5
0 0.1 0.2 0.4 0.6 0.8 Miles
North Hills Christian School
North Rowan High School
Salisbury Acedemy
Catawaba College
Overton Elementary School
Knox Middle School
Livingstone College
West End Community Center
VA Hospital
Shops
Hospital
Country Club
Transportation Museum
Library
Train Depot
KELSEY SCOTT PARK
FOREST HILLS PARK
HURLEY PARK
CITY PARK
MEMORIAL PARK CEMETERY
WEST END COMMUNITY GARDEN PARK
JERSEY CITY PARK
WHITE FARM RD
DIXIE LN
ELDON LN
JACOBS DR
COY ST
SELLS RD
TREXLER LOOP RD
DEER BROOK DR
HIDDEN CREEK CIR
COURT SIDE DR
PINE HILL RD
CHURCHHILL DR
RUGBY RD
STERLING CT
KINGSBRIDGE RD
POLO DR
RUGBY RD
SEVENTH ST
WAVERLY CIR
CAMELOT DR
KERN DR
LAUREL VALLEY WAY
JAKE ALEXANDER BLVD
SPYGLASS HILL PL
PLAYER CT
MURFIELD WAY
WAGGONER RD
STRATFORD PL
CANTEBERRY DR
WELLINGTON DR
HAZELTINE CT
HAGEN CT
BYRON DR
CRENSHAW CT
SARAZEN WAY
PLYMOUTH AVE
WINDSOR DR
OVERHILL RD
OLD MOCKSVILLE RD
HOGANS VALLEY WAY
RIVIERA DR
CARABELLE CIR
GALLARIE PL
MILFORD DR
BELLEVUE RD
EDGEWOOD DR
MCCOY RD
SUSSEX LN
WELCH RD
EDGEDALE DR
ARBOR DR
ARDEN RD
FORESTDALE DR
MALCOLM RD
BLEWOOD DR
LAKE DR
KNOLLWOOD AVE
HAWKINGSTOWN RD
TROON DR
PRESCOT DR
WENDERMERE CIR
NORTH PARK DR
DUKE CIR
STATESVILLE BLVD
SHADY LN
SPRING DR
WILTSHIRE RD
WILTSHIRE PL
DORSETT DR
ROBIN RD
KING ST
SUMMIT AVE
YOST ST
LANTZ AVE
INNES ST
DOGWOOD RD
SUMTER CT
BETHEL DR
SUDLEY CIR
STUART DR
CORRIHER AVE
LILLY AVE
V.A. HOSPITAL DR
BRAWLEY AVE
BRENNER AVE
WALKER ST
PARK RD
EMERALD ST
COLONY RD
MOCKSVILLE AVE
HENDERSON ST
NORTH RD
ACORN LN
CONFEDERATE AVE
REBEL RD
RICHMOND RD
COLONIAL DR
MCCOY RD
LINK AVE
PARKVIEW CIR
MAHALEY AVE
PINETREE RD
STONEWALL RD
SIXTEENTH ST
MAXWELL ST
FOREST ST
JACKSON ST
MERRITT AVE
ACKERT AVE
HEDRICK ST
FILBERT ST
ROBERTS ST
GHOLMES AVE
GROVE ST
WOODSON ST
ELITE ST
BEST ST
KERR ST
CIRCLE DR
CALDWELL ST
HUB HOUSE DR
BROWNRIGG RD
TENTH ST
LAKE DR
INDUSTRIAL AVE
WILLOW ST
ROY ST
WASHINGTON AVE
BURTON AVE
LINN LN
OLD WILKESBORO RD
HARRISON RD
JAKE ALEXANDER BLVD
MILFORD HILLS RD
GRIM ST
PARTEE ST
MONROE ST
BANK ST
LLOYD ST
HORAH ST
STANDIFER ST
HALL ST
WILLIAMS RD
FORNEY ST
REEDS LN
PARTEE ST
INSTITUTE ST
WILSON RD
GRACE ST
OLD PLANK RD
LOCKE ST
FAIRMONT AVE
MAPLE AVE
CRAIGE ST
FISHER ST
CALDWELL ST
ELLS ST
COUNCIL ST
LIBERTY ST
CEMETERY ST
FRANKLIN ST
KERR ST
CHURCH ST
MAIN ST
RAILROAD ST
FULTON ST
LAFAYETTE ST
HENDERSON ST
STEELE ST
SCALES ST
LEXINGTON AVE
MILLER ST
LEE ST
DEPOT ST
LONG ST
SHAVER ST
CLAY ST

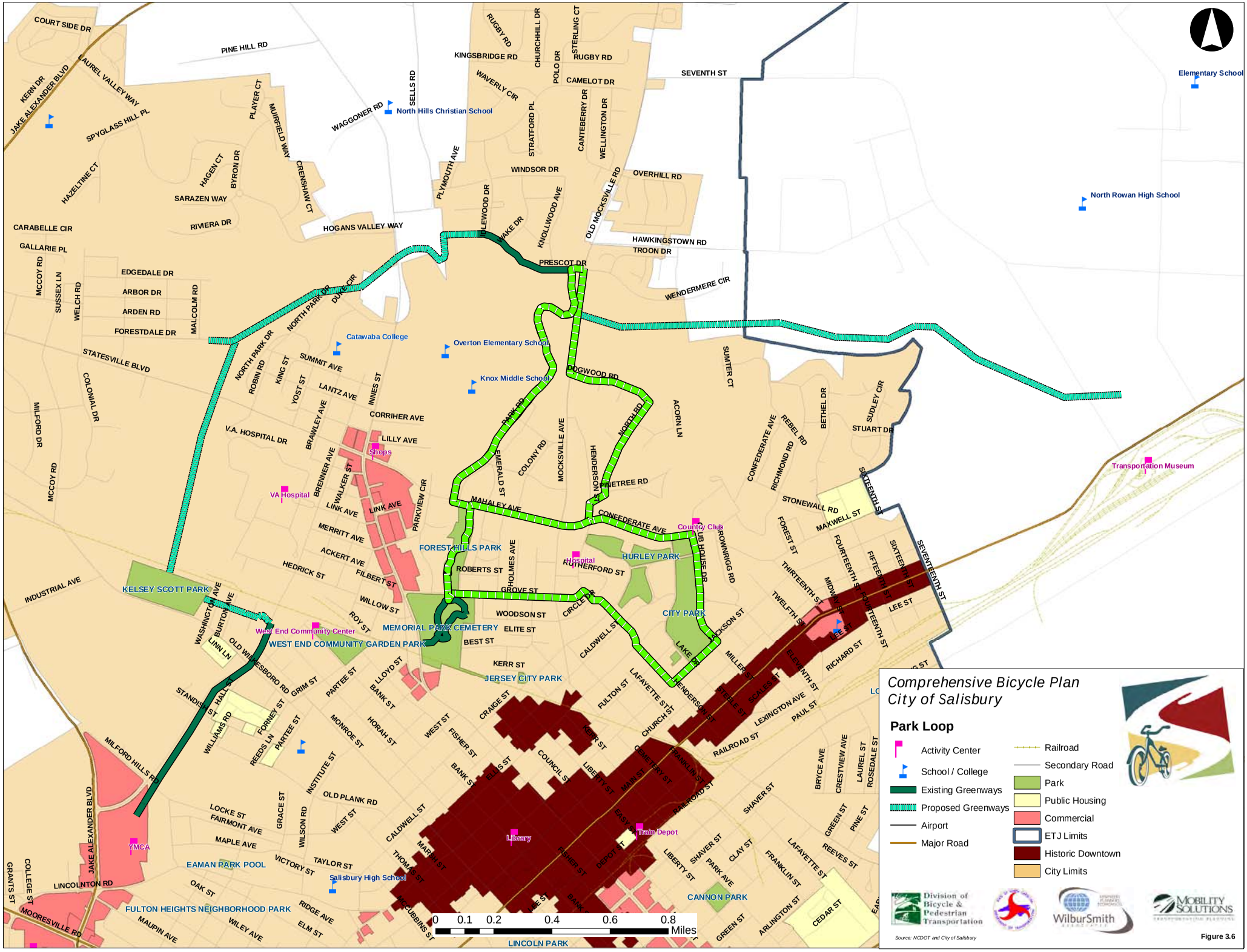
3. Park Loop (5.1 miles) - The Park Loop is comprised of the following streets and off-road trails:

    a. Confederate Avenue
    b. West Henderson Street
    c. Pine Tree Road
    d. North Road
    e. Dogwood Road
    f. Mocksville Avenue
    g. Prescot Drive
    h. Greenway trail at Prescot, southward to West Park Road
    i. East Park Road / West Park Road
    j. Mahaley Avenue
    k. Greenway trail at Mahaley, southward to Grove Street
    l. Grove Street
    m. West Henderson Street
    n. Jackson Street
    o. West Miller Street
    p. Club House Drive

The Park Loop provides ample access to four of Salisbury's most popular Parks: City Park, Hurley Park, Forest Hills Park, and Memorial Park. Similar to the Family Friendly Loop, scenic vistas along the greenway trails surrounding Overton Elementary School, Knox Middle School, and Catawba College can be viewed during the ride. Bicyclists could access this loop via the City's transit (bus) system with stops along Mocksville Avenue and Mahaley Avenue. As can be seen in **Figure 3.6**, two smaller "mini-loops" exist within the Park Loop proper, such as the "mini-loop" bounded by Mahaley Avenue, Confederate Avenue, Club House Drive, West Miller Street, Jackson Street, Henderson Street, Grove Street, and the Greenway Trail through Forest Hills Park.

Improvements required along this Loop include widening Jackson Street, West Henderson Street and Old Mocksville Road and installing edgeline striping along Club House Drive and bicycle lane striping along Confederate Avenue. Signs are proposed along other routes within this proposed Loop.

The Park Loop is shown in **Figure 3.6.**


Comprehensive Bicycle Plan
City of Salisbury
Park Loop
Activity Center
School / College
Existing Greenways
Proposed Greenways
Airport
Major Road
Railroad
Secondary Road
Park
Public Housing
Commercial
ETJ Limits
Historic Downtown
City Limits
Source: NCDOT and City of Salisbury
Figure 3.6
0 0.1 0.2 0.4 0.6 0.8 Miles
Elementary School
North Rowan High School
North Hills Christian School
Catawba College
Overton Elementary School
Knox Middle School
Transportation Museum
VA Hospital
Shops
Country Club
Hospital
West End Community Center
YMCA
Salisbury High School
Library
Train Depot
KELSEY SCOTT PARK
FOREST HILLS PARK
HURLEY PARK
CITY PARK
MEMORIAL PARK CEMETERY
WEST END COMMUNITY GARDEN PARK
JERSEY CITY PARK
EAMAN PARK POOL
FULTON HEIGHTS NEIGHBORHOOD PARK
CANNON PARK
LINCOLN PARK
COURT SIDE DR
PINE HILL RD
KINGSBRIDGE RD
RUGBY RD
SEVENTH ST
WAGGONER RD
WINDSOR DR
OVERHILL RD
HAWKINGSTOWN RD
TROON DR
PRESCOT DR
WENDERMERE CIR
HOGANS VALLEY WAY
RIVIERA DR
SARAZEN WAY
CARABELLE CIR
GALLARIE PL
EDGEDALE DR
ARBOR DR
ARDEN RD
FORESTDALE DR
STATESVILLE BLVD
DOGWOOD RD
SUMTER CT
ACORN LN
BETHEL DR
SUDLEY CIR
STUART DR
CORRIHER AVE
LILLY AVE
V.A. HOSPITAL DR
PINETREE RD
MAHALEY AVE
CONFEDERATE AVE
STONEWALL RD
MAXWELL ST
SIXTEENTH ST
SEVENTEENTH ST
FOURTEENTH ST
FIFTEENTH ST
THIRTEENTH ST
TWELFTH ST
ELEVENTH ST
MERRITT AVE
ACKERT AVE
HEDRICK ST
FILBERT ST
WILLOW ST
ROBERTS ST
GROVE ST
WOODSON ST
ELITE ST
BEST ST
KERR ST
INDUSTRIAL AVE
ROY ST
LINK AVE
PARKVIEW CIR
BRENNER AVE
BRAWLEY AVE
LANTZ AVE
SUMMIT AVE
KING ST
ROBIN RD
NORTH PARK DR
DUKE CIR
MILFORD DR
COLONIAL DR
MCCOY RD
SUSSEX LN
WELCH RD
MALCOLM RD
MILFORD HILLS RD
JAKE ALEXANDER BLVD
LINCOLNTON RD
MOORESVILLE RD
OLD WILKESBORO RD
WASHINGTON AVE
BURTON AVE
LINN LN
STANDISH HALL ST
WILLIAMS RD
FORNEY ST
REEDS LN
PARTEE ST
GRIM ST
B LLOYD ST
BANK ST
MONROE ST
HORAH ST
WEST ST
FISHER ST
CRAIGE ST
INSTITUTE ST
OLD PLANK RD
LOCKE ST
FAIRMONT AVE
MAPLE AVE
GRACE ST
WILSON RD
VICTORY ST
TAYLOR ST
OAK ST
RIDGE AVE
ELM ST
WILEY AVE
MAUPIN AVE
GRANTS ST
COLLEGE ST
MCCUBBINS ST
THOMAS ST
MARSH ST
ELLIS ST
COUNCIL ST
LIBERTY ST
MAIN ST
CEMETERY ST
FRANKLIN ST
RAILROAD ST
DEPOT ST
EAST ST
SHAVER ST
CLAY ST
PARK AVE
GREEN ST
ARLINGTON ST
CEDAR ST
FULTON ST
LAFAYETTE ST
CHURCH ST
CALDWELL ST
CIRCLE DR
LAKE DR
HENDERSON ST
STEELE ST
SCALES ST
MILLER ST
LEXINGTON AVE
PAUL ST
RICHARD ST
LEE ST
JACKSON ST
BROWNRIGG RD
CLUBHOUSE DR
FOREST ST
MIDWAY ST
BRYCE AVE
CRESTVIEW AVE
LAUREL ST
ROSEDALE ST
PINE ST
REEVES ST
GREEN ST
SHAVER ST
LAFAYETTE ST
FRANKLIN ST
PARK RD
COLONY RD
EMERALD ST
MOCKSVILLE AVE
HENDERSON ST
NORTH RD
OLD MOCKSVILLE RD
KNOLLWOOD AVE
LEWOOD DR
LAKE DR
PLYMOUTH AVE
WELLINGTON DR
CANTEBERRY DR
STRATFORD PL
CAMELOT DR
POLO DR
CHURCHILL DR
STERLING CT
RUGBY RD
WAVERLY CIR
SELLS RD
PLAYER CT
MUIRFIELD WAY
CRENSHAW CT
BYRON DR
HAGEN CT
HAZELTINE CT
SPYGLASS HILL PL
LAUREL VALLEY WAY
KERN DR
JAKE ALEXANDER BLVD

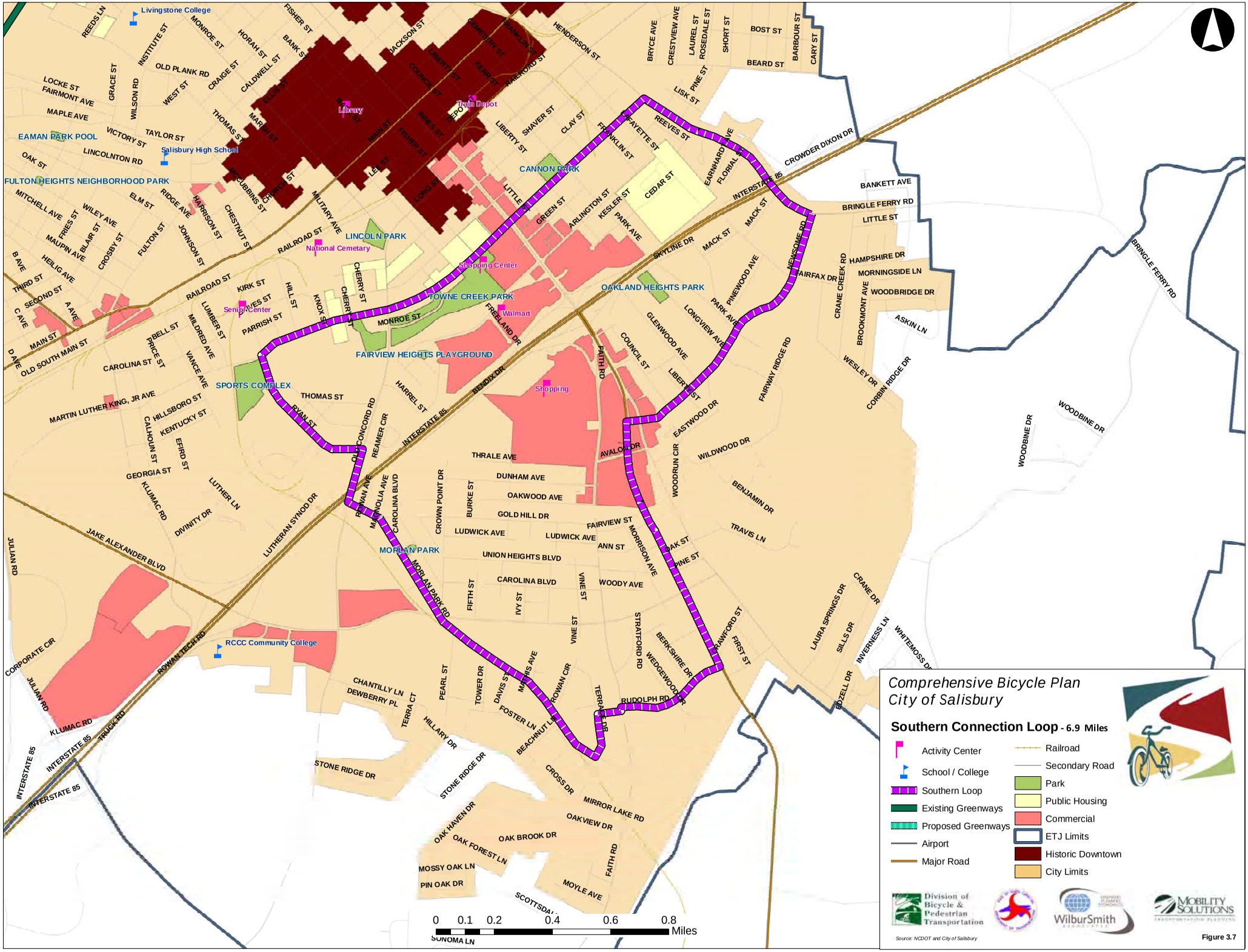
4. Southern Connection Loop (6.9 miles) - The Southern Connection Loop is comprised of the following streets:
    a. Martin Luther King Jr. Avenue
    b. Bringle Ferry Road
    c. Newsome Road
    d. East Innes Street
    e. Rudolph Road
    f. Pinetree Drive
    g. Terrace Drive
    h. Morlan Park Road
    i. Gold Hill Drive
    j. Old Concord Road
    k. Ryan Street

The southeast end of Salisbury currently has the least bicycle-friendly infrastructure in the entire City. I-85 creates a three-mile barrier to bicycle travel, with only five locations where bicyclists are allowed to cross. The Corbin Hills Golf Course acts a 130-acre barrier to bicycles and pedestrians. Street patterns southeast of the interstate rely heavily on radial arterials and are less-connected than the rest of the City. The purpose of the Southern Connection Loop is to provide basic bicycle infrastructure in the southeast portion of Salisbury. However, due to high volume, high speed streets, this Loop will be appropriate for use primarily by more experienced cyclists. Improvements should be implemented before the Loop would be considered "bicycle-friendly".

According to Rowan County GIS data, the City of Salisbury owns a 60-foot wide easement that begins near the end of Rudolph Road at Wedgewood Drive, and then extends in a curvilinear pattern westward, ending at an intersection with Faith Road just north of the intersection of Faith Road and Pine Tree Drive. This easement could provide an ideal connection for pedestrians and cyclists, if not a new street, between Faith Road and Wedgewood Drive. This connection is recommended as part of the Southern Connection Loop.

Improvements will be required on Martin Luther King, Jr. Avenue, Innes Street, along with widening improvements along Bringle Ferry Road, Newsome Road, Gold Hill, Old Concord Road and Ryan Street.

Amenities located along the Southern Connection Loop include the Wal-Mart shopping center, as well as Towne Creek Park and the Salisbury Sports Complex. The Southern Connection Loop is shown in **Figure 3.7**.

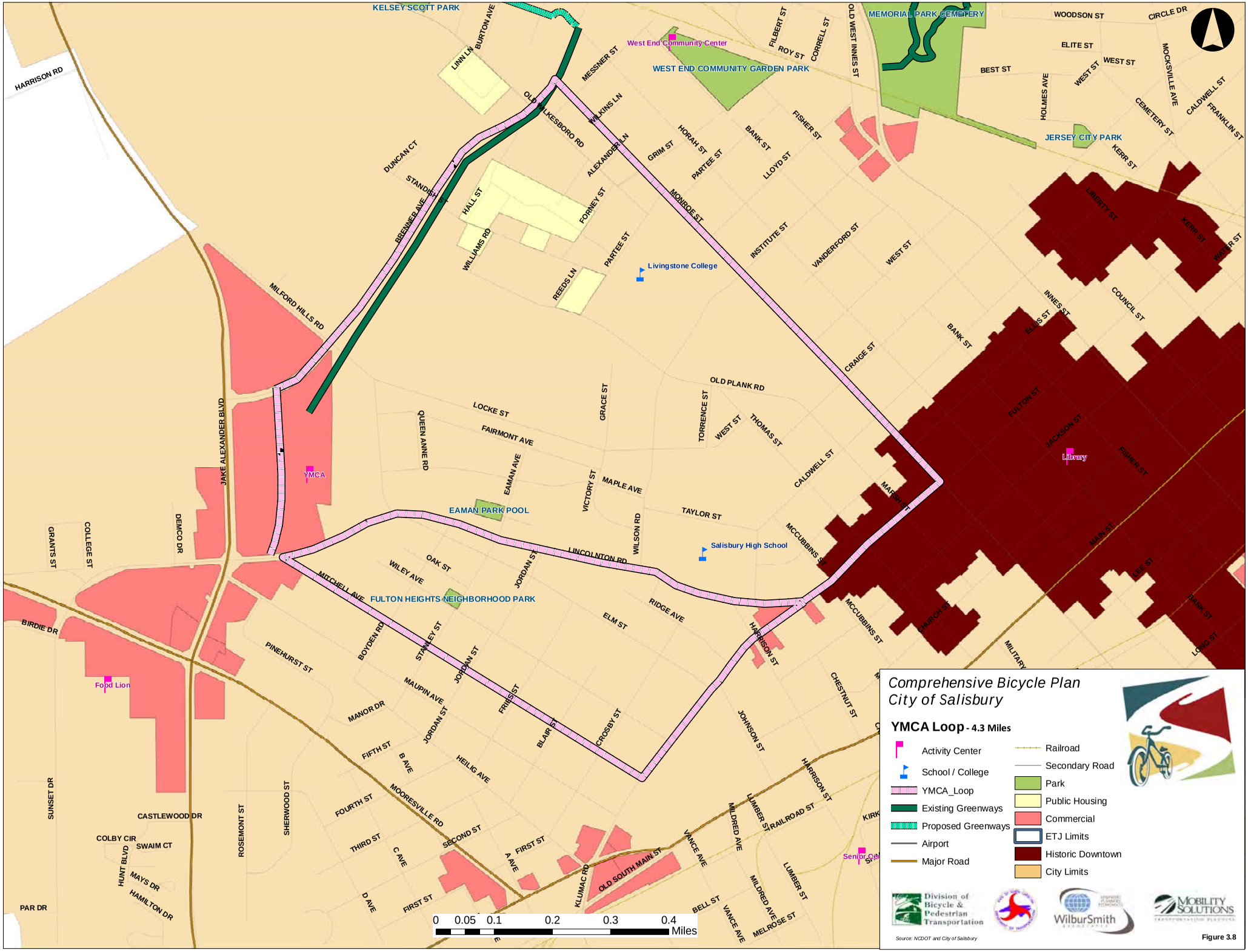

Livingstone College
REEDS LN
INSTITUTE ST
MONROE ST
FISHER ST
HORAH ST
BANK ST
JACKSON ST
CEMETERY ST
FRANKLIN ST
HENDERSON ST
BRYCE AVE
CRESTVIEW AVE
LAUREL ST
ROSEDALE ST
SHORT ST
BOST ST
BEARD ST
BARBOUR ST
CARY ST
LOCKE ST
FAIRMONT AVE
GRACE ST
WILSON RD
OLD PLANK RD
WEST ST
CRAIGE ST
CALDWELL ST
ELLIS ST
COUNCIL ST
LIBERTY ST
KERR ST
RAILROAD ST
LISK ST
PINE ST
MAPLE AVE
Library
Train Depot
DEPOT ST
MAIN ST
INNES ST
FISHER ST
MARSH ST
THOMAS ST
VICTORY ST
TAYLOR ST
EAMAN PARK POOL
Salisbury High School
LINCOLNTON RD
OAK ST
FULTON HEIGHTS NEIGHBORHOOD PARK
MCCUBBINS ST
CHURCH ST
LEE ST
LONG ST
LIBERTY ST
SHAVER ST
CLAY ST
FRANKLIN ST
LAFAYETTE ST
REEVES ST
CANNON PARK
EARNHARDT AVE
FLORAL DR
CROWDER DIXON DR
INTERSTATE 85
BANKETT AVE
BRINGLE FERRY RD
LITTLE ST
MACK ST
NEWSOME RD
MITCHELL AVE
WILEY AVE
ELM ST
RIDGE AVE
HARRISON ST
CHESTNUT ST
MILITARY AVE
LITTLE ST
GREEN ST
ARLINGTON ST
KESLER ST
CEDAR ST
PARK AVE
SKYLINE DR
MACK ST
FRIES ST
MAUPIN AVE
BLAIR ST
CROSBY ST
FULTON ST
JOHNSON ST
RAILROAD ST
LINCOLN PARK
National Cemetery
Shopping Center
OAKLAND HEIGHTS PARK
HAMPSHIRE DR
MORNINGSIDE LN
FAIRFAX DR
WOODBRIDGE DR
CRANE CREEK RD
BROOKMONT AVE
PINEWOOD AVE
PARK AVE
LONGVIEW AVE
GLENWOOD AVE
ASKIN LN
B AVE
HEILIG AVE
THIRD ST
SECOND ST
C AVE
A AVE
MAIN ST
RAILROAD ST
KIRK ST
HILL ST
KNOX ST
CHERRY ST
TOWNE CREEK PARK
Senior Center
Walmart
FREELAND DR
MONROE ST
PARRISH ST
LUMBER ST
MILDRED AVE
BELL ST
PRICE ST
D AVE
OLD SOUTH MAIN ST
CAROLINA ST
VANCE AVE
FAIRVIEW HEIGHTS PLAYGROUND
COUNCIL ST
LIBERTY ST
FAIRWAY RIDGE RD
WESLEY DR
CORBIN RIDGE DR
BRINGLE FERRY RD
WOODBINE DR
SPORTS COMPLEX
THOMAS ST
HARREL ST
BENDIX DR
Shopping
FAITH RD
EASTWOOD DR
WILDWOOD DR
MARTIN LUTHER KING, JR AVE
HILLSBORO ST
KENTUCKY ST
CALHOUN ST
EFIRD ST
RYAN ST
OLD CONCORD RD
REAMER CIR
INTERSTATE 85
AVALON DR
WOODRUN CIR
BENJAMIN DR
TRAVIS LN
THRALE AVE
DUNHAM AVE
OAKWOOD AVE
GOLD HILL DR
GEORGIA ST
KLUMAC RD
LUTHER LN
DIVINITY DR
ROWAN AVE
MAGNOLIA AVE
CAROLINA BLVD
CROWN POINT DR
BURKE ST
LUDWICK AVE
LUDWICK AVE
FAIRVIEW ST
MORRISON AVE
OAK ST
PINE ST
ANN ST
JAKE ALEXANDER BLVD
LUTHERAN SYNOD DR
JULIAN RD
MORLAN PARK
UNION HEIGHTS BLVD
CAROLINA BLVD
WOODY AVE
VINE ST
FIFTH ST
IVY ST
MORLAN PARK RD
STRATFORD RD
BERKSHIRE DR
WEDGEWOOD DR
CRANFORD ST
FIRST ST
LAURA SPRINGS DR
CRANE DR
SILLS DR
INVERNESS LN
WHITEMOSS DR
BIZZELL DR
CORPORATE CIR
ROWAN TECH RD
RCCC Community College
JULIAN RD
KLUMAC RD
TRUCK RD
INTERSTATE 85
INTERSTATE 85
INTERSTATE 85
CHANTILLY LN
DEWBERRY PL
TERRA CT
PEARL ST
TOWER DR
DAVIS ST
MARVIS AVE
ROWAN CIR
TERRACE DR
RUDOLPH RD
FOSTER LN
BEACHNUT LN
HILLARY DR
STONE RIDGE DR
STONE RIDGE DR
CROSS DR
MIRROR LAKE RD
OAKVIEW DR
OAK BROOK DR
OAK HAVEN DR
OAK FOREST LN
MOSSY OAK LN
PIN OAK DR
FAITH RD
MOYLE AVE
SONOMA LN
0 0.1 0.2 0.4 0.6 0.8 Miles
Comprehensive Bicycle Plan
City of Salisbury
Southern Connection Loop - 6.9 Miles
Activity Center
School / College
Southern Loop
Existing Greenways
Proposed Greenways
Airport
Major Road
Railroad
Secondary Road
Park
Public Housing
Commercial
ETJ Limits
Historic Downtown
City Limits
Division of Bicycle & Pedestrian Transportation
WilburSmith
Mobility Solutions
Source: NCDOT and City of Salisbury
Figure 3.7

5. YMCA Loop (4.3 miles) - The YMCA Loop is comprised of the following streets and multi-use paths:

a. Existing Greenway along Brenner Avenue
b. Monroe Street
c. Fulton Street
d. Lincolnton Road
e. Mitchell Avenue

The YMCA Loop emanates from the Hurley Family YMCA at the corner of Lincolnton Road and Jake Alexander Boulevard. Cyclists of all skill levels would be expected to enjoy riding along this Loop. The Loop provides a great connection between the existing greenway trail and public housing on Brenner Avenue, Livingston College, Salisbury High School and commercial land uses near the YMCA. Bicyclists using this Loop will have easy access to Kelsey Scott Park and the Eaman Swimming pool located on Stanley Street.

Fulton Street is an ideal candidate for striped bicycle lanes, with minimal pavement marking removal and new marking/signage required. Resurfacing along Monroe Street would enhance the cycling experience. The YMCA Loop is shown in **Figure 3.8**.



Comprehensive Bicycle Plan
City of Salisbury

YMCA Loop - 4.3 Miles

- Activity Center
- School / College
- YMCA_Loop
- Existing Greenways
- Proposed Greenways
- Airport
- Major Road
- Railroad
- Secondary Road
- Park
- Public Housing
- Commercial
- ETJ Limits
- Historic Downtown
- City Limits

Division of Bicycle & Pedestrian Transportation

WilburSmith

Mobility Solutions

Source: NCDOT and City of Salisbury

Figure 3.8

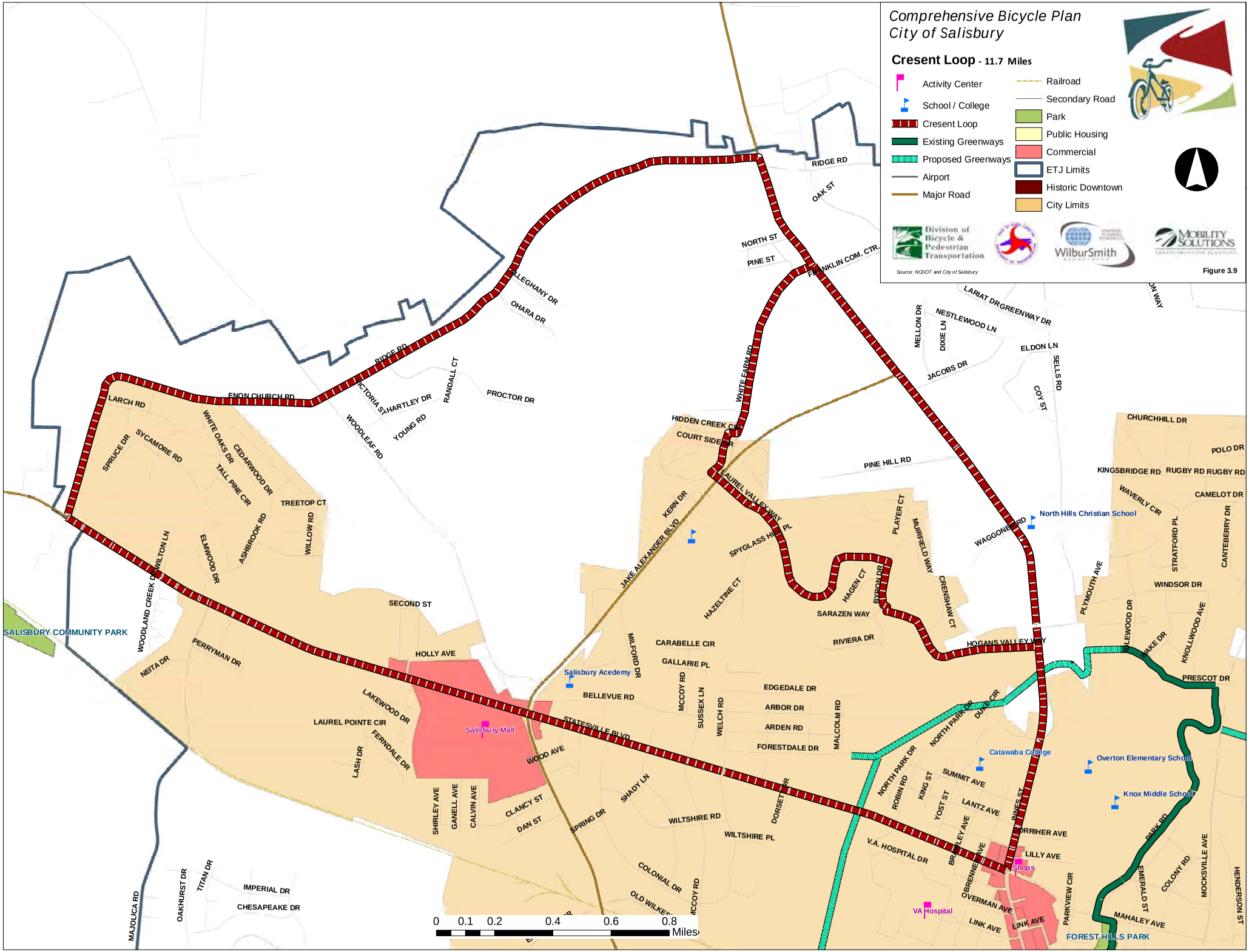
6. The Crescent Loop (11.7 miles) – The Crescent Loop is comprised of the following streets:

a. Statesville Boulevard
b. Enon Church Road
c. West Ridge Road
d. West Innes Street (US 601)
e. White Farm Road
f. Hidden Creek Circle
g. Hidden Creek Drive
h. Laurel Valley Way
i. Byron Drive
j. Hogans Valley Way

The Crescent Loop, so named due to its routing through the Crescent Golf Club, will provide cyclists with leisurely rides through the country club and scenic tours through northern Salisbury, passing by farmland and residential uses. A long stretch of Statesville Avenue just widened, and a medium length stretch of a more serene section of West Innes Street are needed to complete this Loop that would be appropriate for cyclists of moderate to experienced skill levels. This is the northernmost Loop in the Salisbury Bicycle Plan, and more than half of its routing is outside of Salisbury's City Limits but 100% within its ETJ limits. The Crescent Loop itself is bordered by Statesville Boulevard, Enon Church Road, West Ridge Road, and West Innes Street. A secondary mini-loop is also provided via White Farm Road and the subdivision streets in Hidden Creek and the Crescent Golf community.

As mentioned, Statesville Boulevard has recently been widened in the section between Jake Alexander Boulevard and Enon Church Road. Fourteen foot wide outside lanes are provided in this curb and gutter section. East of Jake Alexander Boulevard, this Plan recommends a Road Diet to establish bicycle lanes to the intersection of West Innes Street. Hogans Valley Way, Byron Drive, and Laurel Valley Way are all 22-foot wide streets that meander through the Crescent Golf Club. Hogans Valley Way and Byron Drive intersect at a picturesque roundabout with 22-foot wide circulating streets. Cyclists are recommended to share the road with motorists along these three lightly travelled streets. From Laurel Valley Way, cyclists must cross Jake Alexander Boulevard to access Hidden Creek Drive. Both Hidden Creek Drive and Hidden Creek Circle provide 20 feet of pavement in the Hidden Creek townhome community. Cyclists are recommended to share the road within Hidden Creek. This Loop makes use of White Farm Road, West Innes Street, West Ridge Road, and Enon Church Road, all state maintained secondary roads and primary routes. The speed limits along these state maintained roads are assumed to be 55 mph as they are characterized by large open spaces of undeveloped roadside.

Improvements will be necessary on 50% of this Loop, but cyclists are sure to enjoy rides along this scenic and open Loop. The Crescent Loop is shown in **Figure 3.9**.


Comprehensive Bicycle Plan
City of Salisbury
Cresent Loop - 11.7 Miles
Activity Center
School / College
Cresent Loop
Existing Greenways
Proposed Greenways
Airport
Major Road
Railroad
Secondary Road
Park
Public Housing
Commercial
ETJ Limits
Historic Downtown
City Limits
Division of Bicycle & Pedestrian Transportation
WilburSmith
Mobility Solutions
Source: NCDOT and City of Salisbury
Figure 3.9
RIDGE RD
OAK ST
NORTH ST
PINE ST
FRANKLIN COM. CTR.
ALLEGHANY DR
OHARA DR
RIDGE RD
ENON CHURCH RD
LARCH RD
VICTORIA ST
HARTLEY DR
RANDALL CT
PROCTOR DR
WOODLEAF RD
YOUNG RD
WHITE FARM RD
HIDDEN CREEK CT
COURT SIDE DR
PINE HILL RD
LAUREL VALLEY WAY
LARIAT DR
GREENWAY DR
NESTLEWOOD LN
MELLON DR
DIXIE LN
ELDON LN
SELLS RD
JACOBS DR
COY ST
SPRUCE DR
SYCAMORE RD
WHITE OAKS DR
CEDARWOOD DR
TALL PINE CIR
TREETOP CT
WILLOW RD
ASHBROOK RD
ELMWOOD DR
WOODLAND CREEK DR
HAMILTON LN
KERN DR
JAKE ALEXANDER BLVD
SPYGLASS HILL PL
PLAYER CT
MUIRFIELD WAY
WAGGONER RD
North Hills Christian School
CHURCHHILL DR
POLO DR
KINGSBRIDGE RD
RUGBY RD
RUGBY RD
CAMELOT DR
WAVERLY CIR
STRATFORD PL
CANTEBERRY DR
WINDSOR DR
PLYMOUTH AVE
HAZELTINE CT
HAGEN CT
BYRON DR
CRENSHAW CT
SARAZEN WAY
RIVIERA DR
HOGANS VALLEY WAY
SECOND ST
SALISBURY COMMUNITY PARK
PERRYMAN DR
NEITA DR
HOLLY AVE
MILFORD DR
CARABELLE CIR
GALLARIE PL
Salisbury Acedemy
BELLEVUE RD
MCCOY RD
SUSSEX LN
WELCH RD
EDGEDALE DR
ARBOR DR
ARDEN RD
FORESTDALE DR
MALCOLM RD
LAKEWOOD DR
LAUREL POINTE CIR
FERNDALE DR
LASH DR
Salisbury Mall
STATESVILLE BLVD
WOOD AVE
SHIRLEY AVE
GANELL AVE
CALVIN AVE
CLANCY ST
DAN ST
SHADY LN
SPRING DR
WILTSHIRE RD
WILTSHIRE PL
DORSET DR
COLONIAL DR
OLD WILKES
MCCOY RD
MAJOLICA RD
OAKHURST DR
TITAN DR
IMPERIAL DR
CHESAPEAKE DR
NORTH PARK DR
DUKE CIR
ROBIN RD
KING ST
SUMMIT AVE
YOST ST
LANTZ AVE
BRADLEY AVE
BRENNER AVE
JONES ST
MORRIHER AVE
LILLY AVE
V.A. HOSPITAL DR
Shops
VA Hospital
OVERMAN AVE
LINK AVE
LINK AVE
PARKVIEW CIR
Catawaba College
Overton Elementary School
Knox Middle School
PARK RD
COLONY RD
MOCKSVILLE AVE
HENDERSON ST
EMERALD ST
MAHALEY AVE
FOREST HILLS PARK
TOLEWOOD DR
LAKE DR
KNOLLWOOD AVE
PRESCOT DR
0 0.1 0.2 0.4 0.6 0.8
Miles

"Out and Back" Routes

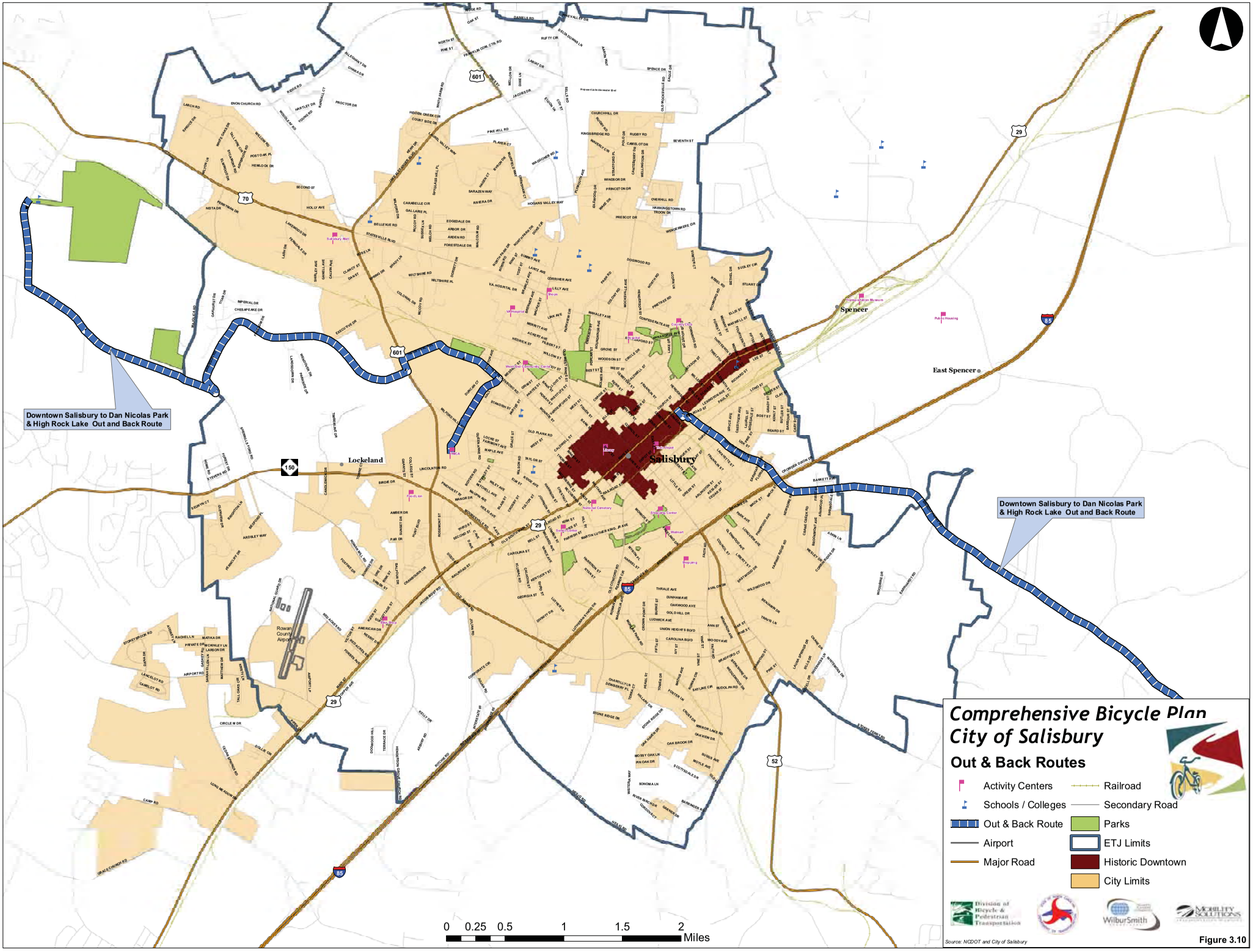
Also referred to as "folded loops", these are bicycle trips cyclists tend to take on weekends and other times and consist of a group of cyclists gathering at one location, traveling along one road to a destination, and returning along the same road. These routes are expected to complement the proposed loops and will challenge more experienced riders. The 'Out and Back' routes connect key recreation destinations such as Salisbury Community Park and Dan Nicholas Park that offer fun for a whole day. The following "Out and Backs" recommended in the plan include:

Hurley Family YMCA to Salisbury Community Park Out and Back - While this route lies almost entirely outside of the City limit and ETJ boundaries, this route provides access to the Salisbury Community Park and its recreation opportunities, as well as the Hurley Family YMCA and Kelsey Scott Park. Salisbury Community Park offers soccer, baseball and softball fields and a beautiful lake with walking trails. This route makes use of Hurley School Road, Sherrill's Ford Road, Harrison Road, Industrial Avenue, Old Wilkesboro Road, and Brenner Avenue/Greenway Trail. A short connection along Jake Alexander Boulevard is needed between Harrison Road and Industrial Avenue to complete this route. In addition, it is recommended that cyclists beginning or completing the route along Brenner Avenue make use of the Harris-Teeter and YMCA internal circulation paths to reach the YMCA and to avoid Jake Alexander Boulevard. All of these roads, with the exception of Industrial Avenue and Brenner Avenue, are state maintained and in need of improvement before being considered bicycle friendly. As such, less experienced cyclists should not be encouraged to frequent this route initially.

Downtown Salisbury to Dan Nicolas Park & High Rock Lake Out and Back – Similar to the previous route, this route originates at the intersection of Main Street and Henderson Street in downtown Salisbury and terminates at Dan Nicholas Park near High Rock Lake. Dan Nicholas Park offers family fun for all ages including walking trails, a lake with paddleboats, picnic shelters, campground, miniature train, carrousel, nature center and gem mining. Again, this route would be suitable for more experienced riders, although much more bicycle friendly than the previous Out and Back described. This route makes use of East Henderson Street and Bringle Ferry Road.

Many avid cyclists have indicated that they currently use these routes. The City of Salisbury should coordinate with Rowan County and NCDOT to improve these roadways to accommodate improvements where feasible. See below for specific recommendations.

The "Out and Back" routes are shown on **Figure 3.10.**


Downtown Salisbury to Dan Nicolas Park & High Rock Lake Out and Back Route
Downtown Salisbury to Dan Nicolas Park & High Rock Lake Out and Back Route
Salisbury
Spencer
East Spencer
Lockeland
Rowan County Airport
0 0.25 0.5 1 1.5 2 Miles
Comprehensive Bicycle Plan
City of Salisbury
Out & Back Routes
Activity Centers
Schools / Colleges
Out & Back Route
Airport
Major Road
Railroad
Secondary Road
Parks
ETJ Limits
Historic Downtown
City Limits
Source: NCDOT and City of Salisbury
Figure 3.10

Recommended Bicycle Thoroughfares and Proposed Improvements

The following streets have been identified by the Bicycle Plan Steering Committee as potential Bicycle Thoroughfares. These streets were carefully chosen to provide the safest and most well-coordinated network of bicycle thoroughfares.

The following streets have been evaluated for potential bicycle improvements. Recommendations include striped bicycle lanes adjacent to vehicle travel lanes, edgeline markings, wide outside lanes on multi-lane streets, road diets to create more space for sharing the road, and paved shoulders to achieve more separation between bikes and vehicles throughout the city. Following is a list of the potential thoroughfares, their termini locations, and type of bicycle facility recommendations listed in alphabetical order:

West 11th Street – Jackson Street to Main Street – The pavement width of West 11th Street is 24 feet face to face. This is a short, two-block length of 11th Street making a connection to North Main Street. Parallel routes that provide the same connection are proposed along 13th Street and West Henderson Street mere blocks away. For these reasons, it is recommended to forego recommendations to designate West 11th Street as a bicycle facility.

Airport Road – West City Limits to Main Street – Airport Road provides a narrow, two-lane cross section with one-foot paved shoulders. The AADT on Airport Road was 4,000 vpd in 2007. Airport Road is characterized by the presence of industrial buildings and low-income residential (mobile homes) at Kristy Lane and Maggie Avenue. Pedestrians were observed walking along Airport Road to the convenience store at the corner of Main Street during a recent site visit. It is perceived that transportation options are somewhat limited to a larger than average number of residents in this area. Therefore, widening Airport Road by eight feet (four feet each side) to provide five-foot wide paved shoulders to provide separation between bicyclists and vehicles *is a high priority project*. It is also recommended to place a *high priority* on the construction of a new sidewalk along the north side of Airport Road from Gaskey Road (SR1563) to Main Street (US29). A new sidewalk would accommodate the growing pedestrian traffic in the area. Airport Road is state maintained and identified as SR1516.

South Arlington Street – Old Concord Road to East Innes Street – This short connection provides multi-modal access to the heavy retail areas (Wal-Mart) on both sides of South Arlington. This section is a true four-lane divided cross section with a twelve-foot center grass median and two-twelve foot lanes in each direction. A bridge is present over Towne Creek that provides five lanes of travel. Martin Luther King Jr. Avenue provides a parallel bicycle route just one block away from South Arlington Street. It is recommended that this route be restriped to provide two ten-foot lanes with four-foot wide striped bicycle lanes in each direction of travel. This route should also be signed as a bicycle thoroughfare. This is a *high priority*.

Brenner Avenue – Jake Alexander Boulevard to West Horah Street – With the presence of a ten-foot wide asphalt multi-use path, and a five-foot concrete sidewalk on the other side, this section of Brenner Avenue is in no need of improvement. Cyclists should use the path to maintain the best separation between vehicles and bicycles. The multi-use path should be signed as a numbered bicycle route. This minor improvement *is a high priority.*

Brenner Avenue – West Horah Street to Statesville Boulevard – This section is characterized by an at-grade railroad crossing and older, rougher travel lanes. The majority of this section provides two travel lanes. However, between Hedrick and Horah Streets, an opportunity exists to remove old, unused parallel parking spaces along both sides and install bicycle edgelines. Recommended improvements include resurfacing and adding edgeline and center line striping (2-3 foot width on outside edges). Bicycle route signage should then be added. *This is a high priority route*, given the connection to the VA Hospital and the YMCA, Kelsey Scott Park, and West End Community Park greenway connections.

Bringle Ferry Road – Salisbury ETJ Limits near McCanless Road to North Long Street – This road provides experienced bicyclists making out and back trips access to Dan Nicholas Park and High Rock Lake south and east of the City. Bringle Ferry Road is identified as an out and back route above, as well as a critical link in the Southern Connection Loop proposed under this Plan. In this section, the street measures 24 feet in width from the ETJ limits to I-85. A short section at I-85 widens out to 32 feet, then the road narrows back to 22 feet entering the CBD area to North Long Street. The 2006 AADT was reported to be 6,200 vpd near Long Street, and likely decreases going south on Bringle Ferry. *As a medium priority improvement,* it is recommended to provide a minimum of 32 feet of pavement between North Long and McCanless Road. Striping edgelines providing 5 feet of paved shoulder on both sides, separating vehicles and bikes, and signage as a Salisbury Bicycle Route is also recommended.

Clubhouse Drive – Confederate Avenue to Jackson Street – This street provides a scenic ride that includes views of the large lake at City Park. Clubhouse Drive is also proposed as a link in the Park Bicycle Loop. A two-lane City street, Clubhouse provides 27 feet of asphalt pavement. Clubhouse Drive carries a relatively low volume of traffic daily. It is recommended that edgelines be applied to this street to designate three feet of width on the outside edges and bicycle route signs be added. *These improvements are a high priority.*

Confederate Avenue / Maxwell Street / 13th Street – West Henderson Street to Main Street (US29) – Continuing eastward, Mahaley Avenue becomes Confederate Avenue after crossing West Henderson Street. This proposed bicycle thoroughfare continues along Confederate Avenue, turns onto Maxwell Street, then turns onto 13th Street to complete a connection to Main Street. All three streets are City streets and provide two-lane cross sections. Confederate Avenue provides a wide (30 foot) two-lane cross section. It is recommended to continue the four foot wide bicycle lane striping along Confederate Avenue to the intersection of Clubhouse Drive. Beyond Clubhouse Drive,

Confederate Avenue narrows to 24 feet in width. This 24-foot width is then consistent along Maxwell Avenue and 13th Street. Traffic volumes and speeds are relatively low, making these three streets conducive to safe cycling. A short section of the proposed Historic Districts Tourism Loop is routed along 13th Street. A continuation of the signed bicycle route that began along Statesville Boulevard is recommended, along with white edgelines to provide a minimum of two-three feet of bicycle width on the eastern end of Confederate Avenue and the entire lengths of Maxwell Street and 13th Street. *These are high priority improvements.*

Dogwood Road – North Road to Mocksville Avenue – Dogwood Road provides a varying pavement width of 17 to 22 feet as it passes between residential uses near the Salisbury Country Club. This street is a proposed link in the Park Loop. Much like North Road (see below), this street is too narrow to add edgelines or other striping. The street provides a consistent 40-foot right of way width, but available right of way in spots along this street is very narrow and the presence of existing curb and gutter along a portion of the north side of the street makes widening on that side very costly. Since this street does provide connectivity in the proposed Loop, it is recommended to add "Share the Road" signs along this street. This is a *high priority.*

Enon Church Road – Statesville Boulevard to Woodleaf Road – Enon Church Road (SR 1944) is a two-lane road with a marked centerline and edgelines in northern Salisbury. This road is proposed as a link in proposed Crescent Loop. Enon Church Road provides a consistent cross-section of 20 feet of pavement within a 60-foot right of way. Roadside development is mostly residential and farmland. The 2007 AADT was reported as 2,300 vpd near the Woodleaf Road intersection, north of US 70. The northern section of this road is outside of Salisbury's corporate limits but within its ETJ. Since traffic volumes are generally light on this road, and it is included as a preferred bicycle loop for cyclists, it is recommended that cyclists share the road with motorists and "Share the Road" and bicycle route signage be added. This improvement should be *considered a high priority* due to its low projected costs.

Faith Road – Heilig Road to East Innes Street – Faith Road (SR1006) is another two-lane state maintained road in the southern part of Salisbury. At its northern end, Faith Road bisects two shopping areas anchored by a Food Lion on one side and an Aldi grocery on the other. This section, just south of I-85, is scheduled for widening by NCDOT in 2008 or 2009, and the City is working with NCDOT to consider the addition of bicycle facilities in this short section between East Innes Street and Avalon Drive. Widening to provide a continuous 32-foot width (11-foot lanes with 5-foot paved shoulders on both sides) and signing as a bicycle route is recommended for the entire section. Should the City desire to reduce the scope of this project, widening the 20-foot wide section between Union Heights Boulevard and Stratford Road should be *considered a high priority* and the *remaining sections considered a long range priority.*

Forestdale Drive / Welch Road – Statesville Boulevard to end of right of way - Future greenway trail to Statesville Boulevard – From the dead end of Forestdale Drive, one can observe the athletic fields at Catawba College in the distance and envision the new greenway trail that will soon connect to this area. When complete, this trail will provide an off-road multi-modal system between the amenities at Catawba College and the play areas at the Knox-Overton Schools. Forestdale and Welch are both 22 feet in width and provide a single lane in each direction. Since both of these streets are low volume, low speed neighborhood streets, it is recommended that the City install Share the Road

signs along these two streets. *These improvements are a long range priority* but will become high priority when the greenway connection is made.

Fulton Street – Lake Drive at City Park to Lincolnton Road – Fulton Street is a preferred street for bicyclists in Salisbury. It has a low 30 mph posted speed limit, provides wide lanes, and provides important direct access between City Park, Hurley Park, Salisbury High School, and the Fulton Heights residents, some of the most active cyclists in the City. This route is so favored by cyclists that steering committee members and public meeting attendees proposed Fulton Street to be part of two separate Bicycle Loops, the Historic Districts Tourism Loop and the YMCA Loop.

Fulton Street - Lake Drive to West Henderson Street (1 block) – A width of 22 feet of asphalt with one lane in each direction is provided in this short residential section. Immediately west of Henderson Street, Fulton Street widens to provide a varying 30 to 35-foot width to Lincolnton Road. It is recommended, as a *medium priority*, to widen the one block between Lake Drive and West Henderson Street to 32 feet and provide "Sharrow" pavement markings at a minimum spacing of 250-foot intervals to enable residents to legally park on the street.

Fulton Street – West Henderson Street to Lincolnton Road - This residential section provides a varying 30 to 35-foot width and maintains one travel lane in each direction. Sidewalks are included on one or both sides of Fulton Street for the entire section. Due to the continued presence of on-street parking, it is recommended to implement "Sharrow" pavement markings at minimum 250-foot intervals in this section. This project should be considered a *high priority*.

Fulton Street – Lincolnton Road to Main Street - This section provides a continuous 30 foot width, with additional widening provided near the Main Street intersection. The existing double-yellow centerline is off-center to provide curbside parking on the west side of Fulton Street. In order to preserve parking in this area, it is recommended to continue the "Sharrow" pavement markings to terminate at Mitchell Avenue as Fulton approaches Main Street. Again, this is a *high priority project* for the City of Salisbury.

Gold Hill Drive – Morlan Park Road to Old Concord Road – Gold Hill Drive is characterized by heavy residential development and many driveway connections along its entire length. Eighteen feet of pavement is provided with a single travel lane in each direction. The proposed Southern Connection Loop makes use of a short section of Gold Hill Drive near its intersection with Old Concord Road. *A medium priority recommendation* to widen Gold Hill Road to 30 feet to provide 4-foot paved shoulders and bike route signage is proposed.

Grove Street – West Innes Street to West Henderson Street – Sidewalks are provided along the south side of this City-maintained street. Grove Street's width generally varies from 22 to 32 feet and is designated as one lane in each direction. This street was recently extended to intersect West Henderson Street just north of the traffic circle. Grove Street is included as a vital link in the proposed Park Loop and provides a good connection to the greenway system at Memorial Park Cemetery. The majority of Grove Street is 22 feet wide. On-street parking spaces are provided in the Memorial Park Cemetery area, and most of the extra width mentioned above is used for on-street parking in front of residences along the street. This street is a good candidate for

"Sharrows". It is recommended to implement "Sharrows" at 250 foot intervals along the entire length of Grove Street. *This project is a high priority*.

Harrison Road – Sherrill's Ford Road to Jake Alexander Boulevard - Harrison Road is SR1710 on the state highway system, and lies almost completely outside of Salisbury's City Limits. Harrison Road provides a two-lane, 22+/- foot width for most of this section, with a short section of widening on in the vicinity of industrial entrances near Freedom Drive and on the approaches to Executive Drive. In the widened sections, Harrison Road provides 33 +/- feet of asphalt and three lanes. No speed or volume data is available for this route. Harrison Road is identified as a critical link in the proposed Salisbury Community Park to Hurley Family YMCA Out and Back route. For this reason, it is recommended to widen Harrison Road to provide a 32-foot width (11-foot lanes with 5-foot paved shoulders on both sides) in the areas that are currently 22+/- feet wide. In the existing widened sections, Harrison Road should be widened to provide 43 feet of asphalt (3-11 foot lanes and 5-foot paved shoulders on both sides). *These improvements are a medium priority.*

Hawkinstown Road – Old Mocksville Road to East ETJ Limits – This road provides a short connection between Old Mocksville Road and the ETJ limits on the eastern side of Salisbury. Many residences and driveway connections exist along this 20-foot wide, two lane state maintained road. No speed or volume data is available. Since this road provides a short connection to Seventh Street in Spencer, it is recommended that cyclists and motorists share the road, with "Share the Road" warning signs added. This should be considered a *high priority*, low cost project.

Heilig Road – Faith Road to Old Concord Road – Heilig Road (SR2528) is the southernmost route proposed to be a bicycle thoroughfare. Salisbury's ETJ limits run along Heilig Road, and the street lies outside of the City limits. Heilig Road provides a 24-foot cross section with auxiliary right and left turn lanes provided at two separate industrial entrances. No speed or volume data is available, although volumes on Julian Road just north of I-85 are substantial (14,000 vpd) and speeds are presumed to be higher here than on roads within the city limits. For these reasons, It is recommended that Heileg Road be widened to provide a minimum of 30 feet of pavement to establish 4 foot sections on the outsides for bicycle use. Edgelines should be added to delineate vehicle lanes from bike facilities. Heilig Road should be signed as a numbered bicycle route beginning at Faith Road and continuing to Bringle Ferry Road (along Julian Road and Martin Luther King, Jr. Avenue). *This is a medium priority.*

West Henderson Street – Confederate Avenue to Main Street – West Henderson Street has been identified during the planning process as a key link in the proposed Park Loop Bicycle Loop. The southern portion of this section is also used by avid cyclists who meet to take long "out and back" trips to Dan Nicholas Park and High Rock Lake. With so many cyclists preferring to use this route, this plan should include recommendations to provide bicycle facilities along its length. Currently, West Henderson provides a varying 24-28 foot width in the southern section and widens to provide 30 feet of pavement from Circle Drive northward to Confederate Avenue. Sidewalks are provided along one or both sides of this street throughout. *As a medium priority project*, the City should consider widening West Henderson Street to provide a consistent 30-foot width from Mahaley Avenue to Main Street and should then mark the street to provide striped 4-foot bicycle lanes with bike symbols and bike signage. As this project's estimated cost is substantial, an interim recommendation to add Sharrow pavement markings to identify

this street as a shared route is recommended. Since Sharrow markings are proposed on Jackson and Grove Streets, motorists driving in the area will be accustomed to watching for cyclists. These markings should be considered a *high priority* and maintained until funding is secured for widening.

Hidden Creek Circle/Hidden Creek Drive – White Farm Road to Jake Alexander Boulevard – Hidden Creek Circle is the main circulator within the Hidden Creek neighborhood while Hidden Creek Drive is the main entrance into the mixed-use development. Hidden Creek has been annexed into Salisbury's limits. Both streets provide 20 feet of unmarked pavement. These streets are included as links in the proposed Crescent Loop, and both provide an excellent alternative for cyclists to avoid the much busier Jake Alexander Boulevard. Signage of these streets with specific bicycle loop and route signs is all this is recommended for these streets due to very low speeds and ADT's. This should be *considered a high priority.*

Hurley School Road – Sherrill's Ford Road to Statesville Boulevard – Hurley School Road is SR1724 on the state highway system. This road lies completely outside of Salisbury's City Limits and ETJ. Hurley School Road provides a narrow, two-lane, 22+/- foot width for most of this section, with a short section of widening on the approaches to Salisbury Community Park entrance. A narrow bridge over the railroad exists on the north end of this proposed route. Due to this road's rural nature, and the fact that more experienced cyclists usually participate in the long Out and Back trips, it is recommended that cyclists and motorists share Hurley School Road, with "Share the Road" and bicycle route signs added. This *project is a high priority* due to its connection to the Park and between two other proposed bike thoroughfares and low cost. Hurley School Road is also a critical link in the proposed Salisbury Community Park to Hurley Family YMCA Out and Back route.

Industrial Avenue – Old Wilkesboro Road to Jake Alexander Boulevard – As its name implies, many industrial uses and driveway entrances exist along Industrial Avenue. This short street provides 34 feet of pavement and a connection between Jake Alexander Boulevard and Old Wilkesboro Road. One lane of travel is provided in each direction. It is recommended to restripe this street to provide 2-12 foot travel lanes with 5-foot wide bicycle lanes with bicycle marking symbols and signage on each side. *This is a medium priority* due to the lack of a connected routing without the mandatory use of Jake Alexander Boulevard to Harrison Road.

West Innes Street (US601) – West Ridge Road to Jake Alexander Boulevard – This section of West Innes Street (US 601) extends from Salisbury's northern ETJ, southward to Jake Alexander Boulevard. The section between West Ridge Road and White Farm Road is a proposed link in the proposed Crescent Loop. West Innes Street provides 22 feet of pavement within a 60-foot right of way and contains centerline and edgeline pavement markings. It is recommended that West Innes Street be widened from West Ridge Road to Jake Alexander Boulevard to provide 32 feet of pavement designated as eleven-foot travel lanes with five-foot wide paved shoulders. A white edgeline is recommended to separate vehicular and bicycle traffic. Once the widening is complete, numbered bicycle route signs should be installed. This should be *considered a medium priority.*

West Innes Street – Jake Alexander Boulevard to Sells Road – This section is characterized by a narrow, 18 foot wide two-lane cross-section. However, West Innes Street widens out south of Sells Road. For this reason, it is recommended that West Innes Street be widened from Jake Alexander Boulevard to Sells Road to provide 32 feet of pavement designated as eleven-foot travel lanes with five-foot wide paved shoulders. A white edgeline is recommended to separate vehicular and bicycle traffic. Once the widening is complete, numbered bicycle route signs should be installed. Consideration should also be given to disallowing right turns on red at signalized intersections along the entire length of Innes Street should volumes of cyclists warrant. West Innes Street is a state maintained route (US 52). Coordination with NCDOT will be necessary. These improvements are *considered a high priority* due to the presence of North Hills Christian School and the proposed Family Friendly Loop just south of this section.

West Innes Street – Sells Road to Statesville Boulevard – This section transitions from a two-lane to a three-lane cross-section with wider lanes. Most of this section is included as a link in the proposed Crescent Loop. This section is suitable for signage as a numbered bicycle route with no improvements necessary. Since the Family Friendly Loop is proposed partially along this route, this signing recommendation should be *considered a high priority.*

West Innes Street – Statesville Boulevard to the Railroad overpass bridge – This section transitions between four-lane and five-lane cross-sections. In the four-lane section, utility poles are located immediately behind the curbs on one side. The 2007 AADT along this section was 17,000 vpd and the 85th percentile speed was 32 mph. Widening this section is not feasible due to projected cost. This section should be signed as a continuation of the West Innes Street numbered bicycle route, with cyclists sharing the road with motorists. However, due to the heavy vehicular volume along this retail/commercial section, young and/or novice cyclists would not be encouraged to cycle along this section. *This improvement is a medium priority project.*

West / East Innes Street – Railroad Bridge to Stokes Ferry Road – This section is very wide, providing between three and five lanes of travel through the downtown core and even more width at the I-85 interchange. However, traffic volumes (24,000 vpd in 2007) are among the heaviest in the City. Many entertainment, shopping and dining destinations exist at and near the I-85 interchange. With so many turning movements occurring in this section, multiple through and turning lanes are provided in the southern section from Stokes Ferry Road to Arlington Street, only the most experienced cyclists would be expected to make use of this section. From a consistency standpoint, it would be desirable to continue bike route signage along this section. However, this should be considered a *long range priority* as the City will want to determine the appropriate time to implement such signage.

East Innes Street – Southern Connection Loop – The section of East Innes Street, from just north of Avalon Drive to Rudolph Road is recommended to have striped bicycle lanes, narrow travel lanes, and reduced speed limits in conjunction with the implementation of the Southern Connection Loop.

Institute Street – West Innes Street to West Monroe Street – At Monroe Street, Institute Street provides 27 feet of width, and after passing through the intersection of West Horah Street, Institute Street widens to provide 32 feet of pavement. This width continues to the end of the street at West Innes Street. Institute Street is routed through

Livingstone College; however, this portion of Institute Street is not a public street and is actually a gated part of the Livingstone College campus. Neither motorists nor cyclists are permitted to use this section as a through route. City staff has advised that the 85th percentile speed of motorists in this section was measured at 28 mph. Due to substantial curb-side parking, it is recommended for bicyclists and motorists to share the road with Sharrow pavement markings along the entire section from West Monroe Street to West Innes Street. *This is a high priority* project given the educational facilities served.

Jackson Street – West Henderson Street to 17th Street – The section of Jackson Street between Lake Drive and 13th Street is identified as a component of the Historic Districts Tourism proposed bike Loop. Jackson Street is 24 feet wide from West Henderson Street to 12th Street, but widens to 36 feet wide between 12th and 17th Streets with parking available along the street. Since a parallel thoroughfare (Main Street) exists, coupled with the presence of curb-side parking, it is recommended to implement Sharrow pavement markings along the entire section of Jackson Street. Signage as a bike route is also recommended. *This is a high priority route*.

Jake Alexander Boulevard – Initially, the Bicycle Plan Steering Committee recommended including the entire length of Jake Alexander Boulevard as Bicycle Thoroughfare in this Comprehensive Plan. Evaluation of this route found that the width of this route varies from a two-lane section with two-foot paved shoulders to a five-lane curb and gutter facility. Due to observed and recorded high vehicle speeds (52 mph 85th percentile speed), the frequency of vehicle crashes, the presence of narrow bridges, heavy vehicular volumes (36,000 vpd in 2007, the highest in the City), and the estimated cost to provide an adjacent multi-use path (considered the only safe alternative for cyclist's use), the entire length of Jake Alexander Boulevard was determined not to be recommended for designation as a Bicycle Thoroughfare. Elimination of Jake Alexander Boulevard as a proposed bicycle thoroughfare creates gaps in the city-wide bicycle network. Additional planning to densify the bicycle network, especially in the southwestern region of the city, is recommended.

Julian Road – Old Concord Road to Jake Alexander Boulevard – Julian Road (a continuation of SR2528) provides a two-lane, 24-foot wide cross section with pockets of widening at commercial and industrial entrances and at the I-85 interchange. At I-85, Julian Road passes over the interstate, providing a 75+/- foot-wide bridge for 6 lanes of traffic and 4 foot shoulders. The AADT on Julian Road just north of I-85 was 14,000 vpd in 2007. Salisbury's Long Range Transportation Plan has identified Julian Road for a four lane divided section with marked bicycle lanes. As an interim treatment, with the substantial volume existing along this route, it is recommended that Julian Road be widened to provide a minimum of 32 feet of pavement to establish 5 foot sections on the outsides for separated bicycle and vehicle use. Edgelines should be added to delineate vehicle lanes from bike facilities. Julian Road should be signed as a numbered bicycle route beginning at Faith Road and continuing to Bringle Ferry Road (along Heilig Road and Martin Luther King, Jr. Avenue – see above and below). *This is a medium priority.*

Laurel Valley Way/Byron Drive/Hogans Valley Way – Jake Alexander Boulevard to West Innes Street - These three streets provide a scenic trip through the Crescent Golf Club. A roundabout provides intersection traffic control at the intersection of Byron Drive and Hogans Valley Way. These streets are integral parts of the proposed Crescent Loop. It

is recommended that cyclists share the streets with motorists with "Share the Road" and Loop signing be added along these streets. This should be considered *a high priority*.

Lee Street – East Monroe Street to Liberty Street – South Lee Street is included in the proposed Historic Districts Tourism Loop and is bounded along both sides by historic properties. This street provides a wide 26-30 foot width in this section. Due to its generous width, coupled with several areas of observed on-street parking, it is recommended that cyclists share the road with motorists on South Lee Street. Bicycle route and Loop signage, along with "Share the Road" signs should be installed. *This should be considered a high priority.*

Lincolnton Road – Fulton Street to Mooresville Road – Lincolnton Road provides a five-lane curb and gutter section (five 12-foot lanes) between Mooresville Road and Jake Alexander Boulevard. Lincolnton then narrows to a two-lane section providing 30 feet of width face to face between Jake Alexander and Mitchell Avenue. Between Mitchell and Fulton Street, Lincolnton provides a 30-foot cross section except in the area adjacent to Salisbury High School where curb-side parking is made available along the south side of Lincolnton. Lincolnton Road experiences heavy pedestrian and bicycle traffic during the morning and afternoon school periods.

A medium priority recommendation to revise pavement markings between Mooresville Road and Jake Alexander Boulevard in order to provide two 11-foot inside through lanes, two 10-foot outside through lanes, and a center lane of 10-feet in width to provide 4 feet of shoulder designed with edgelines on the outsides is proposed. The posted speed limit (currently 45 mph) should be lowered to 35 mph upon narrowing the lanes. Adding edgelines along Lincolnton Road, between Jake Alexander Boulevard and Fulton Street, is considered a *high priority* due to the fact that it is identified as a critical link in the proposed YMCA Bicycle Loop and passes by Salisbury High School. This improvement is expected to have low cost and should be fairly easy to implement. Bicycle route signage should be added.

Long Street – Long Street (SR 1002) is known as North Long Street between the eastern city limits line and East Innes Street. From East Innes Street to East Monroe Street, SR 1002 is known as South Long Street. Then, from East Monroe Street to Julian Road, SR 1002 is known as Old Concord Road.

North Long Street – East City Limits to East Innes Street - This section of North Long Street passes by the many industries located along the rail line and leads to Long Street Park. The 2007 AADT along this section was 10,000 vpd and the 85th percentile speed was 40 mph. The posted speed limit is 35 mph, and narrower lanes are expected to help reduce the 85th percentile speed closer to the posted speed. Along North Long Street from East Innes Street to Council Street, the pavement width is a consistent 48 feet wide providing four 12-foot lanes (three westbound approaching East Innes and one eastbound). From Council Street to the Eastern City Limits, North Long Street narrows down to a 27-foot section providing one travel lane in each direction. It is recommended to consider a road diet in the 48 foot wide section to provide three travel lanes and four-foot wide marked bicycle lanes with bike symbols and signage. In the 27-foot section, continue the four-foot bike lanes and restripe for two 9.5-foot lanes for motorists. *This is a medium priority.*

South Long Street – East Innes Street to East Monroe Street – Between East Monroe Street and East Horah Street, South Long Street widens from 4 lanes (48 feet) to 5 lanes (62 feet). The five-lane cross section continues to East Innes Street. The 85th percentile speed along this section was 40 mph. The posted speed limit is 35 mph, and narrower lanes are expected to help reduce the 85th percentile speed closer to the posted speed, as with North Long Street. To provide consistency along Long Street, it is recommended to restripe South Long Street to provide two 11-foot inside through lanes, two 10-foot outside through lanes, and a 10-foot wide center lane. This will leave 10 feet of pavement on the outside edges to be used for 5-foot wide marked bicycle lanes with bike symbols and signage. *This is a medium priority.*

Mahaley Avenue – West Innes Street to West Henderson Street – This section of Mahaley Avenue is a continuation of Statesville Boulevard to the east. As mentioned in previous sections, portions of Mahaley Avenue are included as links in the proposed "Park Loop" and proposed "Family Friendly Loop", bicycle loops proposed to provide access to several park facilities in the City. Mahaley Avenue, a City-maintained street, provides a 36+/- foot wide cross section along the majority of the length of this section, a continuous sidewalk along the south side, and a low 35 mph posted speed limit. A continuation of the proposed striped bicycle lanes and signed Statesville Boulevard bicycle route along Mahaley Avenue is recommended. Ample room exists for motorists and bicyclists to share the street. Therefore, it is recommended to add four foot wide bicycle lanes with bike symbols and signage to both sides of Mahaley Avenue, leaving two 12-14 foot wide lanes for vehicular travel. Where the new bike lanes approach the signalized intersections at Park Street and West Innes Street, left turning lanes are provided. Therefore, bicyclists will be forced to merge into the travel lane to proceed through the signalized intersection. *This is a high priority.*

South Main Street – South City Limits to Jake Alexander Boulevard – South Main Street (US29) provides a wide five-lane cross-section with a center two-way left turn lane and wide paved shoulders in spots. The bridge over Jake Alexander Boulevard provides ample width for shared use. In 2007, the AADT on this section of Main Street was 16,000 vpd, with 85th percentile speeds adhering close to the posted 45 mph limit. This section is recommended to be signed as a numbered bicycle route making use of the existing width, with cyclists sharing the road with motorists. Cycling along this section, however, may not be suitable for children and novice cyclists, given the volumes and speeds observed. This is a *high priority route.*

South Main Street – Jake Alexander Boulevard to West Thomas Street – South Main Street narrows to a two-lane cross-section in this section. However, adequate width exists to add a marked edgeline to separate vehicular and bicycle traffic and add signs this section as a continuation of the South Main Street bike route. This is also a *high priority.*

South Main Street – West Thomas Street to Kerr Street – This four lane section provides angled parking along both sides of South Main Street and approximately 74 feet of width face to face. Motorists backing out of the angled spaces present a clear hazard to cyclists who might not be seen by the backing motorists. To mitigate this hazard, it is recommended to change the current head-in diagonal parking to back-in diagonal parking and provide four-foot wide striped bicycle lanes in this section. Consideration should be given to restriping Main Street to provide three vehicular lanes with four-foot striped bike lanes and diagonal parking along both sides. An example from Washington D.C. is shown on the right. The conversion of head-in to back-in diagonal parking would be expected to enhance safety for cyclists as motorists exiting parking stalls will have a clear view of oncoming cyclists. Close coordination and support from downtown merchants is essential. Since the City likely will not resurface this section of Main Street in the next 15-years, *this project is therefore a medium priority.*

North Main Street – Kerr Street to the East City Limits – Parking is no longer present in this section, and the street provides a wide four-lane cross-section. While adequate width is not present to provide space for striped bicycle lanes, it is recommended to continue the signed, numbered routing. Since the cross-section does not change as US 29 passes into the Spencer City Limits, it is recommended that Salisbury and Spencer staffs coordinate on the possibility of continuing this signed route to the Transportation Museum area in Spencer.

Improvements required in this section include replacing or repairing sunken drop inlets to bring them up to the street level, and replacing the metal grates with bicycle friendly grates. *High priority.*

Majolica Road – Sherrill's Ford Road to Statesville Boulevard - Majolica Road is SR1722 on the state highway system. High speeds were observed along this road on a recent field visit, and the posted limit is 45 mph. This road provides a narrow, two-lane, 21+/- foot width for most of this section, and a narrow at-grade rail crossing exists on the north end of the proposed bike thoroughfare. It is recommended that Majolica Road be widened to provide a continuous 32-foot width (11-foot lanes with 5-foot paved shoulders on both sides) between Sherrill's Ford Road and Statesville Boulevard. However, *this project is a long range priority* since Hurley School Road provides a parallel route.

Martin Luther King Jr. (MLK) Avenue – Jake Alexander Boulevard to Bringle Ferry Road - This street recently changed names (formerly Boundary Street). A host of amenities are located along the street including the Salisbury Sports Complex, the Salisbury Civic Center, and two small parks (Towne Creek and Cannon). The section from Bringle Ferry Road to East Franklin Street is a 34+/- foot wide two-lane section. MLK Avenue then narrows to 22-feet wide at Franklin Street before widening out to a 36-foot, 3-lane

section at Council Street. This section continues for two short blocks before widening to a 48-foot, 4-lane section at East Innes Street. This section continues for one block, and then quickly transitions to a wide (48-foot) three lane section that continues to Old Concord Road. The street then widens slightly to 50-feet with on-street parallel parking provided from Old Concord Road to Cherry Street, where MLK Avenue drastically narrows down to a 22-foot, two-lane section. The street then widens back out at Ryan Street to a 36-foot wide two-lane street with marked parallel parking spaces provided along both sides of the street between Ryan Street and the railroad crossing. The street then narrows back down at Klumac Road to a 24-foot cross section that continues to Jake Alexander Boulevard. Sidewalks are provided along both sides of MLK Avenue from Franklin Street to Hill Street in the CBD area. Parking is allowed between Bringle Ferry Road and Cherry Street, although marked spaces do not exist along this entire length. 85th percentile speeds vary from 50 mph just north of Jake Alexander Boulevard to 34 mph near Old Concord Road.

The 22-24 foot sections, coupled with the controversial potential loss of on-street parking provide the greatest challenges to designating MLK Avenue as a high priority bicycle thoroughfare. The recent renaming of this route suggests that the City may be interested in making improvements to this route befitting Dr. King's memory. Careful engineering and design should take place to recommend changes that would provide a consistent travel width for both motorists and bicyclists. As a possible demonstration project, the City might elect to stripe Sharrows along the entire length of this section, ensuring that proper offsets are provided in sections that on-street parking is allowed. Any improvements selected for this street would be *considered a high priority*.

McCoy Road / West Colonial Drive / South Milford Drive – Old Wilkesboro Road to Statesville Boulevard – Based on the comments related to Old Wilkesboro Road below, improvements to these three residential streets are also *considered very low priorities*. Each of these streets provide 20 feet of pavement and each combine to provide a connection to US70 – Statesville Boulevard from Old Wilkesboro Road. Brenner Avenue, as well as the Greenway trail from Kelsey Scott Park to Statesville Avenue, provide better parallel bicycle route alternatives.

West Miller Street – Clubhouse Drive to Jackson Street – This section of West Miller Street borders the tennis facility inside City Park. Pavement widths vary from 22 to 32 feet and perpendicular parking spaces adjoin West Miller Street in places, providing parking for the tennis courts. This section of West Miller Street is a link in the proposed Park Loop. It is recommended, *as a high priority*, to stripe edgelines along this route to provide 2 to 4 feet of undesignated width along both edges. The section should also be signed as a Salisbury Loop.

Mitchell Avenue – Lincolnton Road to Fulton Street - Mitchell Avenue in the Fulton Heights neighborhood is another *high priority* bike route for the many active residents of this area. A short 24-foot face to face section near Lincolnton Road transitions at Jordan Street to a 48 foot face to face section with an eight-foot grass median and 20 feet of pavement on each side of the median provided. This cross section continues to Fulton Street. Many residents parallel park along Mitchell Avenue at all times during the day and night. Mitchell Avenue is included in the proposed Historic Districts Tourism Loop. Recommended improvements include shared lane (Sharrow) pavement markings along both sides of Mitchell Avenue to designate this street as a bicycle thoroughfare.

Mocksville Avenue / Cemetery Street – Grove Street to Fulton Street – Mocksville Avenue and Cemetery Street both provide one lane of travel in each direction with a continuous double yellow centerline between Grove Street and Fulton Street. Sidewalks are provided along both sides of Mocksville Avenue and one side of Cemetery Street. This short section provides a link between proposed high priority bicycle thoroughfares Grove Street and Fulton Street, both recommended for "Sharrow" pavement markings in this plan. Mocksville Avenue and Cemetery Street both provide 24 feet of pavement. To provide consistency in this vicinity, it is recommended to implement "Sharrow" markings along this entire section, and this is a *high priority*.

Mooresville Road – Windmill/Harris Road to Main Street – Mooresville Road is a two-lane state maintained road (NC150) for much of this section. Mooresville Road widens out to a five lane cross-section between Bridge Court and Jake Alexander Boulevard. The section between Jake Alexander Boulevard and Main Street narrows back to a narrow, two lane cross-section. Much of the two lane section is 18-20 feet wide, with no space available to provide shared access. Widening, a minimum of 5 to 7 feet on each side, is recommended to accommodate bicycles. NCDOT TIP project U-3623, currently listed as an unfunded need, will provide widening of Mooresville Road between Roger Drive (SR1516) and the Grants Creek Bridge near the Mooresville Road / Lincolnton Road split. It is recommended that this project provide bicycle accommodations when designed. In the near term, any recommendations should be considered *a long range priority* as this route provides no bicycle connection outside of Salisbury's ETJ.

Morlan Park Road – Terrace Drive to Gold Hill Drive - Morlan Park Road is a critical connection contained in the proposed Southern Connection Loop. This residential street provides a narrow 18-foot wide cross-section for the majority of its length. A major crossing of Jake Alexander Boulevard near the railroad crossing is also required, although Morlan Park is wider on its approaches there. Existing right of way along Morlan Park Road varies from 50 to 60 feet, as this street borders the railroad right of way for the majority of this section. Although this limits the option to widen the road, because of its role providing connectivity in the proposed Southern Connection Loop, it is recommended to add "Share the Road" signs along this street. The low projected cost and Morlan Park Road's criticalness to the proposed loop makes this a *high priority*

Monroe Street – Old Concord Road to Brenner Avenue – West Monroe Street takes motorists and cyclists by the front of Livingstone College and provides a connection to the small Lincoln Park. West Monroe is a vital link in two separate proposed bicycle Loops, the Historic Districts Tourism Loop and the YMCA Loop. A connection to the greenway trail that runs along Brenner Avenue is also provided at the end of West Monroe Street. At the Old Concord Road intersection, Monroe Street provides 32 feet of pavement and is marked as 3 lanes (two approaching Old Concord and one leaving the intersection). After crossing the railroad tracks at grade, Monroe Street narrows to 24 feet at Lee Street. Monroe widens back out between Main and Church Streets to 32 feet (one wide lane in each direction). Monroe then narrows back to a consistent 20-foot width in front of Livingstone College that continues to the intersection at Brenner Avenue. Along its length, West Monroe Street passes through two National Register Historic Districts, with one having a local historic district overlay designation.

Improvements would be *considered a high priority* due to the considerations above. However, widening West Monroe Street is considered a challenge given the historic considerations mentioned above. For these reasons, it is recommended for bicyclists to

share the road with motorists. "Share the Road" signage should be added to advise motorists to watch for cyclists.

Newsome Road – Bringle Ferry Road to Stokes Ferry Road – Newsome Road currently provides a narrow (20 feet), curvilinear design. In its present state, it is not recommended to be designated as a Bicycle Route. However, Newsome Road is the only public street between I-85 and the McCanless Golf Course between Stokes Ferry Road and Bringle Ferry Road. As such, it is recommended to protect Newsome Road for bicyclists and pedestrians. The City has identified that a project along this route may qualify for CMAQ or other federal funds for improvements. To accommodate all modes of transportation on this critical route, it is recommended to provide widening to accommodate bicycles and sidewalks to accommodate pedestrians. Current and future traffic projections for this road justify one travel lane in each direction. The project should include widening symmetrically to provide two 12-foot travel lanes and one five foot wide marked bicycle lane on each side for a total of 34 feet of pavement. Curb and gutter with appropriate shoulder drainage should be added along both sides to minimize right of way encroachments. A five-foot sidewalk is recommended on both sides along the entire length. An engineer's estimate of probable cost is in the $2.3 Million range. This project should be considered a *medium priority*.

North Road – Pine Tree Road to Dogwood Road – Between Dogwood Road and Oak Road, North Road provides approximately 22 feet of pavement. However, south of Oak Road, North Road narrows to a 14 foot wide street as it passes between homes and holes at the Salisbury Country Club. While the ADT along North Road is unknown, it is assumed to be a lightly travelled street. Therefore, it is recommended that cyclists share the road with motorists along this route with "Share the Road" signs added. This is a *high priority* due to its low cost.

Old Concord Road – East Monroe Street to Julian Road – Old Concord Road (SR1002) is a continuation of Long Street in the southern half of Salisbury, providing 48 feet of pavement and striped as four 12-foot lanes (two in each direction) southward to the intersection of Harrell Street. South of Harrell Street, Old Concord road narrows to a two-lane, 22 foot cross section, with this cross-section continuing to Julian Road. *As a medium priority*, it is recommended to restripe Old Concord Road from East Monroe Street to Harrell Street to provide four 10-foot wide lanes and four foot wide marked bicycle lanes with bike symbols and signage on each side. South of Harrell Street, Old Concord Road should be widened to Julian Road to provide 30 feet of pavement (two 11-foot lanes with 4-foot wide marked bicycle lanes with bike marking symbols and signage on both sides). Once these improvements are implemented, cyclists will have continuous bicycle lanes along Long Street/Old Concord Road from Julian Road to Salisbury's east City limits, a distance of approximately 4.7 miles.

Old Mocksville Road – North ETJ Limits to Prescot Drive – Old Mocksville Road is the northernmost proposed Bicycle Route included in this Plan. It is characterized by a few subdivisions within the City limits and large farms farther north. One lane in each direction within 20 feet of pavement is provided. A connection to the greenway system near the Prescot Drive end would be provided with this proposed route. It is recommended as *a medium priority* to widen this state maintained road to provide 32 feet of pavement and designated 5-foot paved shoulders from Prescot Drive to the ETJ limits. Signage as a Bicycle thoroughfare is warranted upon the completion of the widening.

Old Mocksville Road – Prescot Drive to Dogwood Road – This section of Old Mocksville Road is included in the proposed Park Loop. A 1000 foot section is this road from Prescot Drive southward to the bridge is in need of widening to provide 32 feet of pavement. However, from the bridge southward to Dogwood Road, Old Mocksville Road widens to 30 feet of pavement. It is recommended to stripe edgelines on this section south of the bridge to provide 3 feet of undesignated space on the outside edges. The edgeline striping is a *high priority*, while any widening would be considered a *medium priority* due to the cost.

Old Wilkesboro Road – Brenner Avenue to McCoy Road – Old Wilkesboro Road provides a connection to Kelsey Scott Park. Old Wilkesboro Road is very narrow, however, only providing 19 feet of pavement along the entire distance of this section. An at-grade railroad crossing is also present near the McCoy Road intersection. Due to its narrow width, the presence of parallel proposed bicycle thoroughfares including Brenner Avenue and the proposed new Greenway connection from Kelsey Scott Park northward to Forestdale Drive, any improvements proposed for this road must be *considered a long range priority.*

East Park Road / West Park Road – Mahaley Avenue to the end of West Park Road – These two streets form a one-way pair providing access to Overton Elementary and Knox Middle Schools. East Park dead-ends into West Park and a connection to an existing greenway trail connects to the end of West Park. Both of these streets are critical links in the proposed Park Loop. Both of are sufficient width to consider bicycle-friendly. It is recommended to install bicycle route and specific Loop signage along both streets. This should be *considered a high priority*.

Parkview Circle – Mahaley Avenue to Grove Street – Parkview Circle is identified as a link in the proposed Family Friendly Bicycle Loop. This residential street provides 22 feet of pavement within a 50-foot right of way. No pavement markings exist along this route. Due to low speeds and volumes, it is recommended that cyclists and motorists share the road with "Share the Road" warning signs added and no other improvements necessary. *High priority*.

Pinetree Drive – Faith Road to Terrace Drive – Pinetree Drive is identified as a link in the proposed Southern Connection Loop. This residential connector street provides 20 feet of pavement. No pavement markings exist along this route. Due to low speeds and volumes, it is recommended that cyclists and motorists share the road. Bicycle route signage is recommended and no other improvements are necessary. The signs are a *high priority.*

Richard Street/Fourteenth Street – Lee Street to Main Street – This two-lane City street in eastern Salisbury provides access to residential and industrial uses. Richard Street becomes 14th Street near the eastern City limits. Richard Street provides 24 feet of pavement within a 50-foot right of way width at its eastern end which widens out to 32 feet of pavement on each approach to 12th Street. Just west of 12th Street, Richard Street narrows to provide 22 feet of pavement within a 45-foot right of way which continues to the end of Richard Street at Lee Street. No pavement markings exist along this route. Richard Street/14th Street is identified as a critical link in the proposed Historic Districts Tourism Loop. Due to low speeds and volumes, it is recommended that

cyclists and motorists share the road with no other improvements, other than the addition of "Share the Road" signs necessary. The signs are a *high priority*.

West Ridge Road – Enon Church Road to US 601-West Innes Street – West Ridge Road is a continuation of SR 1944 (Enon Church Road) in northern Salisbury. This entire section lies outside of Salisbury's corporate limits but within its ETJ. This road is proposed as a link in proposed Crescent Loop. West Ridge Road provides a consistent cross-section of 20 feet of pavement within a 60-foot right of way. Roadside development is mostly residential and farmland. The 2007 AADT along Enon Church Road was reported as 2,300 vpd near the Woodleaf Road intersection. Although this road is included as a preferred bicycle loop for cyclists, since traffic volumes are generally light on this road, it is recommended that cyclists share the road with motorists and "Share the Road" and bicycle route signage be added. This improvement should be *considered a high priority* due to its low projected costs.

Rosemont Street/Dodd Street - Mooresville Road to South Main Street – This route would provide a parallel bicycle route to Jake Alexander Boulevard between Mooresville Road and South Main Street. Rosemont Street is an existing 24-foot wide residential street that begins at Mooresville Road and dead-ends at the Dodd Brown Estate. Some 750 feet to the south of the dead end, Dodd Street begins and extends to intersect South Main Street just east of the Jake Alexander Boulevard interchange. Dodd Street is a public 40-foot wide easement that basically is serving as a paved driveway at present. Most of Dodd Street measures 18 feet in width before tapering to a single vehicle width driveway. If a pedestrian/bicycle easement could be acquired through the Dodd Brown Estate property to provide a connection to the south end of Rosemont Street, the connection could then be signed as a bicycle thoroughfare and provide a safe alternative to cycling along Jake Alexander Boulevard.

Rowan Mill Road – Mooresville Road (NC150) to Main Street (US29) – Sherrill's Ford Road changes names to Rowan Mill Road at the Mooresville Road intersection and is a continuation of SR1526. Similar in design to Sherrill's Ford Road, Rowan Mill Road provides a two-lane cross section with varying widths. In 2006, the AADT was measured at 3,800 vpd near the Rink Street intersection in Salisbury. Cyclists of most skill levels should feel comfortable riding in a traffic stream of this volume. Therefore, it is recommended that cyclists and motorists share this road, with "Share the Road" and bicycle route signs added. This *project is a high priority* due to its connection to the Park and between two proposed bike thoroughfares and low cost.

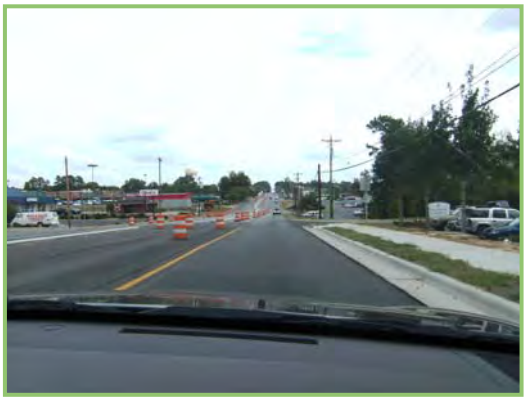
Ryan Street – Martin Luther King, Jr. Avenue to Old Concord Road – Ryan Street provides 18 feet of pavement in a 40-foot wide right of way that widens to 50 feet in the northern section to its intersection with MLK Avenue. Ryan Street provides a vital link in the proposed Southern Connection Loop, and provides access to the Salisbury Sports Complex. This street is mostly residential, and is a good candidate for widening. It is recommended to widen this street to provide 30 feet of pavement (two 11-foot lanes with edgelines), providing four additional feet of undesignated space along the outside edges. Bicycle route and Loop signage is recommended. These improvements should be considered a *medium priority*.

Sherrill's Ford Road – Hurley School Road to Mooresville Road (NC150) – Sherrill's Ford Road is state maintained and identified as SR1526. In this section, the road provides a two-lane cross section with varying widths from18 to 24 feet. A portion of

Sherrill's Ford Road is included as a link in the proposed "Community Park to YMCA Out and Back" bicycle route and provides continuous connections to proposed bicycle thoroughfares on both ends. In 2006, the AADT measured on Sherrill's Ford Road near Cameron Drive was 10,000 vpd. Due to this road's rural nature, and the fact that more experienced cyclists usually participate in the long Out and Back trips, it is recommended that cyclists and motorists share this road, with "Share the Road" and bicycle route signs added. This *project is a high priority* due to its connection to the Park and between two proposed bike thoroughfares and low cost.

Statesville Boulevard – Goodson Road to Jake Alexander Boulevard – This section of Statesville Boulevard (US70) has recently been widened under the NCDOT TIP Project R-2911 project, providing a wide four and five lane cross-section. In sections where shoulders are provided, four-foot wide paved shoulders were built on both sides. In curb and gutter sections, 14-foot wide outside lanes are provided. Both cross sections accommodate cyclists adjacent to vehicles. Most of this section is included as a link in the proposed Crescent Loop. It is recommended that this section be signed as a numbered bicycle route now that construction is complete. *This is a high priority.* A photo of this section is shown below. Prior to additional construction or maintenance activities in the future, the City should evaluate volumes, speeds, and crash reports related to the 14-foot wide outside lanes. Alternatives may include narrowing the travel lanes to eleven feet wide and providing three feet of undesignated lanes.

Statesville Boulevard – Jake Alexander Boulevard to West Innes Street – This section of Statesville Boulevard is also state maintained and is identified as SR2094. A 48-foot wide four-lane curb and gutter section is provided throughout this section, and a wide bridge exists over Grants Creek near Robin Road. Consideration should be given to implementing a road diet for this section, converting the four-lane section to a three-lane section with striped bicycle lanes on both sides. Signs should be installed to provide a continuation of the signed, numbered bicycle route along Statesville Boulevard. An example illustration from Redmond Washington is shown in Chapter 4. This should be *considered a high priority.*



Stokes Ferry Road – Newsome Road to the ETJ limits – This is another state maintained secondary road providing a two-lane cross-section with small pockets of widening at major intersections such as Jake Alexander Boulevard. This section is in need of widening, five feet or more on each side, and striping with edgelines. The final cross-section would be two eleven-foot lanes with five-foot paved shoulders. However, *this project is a long range priority* as this route provides no connection outside of Salisbury's ETJ and Bringle Ferry Road is parallel route with a higher priority.

Sunset Drive – Mooresville Road to Main Street – Sunset Drive is a very narrow (18 feet of pavement) road with many residential driveway connections along this section. Lincolnton Road change names to Sunset Drive at the Mooresville Road intersection. While this proposed bicycle route provides a connection between two other identified bicycle routes (Mooresville Road and Main Street) and a continuation of proposed

changes along Lincolnton Road, Sunset Drive does not provide adequate width to restripe to provide bicycle width. Other parallel connections are also proposed including Rowan Mill Road and Mooresville Road itself. No speed or volume data is available for this short section. Based on these factors, improvements to Sunset Drive are *considered long range priority*. A full 14 feet of widening to provide two 11-foot travel lanes with 5-foot wide paved shoulders would be required to provide sufficient width for joint use by the two modes of transportation.

Terrace Drive – Pinetree Drive to Morlan Park Road – Terrace Drive is identified as a link in the proposed Southern Connection Loop. This residential connector street provides 20 feet of pavement. No pavement markings exist along this route. Due to low speeds and volumes, it is recommended that cyclists and motorists share the road. Bicycle route signage is recommended and no other improvements are necessary. The signs are a *high priority.*

Union Heights Boulevard – Faith Road to Gold Hill Drive –Union Heights Boulevard is narrow, providing 18 feet of pavement within a 40-foot right of way. Residential land uses dominate the roadside along this street. Since Gold Hill Drive provides a parallel bicycle thoroughfare in the same vicinity, and traffic volumes and speeds are both low along this residential street, it is recommended that cyclists and motorists share the road with "Share the Road" signs and bike route signs added. This low cost improvement should be *considered a high priority.*

White Farm Road – West Innes Street (US601) to Hidden Creek Circle – White Farm Road is a two-lane state maintained road (SR 1941) that lies almost exclusively outside of Salisbury's corporate limits. However, this road provides a vital link in the proposed Crescent Loop. White Farm Road provides 20 feet of pavement within a 60-foot right of way. To provide connectivity for the Crescent Loop, it is recommended to widen White Farm Road by 12 feet to provide two 11-foot lanes with edgelines, providing 5 feet of paved shoulders along each side of this street. Appropriate route and loop signs should also be installed. *This is a medium priority.*

Wilson Road - Plank Road to Lincolnton Road – Wilson Road is a residential street that provides a route between Livingstone College and Salisbury High School property and 24 feet of pavement south of Old Plank Road to the intersection of Maple Avenue, where it widens out to provide 32 feet of pavement to the end of the street at Lincolnton Road. Evidence of substantial on-street parking exists, especially in the 32 foot section. Cyclists accessing Livingstone College and Salisbury High School would benefit from having bicycle facilities flank the two campuses. It is recommended for bicyclists and motorists to share the road with Sharrow pavement markings along this section from Lincolnton Road to Plank Road. *This is a high priority* project.

Figure 3.11 illustrates the recommended improvements for the study area. A summary of proposed improvements is also shown in Table 3.1.

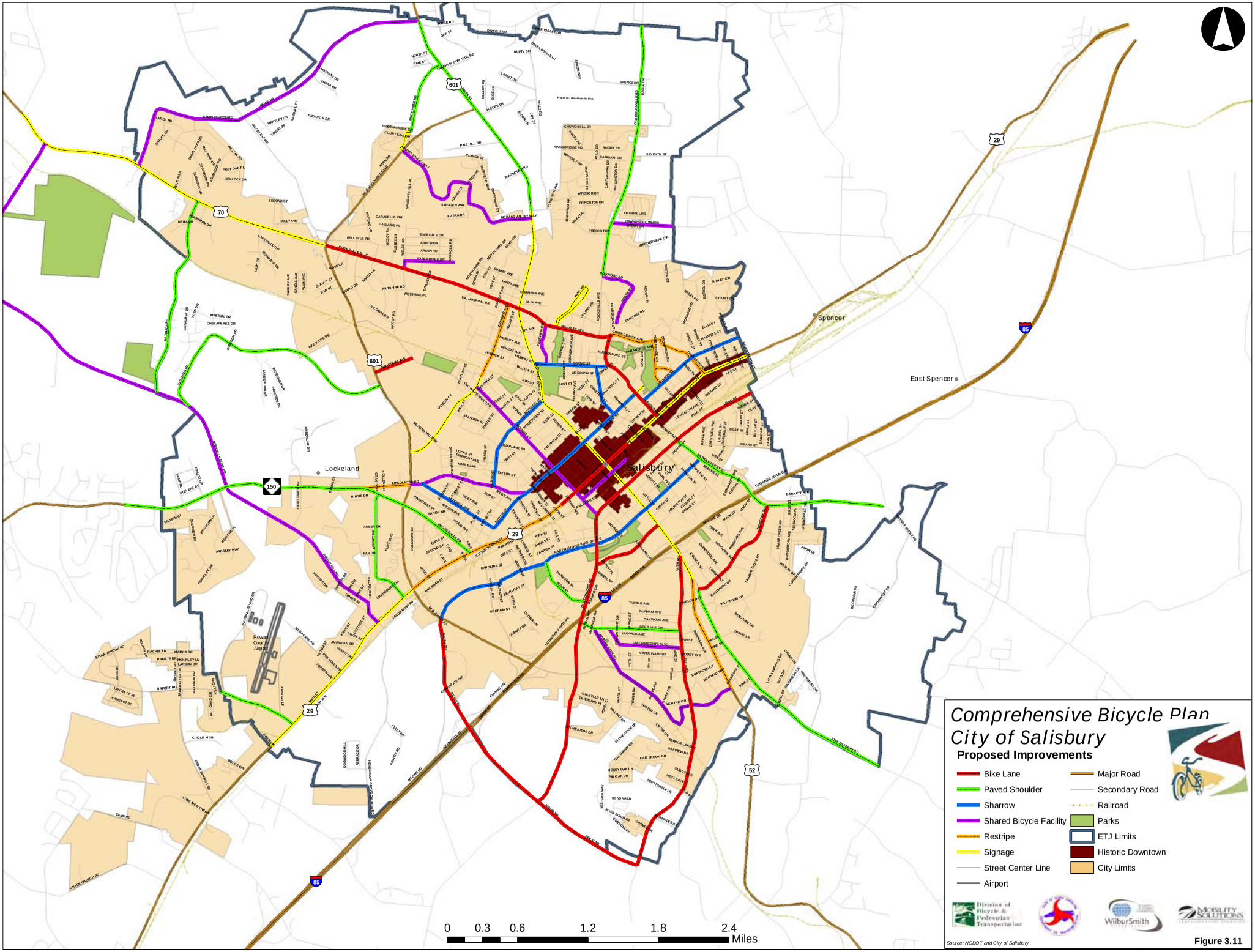

Comprehensive Bicycle Plan
City of Salisbury
Proposed Improvements
Bike Lane
Paved Shoulder
Sharrow
Shared Bicycle Facility
Restripe
Signage
Street Center Line
Airport
Major Road
Secondary Road
Railroad
Parks
ETJ Limits
Historic Downtown
City Limits
Salisbury
Spencer
East Spencer
Lockeland
Rowan County Airport
0 0.3 0.6 1.2 1.8 2.4
Miles
Source: NCDOT and City of Salisbury
Figure 3.11

TABLE 3.3 Proposed Improvement Priorities

Street Name	Begin	End	Improvement	Category	Priority
Airport Road	West City Limits	Main Street	five-foot wide paved shoulders, sidewalk on north side from Gaskey Road to Main Street	Paved Shoulder	Striping Short term / widening medium
Brenner Avenue	West Horah Street	Statesville Boulevard	resurfacing, add edge line, centerline stripping, and bicycle route signage	Restripe	Short Term
Brenner Avenue	Jake Alexander Boulevard	West Horah Street	sign path as numbered bike route	Signage	Short Term
Clubhouse Drive	Confederate Avenue	Jackson Street	edge lines to provide three feet of width on the outside edges and bicycle route signs	Restripe	Short Term
Confederate Avenue / Maxwell Street / 13th Street	West Henderson	Main Street	continued signage and white edge line to provide two-three feet of bicycle width on the eastern end of Confederate Ave. and the entire lengths of Maxwell St. and 13th Street	Restripe	Short Term
Dogwood Road	North Road	Mocksville Avenue	Shared Bicycle Facility	Share the Road	Short Term
East Park Road / West Park Road	Mahaley Avenue	end of West Park Road	bicycle route and specific loop signs	Signage	Short Term
Enon Church Road	Statesville Boulevard	Woodleaf Road	Shared Bicycle Facility	Share the Road	Short Term
Fulton Street	West Henderson	Lincolnton Road	"Sharrow" pavement markings	Sharrows	Short Term
Fulton Street	Lincolnton Road	Main Street	"Sharrow" pavement markings ending at Mitchell Avenue	Sharrows	Short Term
Grove Street	West Innes Street	West Henderson Street	"Sharrows"	Sharrows	Short Term
Hawkinstown Road	Old Mocksville Road	East ETJ Limits	Shared Bicycle Facility	Share the Road	Short Term
Hidden Creek Circle / Hidden Creek Drive	White Farm Road	Jake Alexander Boulevard	signage	Signage	Short Term
Hurley School Road	Sherrill's Ford Road	Statesville Boulevard	Bicycle Route Signs	Share the Road	Short Term
W. Innes Street	Jake Alexander Boulevard	Sells Road	widen to 32 feet with 11 foot travel lanes, 5 foot shoulders, numbered bike route signs, and possible no right on red at signalized intersections	Paved Shoulder	Short Term
W. Innes Street	Sells Road	Statesville Boulevard	numbered bicycle route signage	Signage	Short Term
Institute Street	West Innes Street	West Monroe Street	"Sharrow" pavement markings	Sharrows	Short Term
Jackson Street	West Henderson	17th Street	"Sharrow" pavement markings	Sharrows	Short Term
Laurel Valley Way / Byron Drive / Hogans Valley Way	Jake Alexander Boulevard	West Innes Street	Shared Bicycle Facility and Loop signing	Share the Road	Short Term
Lee Street	East Monroe Street	Liberty Street	bicycle route and loop signage	Share the Road	Short Term
Lincolnton Road	Jake Alexander Boulevard	Fulton Street	adding edgelines / bicycle route signage	Edgeline	Short Term
Mahaley Avenue	West Innes Street	West Henderson Street	add four foot wide bicycle lanes with bike symbols and signage on both sides	Bike Lanes	Short Term
Martin Luther King Jr. (MLK) Avenue	Jake Alexander Boulevard	Bringle Ferry Road	"Sharrows"	Sharrows	Short Term
Mitchell Avenue	Lincolnton Road	Fulton Street	"Sharrows"	Sharrows	Short Term
Mocksville Avenue / Cemetery Street	Grove Street	Fulton Street	"Sharrows"	Sharrows	Short Term
Monroe Street	Old Concord Road	Brenner Avenue	Shared Bicycle Facility	Share the Road	Short Term
Morlan Park Road	Terrace Drive	Gold Hill Drive	Shared Bicycle Facility	Share the Road	Short Term
North Road	Pine Tree Road	Dogwood Road	Shared Bicycle Facility	Share the Road	Short Term
Parkview Circle	Mahaley Avenue	Grove Street	Shared Bicycle Facility	Share the Road	Short Term
Pinetree Drive	Faith Road	Terrace Drive	Shared Bicycle Facility	Share the Road	Short Term
Richard Street / Fourteenth Street	Lee Street	Main Street	Shared Bicycle Facility	Share the Road	Short Term
Rowan Mill Road	Mooresville Road	Main Street	Bicycle Route Signs	Share the Road	Short Term
Rudolph Road	East Innes Street	Wedgewood Drive	Shared Bicycle Facility	Share the Road	Short Term
Sherrill's Ford Road	Hurley School Road	Mooresville Road	"Share the Road" and bicycle route signs	Share the Road	Short Term
South Arlington Street	Old Concord Road	East Innes Street	restriped for two lanes and bike lanes each direction	Bike Lanes	Short Term
South Main Street	Jake Alexander Boulevard	West Thomas Street	ad maked edge line and signs	Restripe	Short Term
South Main Street	South City Limits	Jake Alexander Boulevard	sign as a numbered bicycle route	Signage	Short Term
South Main Street	Kerr Street	East City Limits	signed numbered bike route, fix drop inlets, and metal grates	Signage	Short Term
Statesville Boulevard	Jake Alexander Boulevard	West Innes Street	road diet with bike lanes and proper signage	Bike Lanes	Short Term
Statesville Boulevard	Goodson Road	Jake Alexander Boulevard	sign with numbered bicycle routes	Signage	Short Term
Terrace Drive	Pinetree Road	Morlan Park Road	Shared Bicycle Facility	Share the Road	Short Term
Union Heights Boulevard	Faith Road	Gold Hill Drive	Shared Bicycle Facility	Share the Road	Short Term
West Miller Street	Clubhouse Drive	Jackson Street	stripe edgelines to provide 2 to 4 feet of undesignated width along both edges, sign as Salisbury Loop	Restripe	Short Term
West Ridge Road	Enon Church Road	US 601 / West Innes Street	Shared Bicycle Facility	Share the Road	Short Term
Wilson Road	Plank Road	Lincolnton Road	"Sharrows"	Sharrows	Short Term

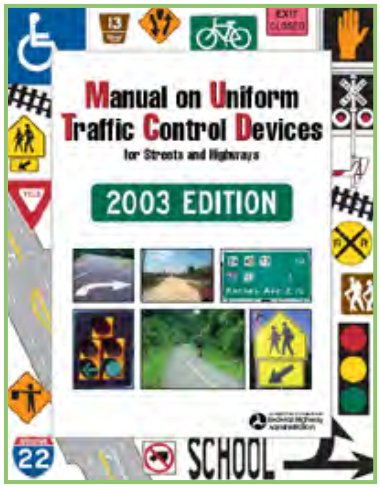
Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

Bringle Ferry Road	Salisbury ETJ Limits near McCanless Road	North Long Street	32 feet of pavement with five-foot paved shoulders and signage as a Salisbury Bicycle Route	Paved Shoulder	Medium
Fulton Street	Lake Drive	West Henderson Street	widen to 32 feet and "Sharrows"	Sharrows	Medium
Gold Hill Drive	Faith Road	Old Concord Road	widen to 30 feet with 4 foot paved shoulders and bike route signage	Paved Shoulder	Medium
Harrison Road	Sherrill's Ford Road	Jake Alexander Boulevard	addition of 5 foot shoulders on both sides	Paved Shoulder	Medium
Heilig Road	Faith Road	Old Concord Road	minimum 30 foot width with 4 foot bicycle facilities and signage for bicycle route	Bike Lanes	Medium
Industrial Avenue	Old Wilkesboro Road	Jake Alexander Boulevard	restripe for 2-12 foot travel lanes and 5 foot bike lanes with bicycle marking symbols and signage	Bike Lanes	Medium
E. Innes Street	Avalon Drive	Rudolph Road	striped bicycle lanes, narrow travel lanes, and reduced speed limits in conjunction with the implementation of the Southern Connection Loop	Restripe	Medium
W. Innes Street	West Ridge Road	Jake Alexander Boulevard	widen to 32 feet with 5 foot paved shoulders, white edge lines, and numbered bike route signs	Paved Shoulder	Medium
W. Innes Street	Statesville Boulevard	Railroad overpass bridge	continued signage	Signage	Medium
Julian Road	Old Concord Road	Jake Alexander Boulevard	widen to minimum of 32 feet with 5 foot sections on the outsides for seperated bicycle and vehicle use and proper signage	Bike Lanes	Medium
Lincolnton Road	Jake Alexander Boulevard	Mooresville Road	two 11 foot inside lanes, two 10 foot outside lanes, 10 foot center lane, 4 foot shoulder with edgeline, 35 mph speed limit, and bicycle signage	Restripe	Medium
Newsome Road	Bringle Ferry Road	Stokes Ferry Road	widen symmetrically to provide 12 foot travel lanes and one five foot wide bicycle lane on each side, curb and gutter with appropriate drainage, and 5 foot sidewalk along both sides	Bike Lanes	Medium
North Long Street	East City Limits	East Innes Street	road diet the 48 foot wide section with three travel lanes and four foot wide bike lanes with pavement markings and signage, continued 4 foot wide bike lanes in 27 foot wide sections with 9.5 foot wide travel lanes	Bike Lanes	Medium
Old Concord Road	East Monroe Street	Julian Road	restripe to 10 foot lanes and four foot wide bike lanes on both sides, widen to provide 11 foot lanes and 4 foot bike lanes on narrower part	Bike Lanes	Medium
Old Mocksville Road	North ETJ Limits	Prescot Drive	widen to 32 feet and provide 5 foot paved shoulders with signage as a Bicycle throroughfare	Paved Shoulder	Medium
Ryan Street	Martin Luther King Jr. Avenue	Old Concord Road	widen to 30 feet with 4 foot paved shoulders and bike route signage	Paved Shoulder	Medium
South Long Street	East Innes Street	East Monroe Street	restripe to provide two 11-foot inside through lanes, two 10 foot wide outside through lanes, 10-foot wide center turn lane, and 5 foot wide bike lanes with symbols and signage	Bike Lanes	Medium
South Main Street	West Thomas Street	Kerr Street	back-in diagonal parking, four foot striped bicycle lanes	Bike Lanes	Medium
White Farm Road	West Innes Street	Hidden Creek Circle	widen 12 feet to get 2-11 foot travel lanes with edgelines to get 5 foot of paved shoulder along each side	Paved Shoulder	Medium
West Henderson Street	Confederate Avenue	Main Street	consistent 30 foot width, 4 foot bike lanes and signage ("Sharrows" for short term fix)	Bike Lanes	Short Term / Medium
Forestdale Drive / Welch road	Statesville Boulevard	end of right of way	Shared Bicycle Facility	Share the Road	Long Term
Majolica Road	Sherrill's Ford Road	Statesville Boulevard	widened to 32 feet with 11 foot lanes and 5 foot paved shoulder	Paved Shoulder	Long Term
McCoy Road / West Colonial Drive / South Milford Drive	Old Wilkesboro Road	Statesville Boulevard		Other	Long Term
Mooresville Road	Windmill/Harris Road	Main Street	widen 5-7 feet on both sides in the future	Paved Shoulder	Long Term
Old Wilkesboro Road	Brenner Avenue	McCoy Road		Other	Long Term
Stokes Ferry Road	Newsome Road	ETJ Limits	widen with 2-11 foot lanes and 5 foot paved shoulders	Paved Shoulder	Long Term
Sunset Drive	Mooresville Road	Main Street	widen 14 feet to proved two 11 foot lanes and 5 foot shoulders	Paved Shoulder	Long Term
West/East Innes Street	Railroad bridge	Stokes Ferry Road	continued signage	Signage	Long Term
Old Mocksville Road	Prescot Drive	Dogwood Road	widen to 32 feet before bridge and stripe 3 foot section on either side as undesignated space	Paved Shoulder	Striping Short Term / widening Medium
Faith Road	Heilig Road	East Innes Street	32 foot width with 5 foot bike lanes on both sides and signage	Bike Lanes	Union Heights Boulevard to Stratford Road is Short term and the rest is Long Term
Fulton Street	Lake Drive at City Park	Lincolnton Road	Bicycle Loops	Signage	
Rosemount Street / Dodd Street	Mooresville Road	South Main Street	pedestrian/bicycle easment through the Dodd Brown Estate	Other	

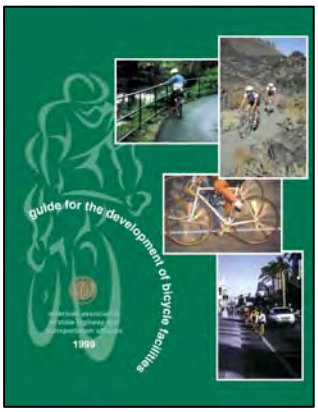
Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

Chapter 4
Bicycle Facility Standards and Guidelines

Chapter 4 – Bicycle Facility Standards and Guidelines



To aid in the construction of the facility recommendations proposed in Chapter 3, this chapter presents various bicycle facility design guidelines that are appropriate for the proposed facilities. The following recommended bicycle guidelines are in accordance with the 1999 *AASHTO Guidelines*, as well as the *Manual on Uniform Traffic Control Devices* (MUTCD) and Institute of Transportation Engineers (ITE) *Traffic Control Devices Handbook*.



The following bicycle facilities are addressed; wide outside lanes, wide paved shoulders, bike lanes, edge lines, shared-use paths and bike routes. When feasible, it is always prudent to develop guidelines that exceed the minimum standards for shared-use paths or bike lane widths, signage, lighting, and traffic signal detectors. Typical examples of these situations are in locations of projected heavy bicycle activities, such as recreationally oriented areas that are commonly found in Salisbury.

4.1 WIDE OUTSIDE LANES

A Wide Outside Lane refers to the travel lane that is located adjacent to the edge of curb and gutter on a roadway with multiple lanes. These lanes are generally wider than the travel lanes located on the inside adjacent to the centerline or center median. These lanes should be designed so they are not used for dedicated right turn only lanes. There are two cost effective methods to develop wide outside lanes.

1. Non Construction Approach: When existing multi-lane roadways are being resurfaced, differential striping may be used to narrow the inside lane to allow for additional room for widening the outside lane which provides extra space where cyclists and motorists can more safely operate in the same lane.

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2. Construction Approach: When roadway improvement projects are constructed, widened outside lanes can provide additional width on the outside to accommodate cyclists on the overall roadway project.

The Wide Outside Lane bicycle facility is an effective way to accommodate both the motorist and cyclist alike operating in the same travel lane. The following benefits occur when a wide outside lane is provided:

- Motorists do not have to change lanes to pass a cyclist.
- Improved sight distance for both motorists and cyclists.
- Provides additional space for vehicles to turn onto the roadway.
- Improves the capacity of the roadway.
- Both motorists and cyclists have more space to maneuver.

This type of facility is most often considered for use in urban, suburban and, not as often, rural conditions on roadways where there exists curb and gutter. Wide Outside Lane applications may cause the following concerns for cyclists:

- They do not provide a visual separation between bicycles and automobiles
- They can be appropriate for experienced bicyclists, but are not recommended for novices or children
- Motorists tend to increase their speed when lanes are wide
- In the absence of an aggressive education/awareness program, many motorists mistakenly believe wide lanes are intended for motor vehicles and are “no safe place for bicycles”

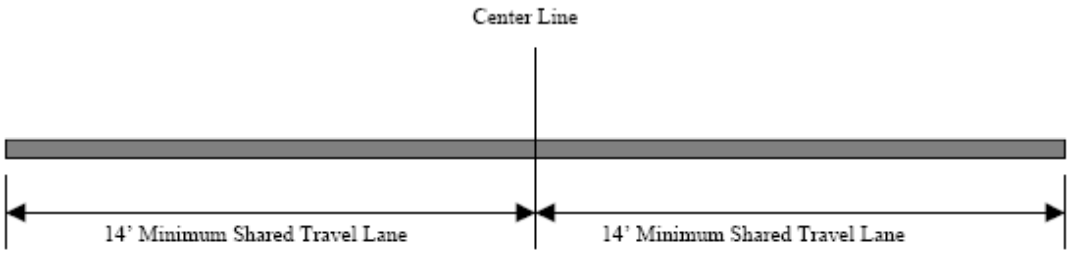
Following are recommended design standards and planning considerations regarding Wide Outside Lanes:*

- Motor vehicle traffic should not be more than 60 percent of the route’s capacity (Level of Service [LOS] C) in the base and design year. This criterion may not always be met. However, since cyclists may still use the facility, wide outside lanes improve safety.
- Truck traffic should not exceed 5 percent of the total motor vehicle traffic stream in the base and design year.
- The AASHTO standard lane width to accommodate both motorists and cyclists should be 14 feet. See **Figure 4-1**.
- If an existing multi-lane roadway with standard 12-foot lanes cannot be widened to accommodate 14-foot wide outside lanes, then the inside lanes can be narrowed to 11 feet, thus providing extra width for 13-foot wide outside lanes.

- Vehicular speed and volume data should be considered when evaluating whether to establish wide outside lanes. Cyclists of all capabilities should feel at ease when riding along wide outside lanes on all local streets and collector streets with 85th percentile speeds less than 40 MPH AND ADT's less than 1500 vpd. More experienced cyclists should feel comfortable using wide outside lanes with 85th percentile speeds less than 50 mph AND ADT's less than 10,000 vpd and minor urban arterials with ADT's less than 15,000 vpd. Only the most experienced cyclists would be expected to feel comfortable in wide outside lanes on urban arterials with volumes exceeding 15,000 vpd and 85th percentile speeds exceeding 50 mph.

*Source: AASHTO Guide for the Development of Bicycle Facilities

Figure 4-1
Wide Outside Lane



Those corridors recommended for striping or re-striping to provide wide outside lanes are discussed in Chapter 3.

4.2 WIDE PAVED SHOULDER

A Wide Paved Shoulder is considered part of the roadway that is located next to the travel lane and is on the same level as the existing roadway surface. The most efficient way to develop a wide paved shoulder is to include these facilities during the construction of new alignments and when upgrading the existing roadways. This improvement includes the construction of additional roadway surface width to a minimum of four feet of width that is added to an existing roadway in an effort to provide safe accommodations for cyclists.

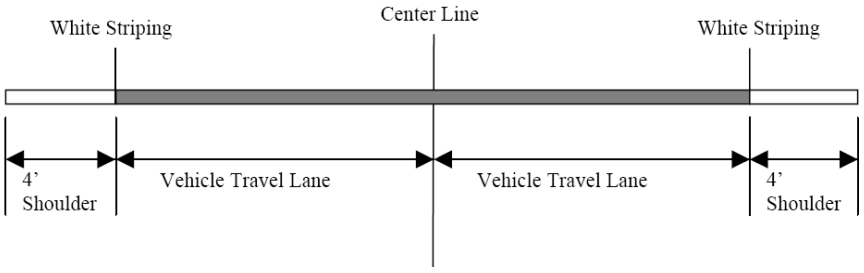
Wide paved shoulders are best utilized on roadways without curb and gutter and where bicycle travel is common. Many roads located in Salisbury are suitable for this improvement, such as roadways located in rural areas. These roadways, without curb and gutter, should have minimal commercial driveways and intersections to provide

the cyclist with a wide, smoothly paved shoulder with limited conflict points.

Following are recommended design standards and planning considerations regarding Wide Paved Shoulders:* See **Figure 4-2**.

- The paved shoulder should be of adequate width, smoothly paved, and have adequate strength and stability to support vehicle loads without rutting.
- Pavement markings should be paint, not thermoplastic.
- The minimum width for a paved shoulder to accommodate bicycles is 4 feet. Recommendations for the actual paved shoulder width may vary according to the width of the adjacent roadway, traffic volume, posted speed limit, and the presence of heavy truck traffic along the roadway.
- The slope of the roadway should continue across the shoulder to maintain adequate drainage.
- Wide paved shoulders not only benefit cyclists, but improve safety for drivers and reduce maintenance costs.
- Rumble strips and other devices used to alert sleepy motorists should be avoided, because they pose a safety hazard to cyclists. If rumble strips are necessary, additional shoulder width should be provided for the cyclists.
- Relocate drainage ditches that run parallel to the roadway.
- If speeds are higher than 40 mph, shoulder widths should be greater than 4 feet wide.

Figure 4-2
Wide Paved Shoulder
*Source: AASHTO Guide for the Development of Bicycle Facilities



The following facilities in Salisbury are recommended for the placement of Wide Paved Shoulders, either by restriping or widening:

- Airport Road – Salisbury City Limits to Main Street
- Bringle Ferry Road – Salisbury ETJ limits to Long Street
- Faith Road – Heilig Road to East Innes Street
- Gold Hill Road – Faith Road to Old Concord Road
- Harrison Road – Sherrill's Ford Road to Jake Alexander Boulevard
- Heilig Road – Faith Road to Old Concord Road
- Julian Road – Old Concord Road to Jake Alexander Boulevard
- Majolica Road – Sherrill's Ford Road to Statesville Road
- Newsome Road – Bringle Ferry Road to Stokes Ferry Road
- Old Concord Road - Julian Road to West Monroe Street
- Old Mocksville Road – Salisbury Northern ETJ limits to Prescot Drive
- Ryan Street – Old Concord Road to Martin Luther King Jr. Avenue
- Stokes Ferry Road – Newsome Road to Southern ETJ Limits
- Sunset Drive – Mooresville Road to Main Street
- West Innes Street – Jake Alexander Boulevard to Sells Road
- White Farm Road – West Innes Street to Hidden Creek Circle

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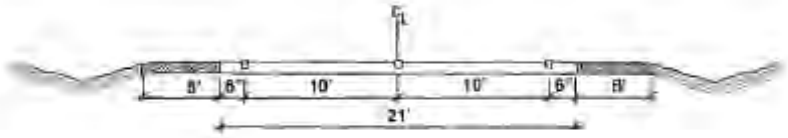
Typical Bicycle Cross Sections

B-4 **WIDE PAVED SHOULDERS**

Existing Roadway



Roadway Retrofitted with
4-Ft Paved Shoulders

* If speeds are higher than 40 mph, shoulder widths greater than 4' are recommended.

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4.3 BICYCLE LANES

AASHTO presents sound guidelines for the establishment of marked bicycle lanes, which is displayed in **Figure 4-3.** The width of bike lanes should be determined using engineering judgment, taking into consideration existing street widths and barriers or constraints to widening. Three to five foot lanes are typical and include bike lanes located on lower-speed roadways that are uncurbed, or in some cases between through traffic lanes and right-turn only lanes. Bike lanes also may be utilized for paved shoulder locations where right-of-way is restricted or there are topographical constraints. Generally, bike lane widths of five to six feet are desirable in areas of projected high bicycle traffic. Bike lanes are typically striped, signed, and marked in accordance with the *Manual on Uniform Traffic Control Devices* (MUTCD). The MUTCD and the Institute of Transportation Engineer's *Traffic Control Handbook* recommend intersections with striped bike lanes to be located to the left side of right-turn only lanes. **Figure 4-4** shows this detail and other details for bike lane approaches to intersections.

Traffic signal detectors that sense bicycles may be considered for signalized intersections. A stencil of a bicycle can identify the location for cyclists to stop in order to be detected. The stencil is typically only needed with loop detection systems. Curbside push buttons are not to be considered a replacement for effective signal detection, as they encourage cyclists to stop in a location that places them too far to the right at the stop line and at a disadvantage to right-turning traffic. Curbside push buttons may be appropriate in certain situations, such as when there is an island separating right turning traffic from through traffic and when other detection methods are not effective. As stated in Section 9D of the MUTCD, the needs of cyclists shall be considered when setting signal timing on bikeways.

Revisions to both AASHTO and the MUTCD are pending, including revisions that will address pavement markings and signs for bicycle lanes and facilities. These sources should be consulted prior to any changes being implemented.

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Figure 4-3
Typical Bike Lane Cross Section

Source: AASHTO Guide for the Development of Bicycle Facilities

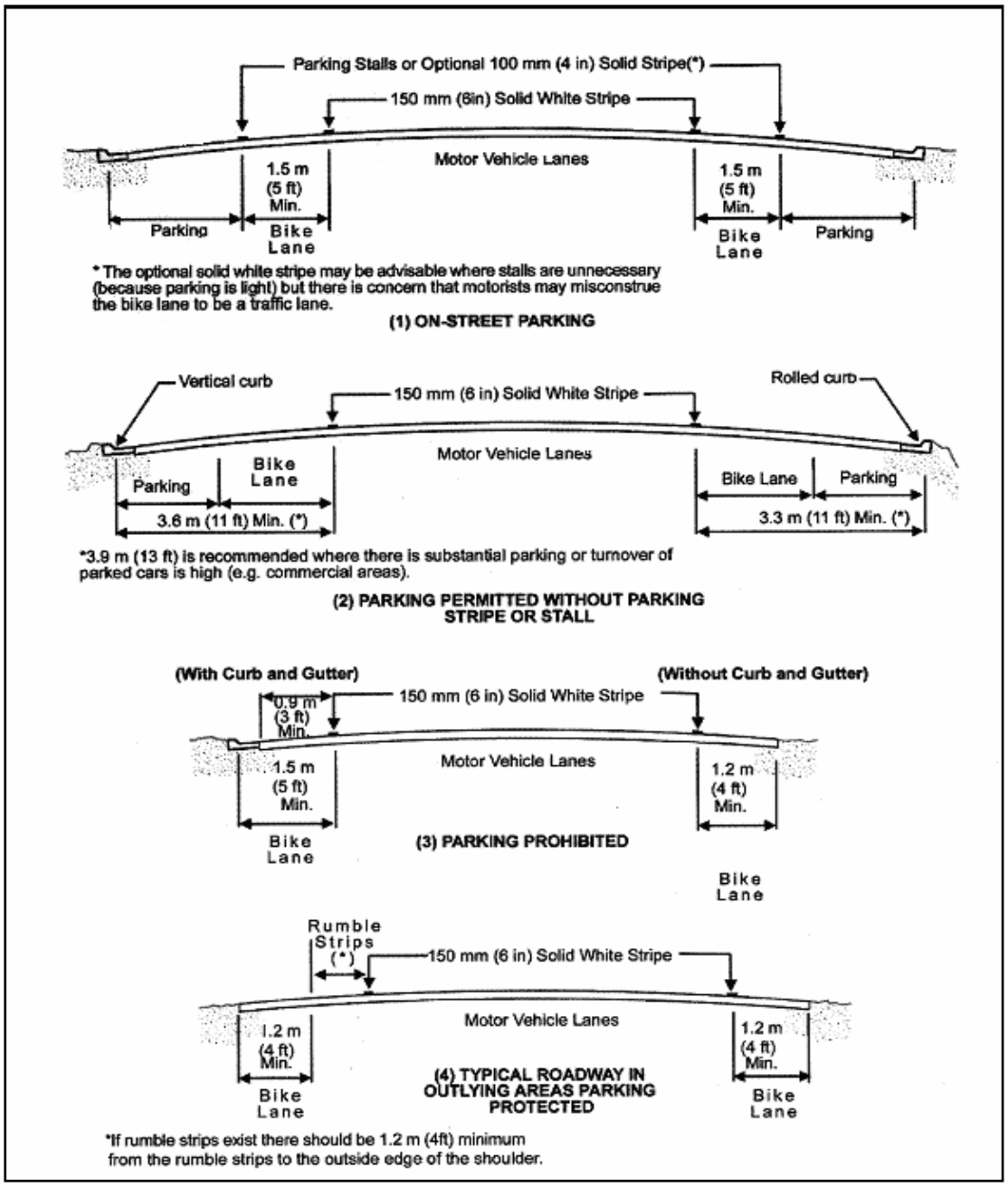

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Figure 4-4
Bike Lane Striping Details at Intersections

Figure 2a – Conflicts with Bike Lane to the Right of a Right Turn Lane

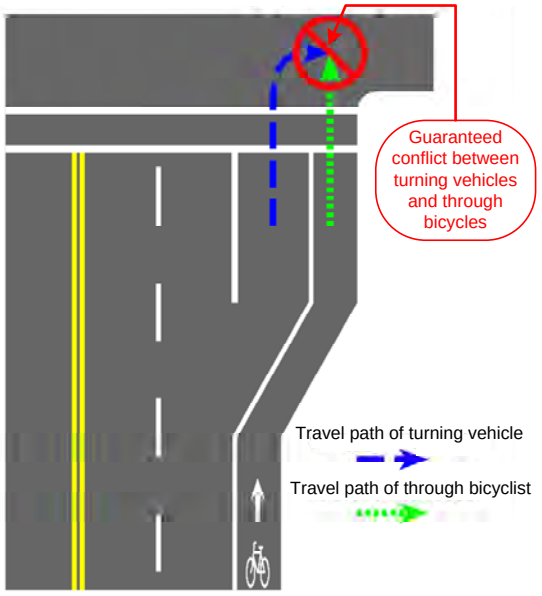


Figure 2b – Proper Location of Bike Lane to the Left of Right Turn Lane

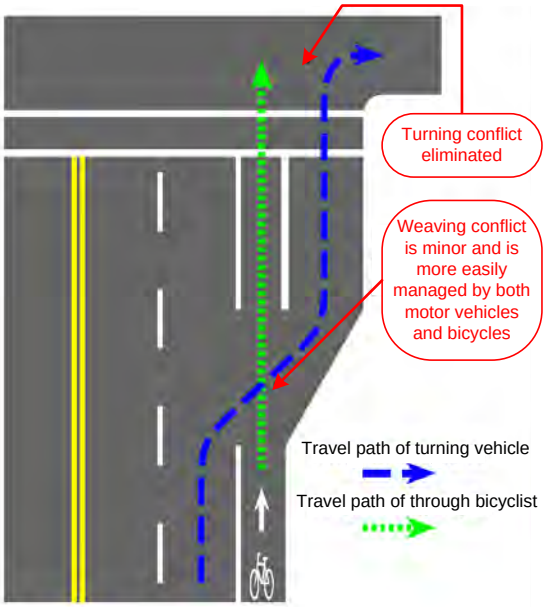


Figure 2c – Optional Bike Lane Treatment where Right Lane Becomes Right Turn Only Lane

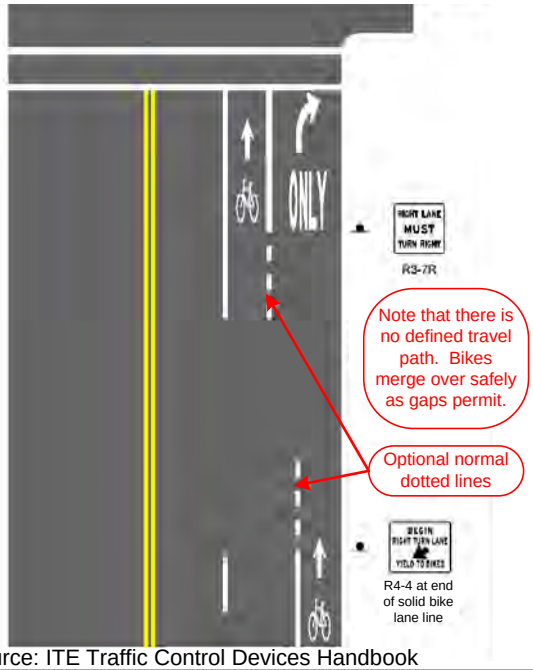
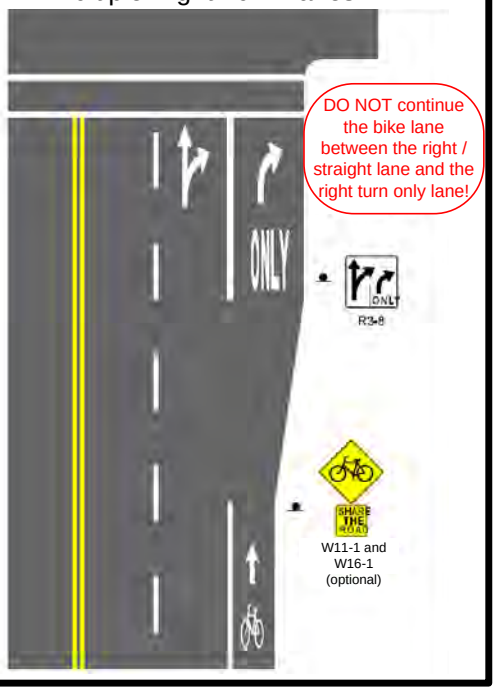


Figure 2d – Optional Bike Lane Facility for Multiple Right Turn Lanes



Source: ITE Traffic Control Devices Handbook

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Bike lanes should be continuous where practical. Where right-of-way or other constraints preclude continuous bike lanes, the bike lane segments can be connected with local bike routes until such time as a continuous bike lane can be provided. However, in most cases, cyclists should be permitted to continue along the roadway and not be required to use an alternate route. Signage conforming to the MUTCD should be provided to designate the facility changes along the bicycle route.

The recommended criteria for implementation of Bike Lanes should include the following:

- Roads with posted limits between 30 mph and 45 mph
- Roads with minimum 28 foot widths and/or marked centerlines
- Commitment to keep bicycle lanes free of debris
- Consideration of on street parking. Vehicular parking in marked bicycle lanes is prohibited by law in most jurisdictions.
- Where bike lanes are marked on streets with drainage grates, it is recommended to add a white warning stripe as cyclists approach these hazards.

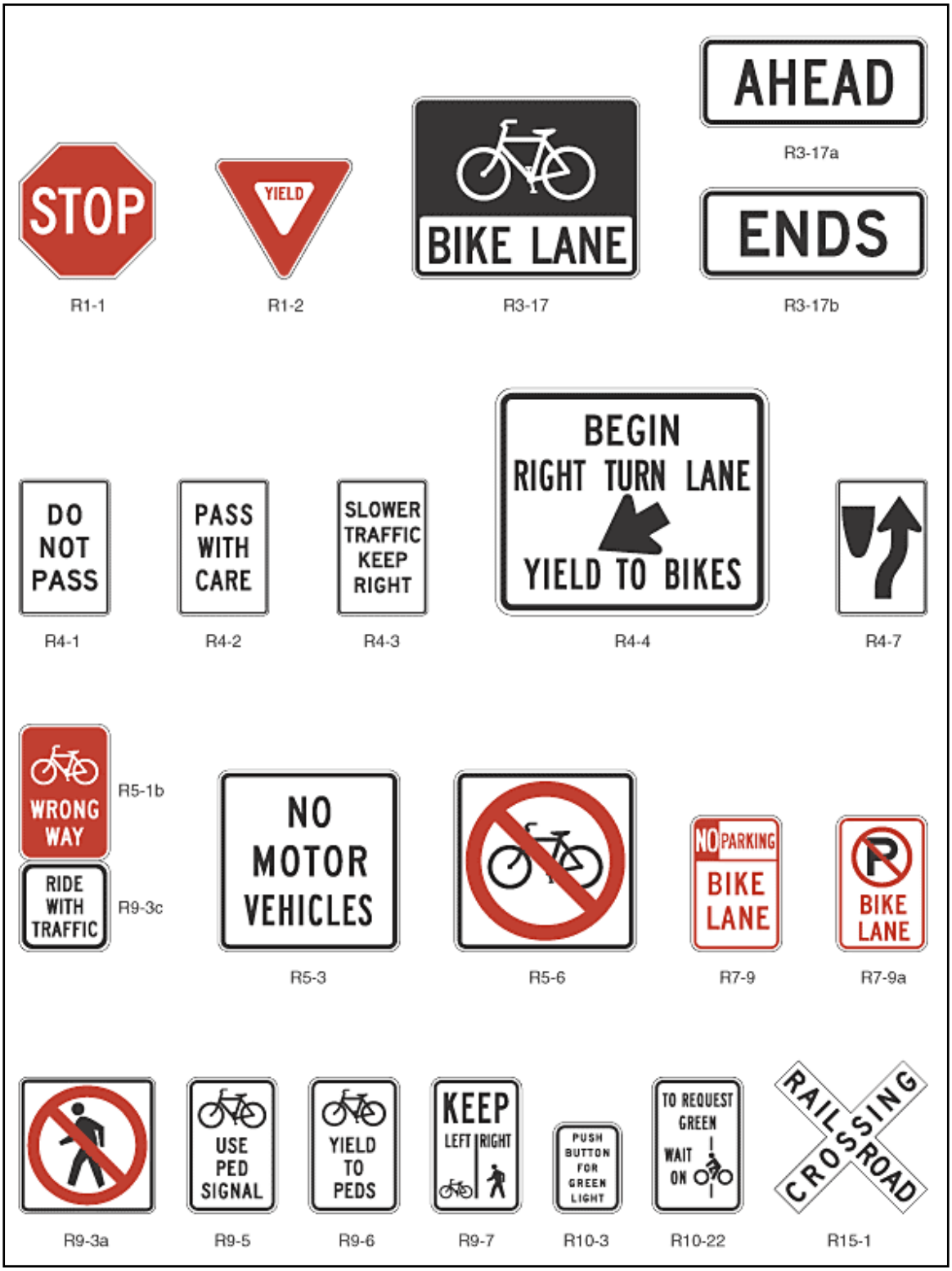
Standard bike lane signs, as contained within Part 9 of the MUTCD, must be utilized where bike lanes are designated. Part 9 also includes examples of optional signs, which help in the guidance of cyclists utilizing regional routes. All signing and striping of bike lanes must conform to the most recent MUTCD, as approved by NCDOT. See **Figure 4-5**.

Bike lane markings indicate the proper direction of bicycle travel, encourage bicyclists to ride away from parked car doors, and increase drivers' expectations to see bicyclists on roadways.

The following facilities are recommended for the placement of Bike Lanes:

- Industrial Avenue – Old Wilkesboro Road to Jake Alexander Boulevard
- Long Street – Salisbury East City Limits to East Monroe Street
- Mahaley Avenue – West Innes Street to West Henderson Street
- Newsome Road – Bringle Ferry Road to Stokes Ferry Road
- Old Concord Road – East Monroe Street to Julian Road
- South Arlington Street – Old Concord Road to East Innes Street
- South Main Street – Thomas Street to Kerr Street
- Statesville Boulevard – Jake Alexander Boulevard to West Innes Street
- West Henderson Street – Mahaley Avenue to Lee Street (upon widening)
- East Innes Street – Avalon Drive to Rudolph Road (Southern Connection Loop)

Figure 4-5
Guide Signs for Bike Lanes



Source: MUTCD, Figure 9B-2, Regulatory Signs for Bicycle Facilities

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4.4 EDGE LINES

Edge line placement is an experimental technique that is currently being evaluated for inclusion in the MUTCD. This solution includes installing a painted four inch wide edge line along both sides of a designated corridor for the purpose of narrowing the visual perception of the roadway width and a reduction in overall speeds. This technique can be effective along roadways where on-street parking is allowed and the community is not willing to prohibit parking to allow for a designated bicycle lane. The edge lines channel motor vehicle traffic away from parked cars and provide some breathing room for the cyclists.

On street parking, and the loss thereof, is one issue that each jurisdiction must consider at some point, as many jurisdictions enact ordinances addressing the subject. Many residents are passionate about the loss of parking, especially in neighborhoods with homes built close to the street and lacking garages, or near places that experience heavy parking needs at times, including school and church areas. All neighborhoods have residents who entertain guests at various times and need additional parking area available for them. North Carolina General Statutes do not address the presence of edge lines and on-street parking. Establishing edge lines in Salisbury may serve as an acceptable alternative to establishing bicycle lanes in areas of light to moderate on-street parking.

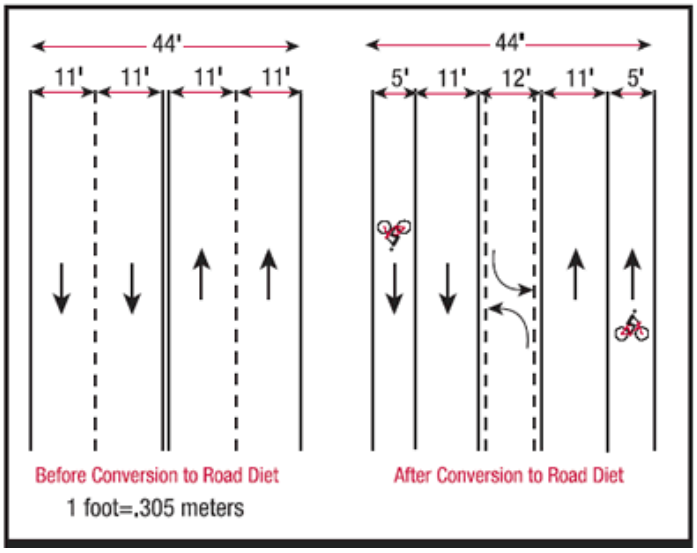
Edge lines can be used along roadways where there is inadequate width to accommodate a full five foot wide bike lane. They can be utilized for identifying the location of bicycle routes and as a visual cue that bicycles frequently use the roadway. Edge line treatments can also be used for connecting gaps between existing bicycle facilities such as bike lanes or wide outside lanes. Since edge lines do not require significant amounts of paint, they are less expensive than bicycle lanes. Some locations currently using edge line treatments include, Chicago, IL, San Francisco, CA, Greensboro, NC and Denver, CO.

The following facilities are recommended for the placement of Edgelines:

- 13th Street – Maxwell Street to North Main Street
- Brenner Avenue – West Horah Street to Statesville Road
- Clubhouse Drive – Confederate Avenue to Jackson Street
- Confederate Avenue – West Henderson Street to Clubhouse Drive
- Maxwell Street – Confederate Avenue to 13th Street
- Old Mocksville Road – Prescot Drive to Dogwood Road
- South Main Street – Jake Alexander Boulevard to West Thomas Street
- West Miller Street – Clubhouse Drive to Jackson Street
- Lincolnton Road – Jake Alexander Boulevard to Fulton Street

4.5 ROAD DIETS

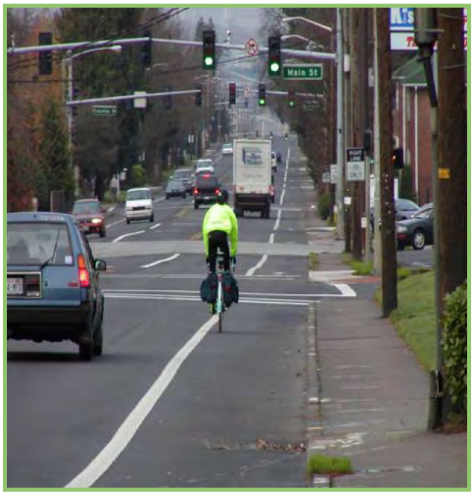
The basic road diet involves modifying pavement markings along a street to change a four lane street to a three lane street that includes a center two way left turn lane. Engineers and planners alike have found that, in areas that experience high volumes of turning traffic, three lane streets provide similar capacities to four lane streets, with the added benefit of safety and efficiency for all modes of travel. Some studies suggest that road diets maintain existing capacities while reducing crash frequencies. The Federal Highway Administration's *Summary Report: Evaluation of Lane Reduction "Road Diet" Measures and Their Effects on Crashes and Injuries* reports that one may expect converting a roadway segment from four lane undivided to three lanes likely would reduce total crashes by 6% or less.



The following facilities are recommended for Road Diet projects:

- Lincolnton Road – Fulton Street to Mooresville Road
- Long Street – East City Limits to East Monroe Street
- Statesville Boulevard – Jake Alexander Boulevard to West Innes Street

Before



After

Photos Courtesy of Todd Boulanger, City of Vancouver Washington, USA

4.6 SHARED LANE MARKINGS ("SHARROWS")

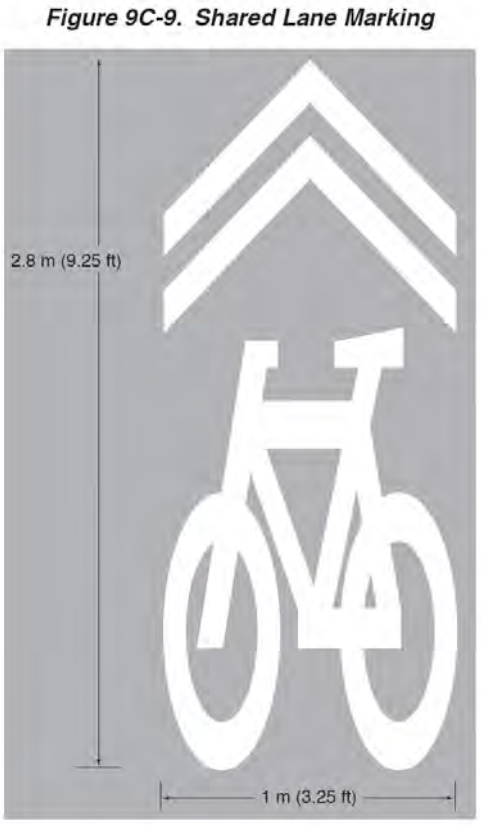
Among revisions proposed for Chapter 9 of the MUTCD is the optional use of Shared Lane Markings or Sharrows. These revisions were advertised for public comment on January 2, 2008 and the public comment period ended on July 31, 2008. Final rule or adoption of revisions is expected to occur in December 2008.

Sharrows are used to show motorists that cyclists may "take the lane" and they help show cyclists good lane positioning, especially where lanes are too narrow to share safely. The markings assist in cyclists with lateral positioning on streets with parallel parking in order to reduce the chance of cyclists impacting the open door of a parked vehicle. Sharrows have been shown to reduce the incidence of cyclists using sidewalks and cyclists going the wrong way. Cities such as Denver, Portland, New York, and San Francisco have experimented with the use of these markings.

Guidance from the MUTCD states that Sharrows should not be placed on roadways that have a posted speed limit above 35 MPH. If used in a shared lane with on-street parking, Sharrows shall be placed so the centers of the markings are at least 11 feet from the face of the curb or edge of pavement. In the absence of on-street parking, Sharrows should be placed a minimum of 4 feet from the edge of curb or pavement. Sharrows should be placed immediately after an intersection, and spaced at intervals no

greater than 250 feet thereafter. The MUTCD standard Sharrow is shown below (**Figure 4-6**), along with an example marking from Baltimore, Maryland.

Figure 4-6
MUTCD Standard Shared Lane Marking



Source: STREETSBLOG Los Angeles
July 10, 2008

The following facilities are recommended for Shared Lane (Sharrow) markings:

- Fulton Street – Lake Drive to Main Street
- Grove Street – West Innes Street to West Henderson Street
- West Henderson Street – Confederate Avenue to Main Street
- Institute Street/Wilson Road – West Innes Street to Lincolnton Road
- Jackson Street – West Henderson Street to 17th Street
- Martin Luther King Jr. Avenue – Bringle Ferry Road to Jake Alexander Boulevard
- Mitchell Avenue – Lincolnton Road to Fulton Street
- Mocksville Avenue/Cemetery Street – Grove Street to Fulton Street
- Wilson Road – Plank Road to Lincolnton Road

4.7 SHARED-USE PATH (GREENWAY)

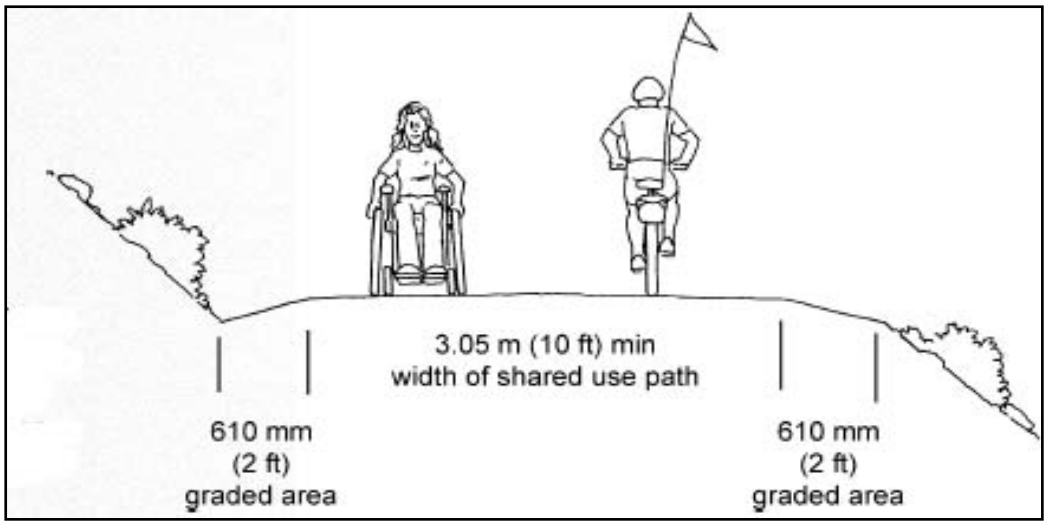
The following guidelines, in accordance with the AASHTO *Guide for the Development of Bicycle Facilities* and Part 9 of the MUTCD, should be considered in the construction and designation of shared-use paths. Sidewalk paths and shared-use paths located immediately adjacent to the roadway are discouraged by AASHTO. This is due to several factors including the potential for high numbers of intersecting roadways, conflicts at intersections particularly with cyclists traveling in the opposite direction of the adjacent roadway travel lane, potential insufficient sight distances due to walls and other obstructions, and possible conflicts within the right-of-way, such as utility poles.

Shared-use path crossings of roadways and driveways must be carefully considered during the design process. Where pathways are built adjacent to roadways, it is recommended that street crossings be minimized. Shared-use paths that cross roadways with high traffic volumes may require signalization or grade separation. One example of a well-planned and designed shared use path is located in Salisbury along the edge of Brenner Avenue. This shared use path has very few intersecting streets or driveways, good sight distance is provided, and sufficient right of way existed to implement this path, minimizing impacts to adjacent land uses.

Shared-use paths should have a separation of five feet and preferably more from the traveled way or a suitable barrier should be provided between the pathway and roadway. The pathway should be a minimum ten feet wide and should include a minimum two feet of shoulder on each side and preferably four feet on each side (see **Figure 4-7**). In areas of high usage, twelve feet of pavement or more is recommended, and in some cases an additional separate unpaved parallel path is optimal for pedestrian travel. Pavement widths of ten feet or more also better accommodate maintenance vehicles and reduces damage to the pavement edge from these vehicles.

Two federal laws require paths and trails to be designed and constructed to be accessible to all people. The Americans with Disabilities Act (ADA) of 1990 requires that local governmental services, recreational facilities and systems of transportation, therefore trails and paths, must have equal access for persons with disabilities. Section 504 of the Rehabilitation Act of 1973 requires that all federally funded projects be accessible to persons with disabilities.

Figure 4-7
Typical Shared-use Path Standard Cross-section



Source: FHWA

Both AASHTO and ADA provide design guidance for paths and trails. Vertical grades should not exceed 5%, although steeper grades may be necessary where terrain and other factors dictate. Horizontal cut slopes should not exceed 2-3% to allow for positive drainage. Paths that are in or adjacent to road right of ways should be located on the west side of north-south roads and on the south side of east-west roads.

Landscaping for shared-use paths should generally be low water use native vegetation. Selected plant species should generally be native plants. Selecting species that require minimal maintenance, including falling litter and debris is an important consideration. Shade landscaping should be considered as a valuable enhancement for bicycle and pedestrian use, and should be considered as a continuous design element along the pathway or at nodes within reasonable spacing along the pathway. This is especially appropriate considering the high temperatures that occur throughout the summer months in Salisbury. Tree trunks are recommended to be located between three and five feet from the shared-use path edge so that the tree provides the path with shade, but not so close as to cause future pavement damage from root intrusion (root guard may be needed). However, consideration should be taken so that the tree typically does not encroach into the vertical clearance of the path.

Pedestrian-scale lighting should be considered where bicycle users and others will likely use the shared-use path in the evenings or early mornings. These lights are appropriate in urban settings adjacent to streets or roads. However, most jurisdictions do not install lights along off-road paths (greenways, for example) and generally close these facilities at dark.

Barriers such as posts or bollards to prevent unauthorized motor vehicle use of shared-use paths may be used as appropriate. Ideally, fewer restrictions at entry points are preferred; however, if barriers are used, the barriers should be clearly marked as per MUTCD standards and should be ADA accessible.

Shared-use path construction should take into consideration maintenance and emergency vehicles particularly for shared-use path surface material, width, shoulders, and vertical clearance requirements. The City of Salisbury has adopted a 5,000 pound vehicle as the maintenance design vehicle for shared use paths.

Unpaved or impervious surface shoulders two to four feet in width should be provided where feasible for pedestrians and runners. The shoulders provide a softer running and walking surface, increase capacity of the path, and provide a clear zone for cyclists and in-line skaters who may unexpectedly leave the path. Cyclists and pedestrians may be directed to the right side of the pathway with signing and/or stenciling, and signs may be provided illustrating the rules of the path.

Where paths are heavily used, consideration may be made to install emergency phone service.

Where shared-use path design occurs in environmentally sensitive areas such as coastal areas, design exceptions may be pursued to minimize environmental impacts; however, the minimum AASHTO design guidelines should be followed, or if not feasible (e.g., if only a six-foot width can be achieved), the path should not be designated for bicycle use.

Shared-use paths should not be considered a substitute for on-road bicycle facilities. Paved shoulders or bicycle lanes should be considered along roadways that have adjacent shared-use paths. As stated within AASHTO, many cyclists will use the roadway instead of the shared-use path because they have found the roadway to be safer, more convenient, or better maintained. AASHTO lists several additional operational and safety reasons why paved shoulders or bike lanes should be implemented on the roadway if adjacent shared-use paths are built.

4.8 BIKE ROUTE

Bike routes have been typically designated as signed routes along street corridors, usually on local streets and sometimes on collectors. With proper route signing, reasonably direct connectivity, and good street maintenance bike routes can be effective in guiding cyclists to local and regional destinations. Bike routes also can be good incubators for beginning cyclists to develop their skills. Bike routes can become more useful when coupled with such techniques as:

- Special route name, directional, and distance signing;
- "Share the Road" signs along roadways where additional guidance is needed for motorists to share the road with bicycles, including locations where the bikeway narrows to substandard conditions;
- Wide outside lanes on collector roadways (14 feet in width);
- Routine pavement maintenance schedules;

- Traffic signals timed for cyclists and signalized crossings specifically for cyclists and/or pedestrians, where high use warrants increased safety and accessibility across major roadways; and
- Traffic calming and development of "bicycle boulevards", for example, including provision of traffic circles, curb extensions, entrances to neighborhoods limited only to cyclists, and pedestrians, etc.

All bike route signing shall conform to signing standards identified in the MUTCD. This document provides specific information on the type and location of signing for bikeway systems. Stencils and pavement markings as indicated in the MUTCD also can be included on bicycle facilities to help cyclists and motorists more easily identify travel lanes and bike facilities and routes.

It is recommended that the City develop the bicycle route signage system that shows distances to major destinations such as parks, greenways and other historic destinations.

4.9 SHARING THE ROAD

Bicyclists and motorists alike have equal rights to use the state's highways. Sharing the road has been a campaign of the North Carolina Department of Transportation since 1982, with education and awareness being first and foremost issues highlighted. The "Share the Road" sign was introduced in 1987, and later adopted as an official sign in the MUTCD. North Carolina motorists may also purchase "Share the Road" license plates to promote safe cycling.

In Salisbury, many of the streets identified as potential bicycle thoroughfares are minor local streets that carry minimal traffic volumes, no "cut through" traffic, and low average speeds. These streets are typically found in residential areas where connections to major streets may be provided, but connections between thoroughfares are not present. The streets below exhibit such characteristics and are, therefore, recommended as bicycle thoroughfares with cyclists expected to share the road with motorists.

The following facilities are recommended to be shared bicycle facilities:

- Dogwood Road – North Road to Mocksville Avenue
- Enon Church Road – Statesville Boulevard to Woodleaf Road
- Forestdale Drive / Welch Road – Statesville Boulevard to end of road
- Hawkinstown Road – Old Mocksville Road to Eastern City Limits
- Hurley School Road – Sherrill's Ford Road to Statesville Boulevard
- Laurel Valley Way/Byron Drive/Hogans Valley Way – Jake Alexander Boulevard to West Innes Street
- Lee Street – East Monroe Street to Liberty Street
- Monroe Street – Old Concord Road to Brenner Avenue

- North Road – Pine Tree Road to Dogwood Road
- Parkview Circle – Mahaley Avenue to Grove Street
- Richard Street / 14th Street – Lee Street to Main Street
- Rowan Mill Road – Mooresville Road to Main Street
- South Main Street – South City Limits to Jake Alexander Boulevard
- Union Heights Boulevard – Faith Road to Gold Hill Drive
- West Ridge Road – Enon Church Road to West Innes Street

4.10 RIDING ON SIDEWALKS

The use of sidewalks as bicycle facilities should not be encouraged especially as a bike route. Although bicycle and motor vehicle speeds are generally lower at sidewalk intersections with roadways, potential conflicts can still result in severe injuries. It is inappropriate to sign these facilities as bikeways. Significant safety issues arise when those riding on the sidewalk, especially contrary to the flow of traffic, encounter driveways and side streets where motorists do not expect to see them. Cyclists should not be encouraged to ride facilities that are not designed to accommodate bicycle travel. The following excerpt is from the 1999 AASHTO Design Guidelines on the use of sidewalks for bicycle facilities [(1)].

Sidewalks used as Shared-Use Paths
Utilizing or providing a sidewalk as a shared-use path is unsatisfactory for a variety of reasons. Sidewalks are typically designed for pedestrian speeds and maneuverability and are not safe for higher speed bicycle use. Conflicts are common between pedestrians traveling at low speeds (exiting stores, parked cars, etc.) and cyclists, as are conflicts with fixed objects (e.g., parking meters, utility poles, sign posts, bus benches, trees, fire hydrants, mail boxes, etc.). Walkers, joggers, skateboarders, and roller skaters can, and often do, change their speed and direction almost instantaneously, leaving cyclists' insufficient reaction time to avoid collisions.

Similarly, pedestrians often have difficulty predicting the direction an oncoming cyclist will take. At intersections, motorists are often not looking for cyclists (who are traveling at higher speeds than pedestrians) entering the crosswalk area, particularly when motorists are making a turn. Sight distance is often impaired by buildings, walls, property fences, and shrubs along sidewalks especially at driveways. In addition, cyclists and pedestrians often prefer to ride or walk side-by side when traveling in pairs. Sidewalks are typically too narrow to enable this to occur without serious conflicts between users.

It is especially inappropriate to sign a sidewalk as a shared-use path or designated bike route if to do so would prohibit cyclists from using an alternate facility that might better serve their needs. It is important to recognize that the development of extremely wide sidewalks does not necessarily add to the safety of sidewalk bicycle travel. Wide sidewalks might encourage higher speed bicycle use and can increase potential for

[1] Source 1999: AASHTO Guide for the Development of Bicycle Facilities

conflicts with motor vehicles at intersections, as well as with pedestrians and fixed objects.

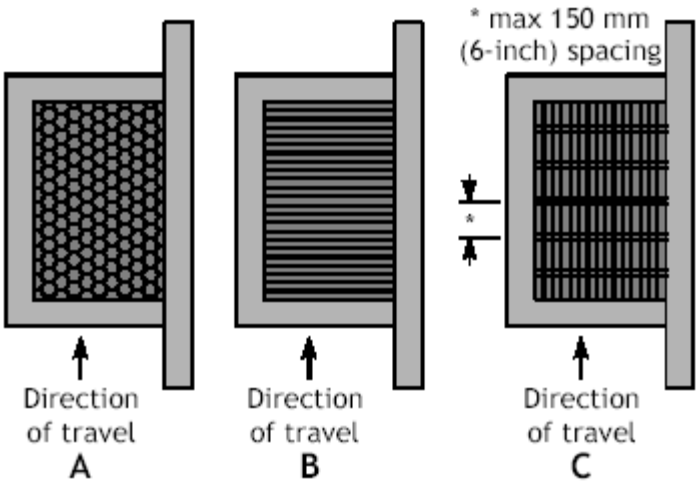
4.11 DRAINAGE GRATES

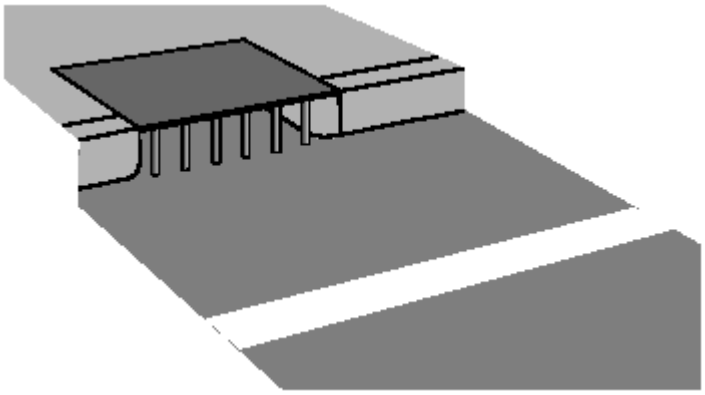
Replacing or modifying dangerous drain grates is one of the most basic improvements a community can make for cyclists. Fortunately, doing so is a relatively simple procedure. First, it's important to realize that a drainage grate, as part of a road's drainage system, is an important roadway feature. It allows storm water runoff that has flowed from the roadway into the gutter to be taken away via a subsurface system of pipes or to enter the groundwater through a sump.

For this reason, any changes made to a grate must take hydraulics into account. A "bicycle safe" grate must let water pass without allowing routine types and amounts of debris to clog the inlets--and without trapping bicycle wheels. And that, by the way, is the primary danger for cyclists. Many traditional parallel-bar drain grates have slots wide enough to swallow some bicycle's wheels. A bicycle drops in, perhaps up to the fork, the wheel stops, and the rider catapults over the handlebars.

There are many designs of drainage grates that are also "bicycle-safe." Steel grates designed in a honeycomb pattern (A) work well and are the standard for the State of California. Iron grates with a herringbone pattern (B) of holes also are good and are standard for the State of North Carolina. Curb-face inlets take the water into a hole in the curb and have no slots on the road surface. While curb-face inlets offer an excellent solution, removing the grate entirely can cause handling problems for cyclists if the roadway slopes excessively toward the inlet.

Alternatives to replacing dangerous grates include placing covers over the top and painting warning markings on the roadway to direct cyclists away. The first option tends to be a temporary fix. Steel straps welded over the top of a grate (C) can, over time, come loose. And sending a welder out into the field is a very expensive way to handle such problems.





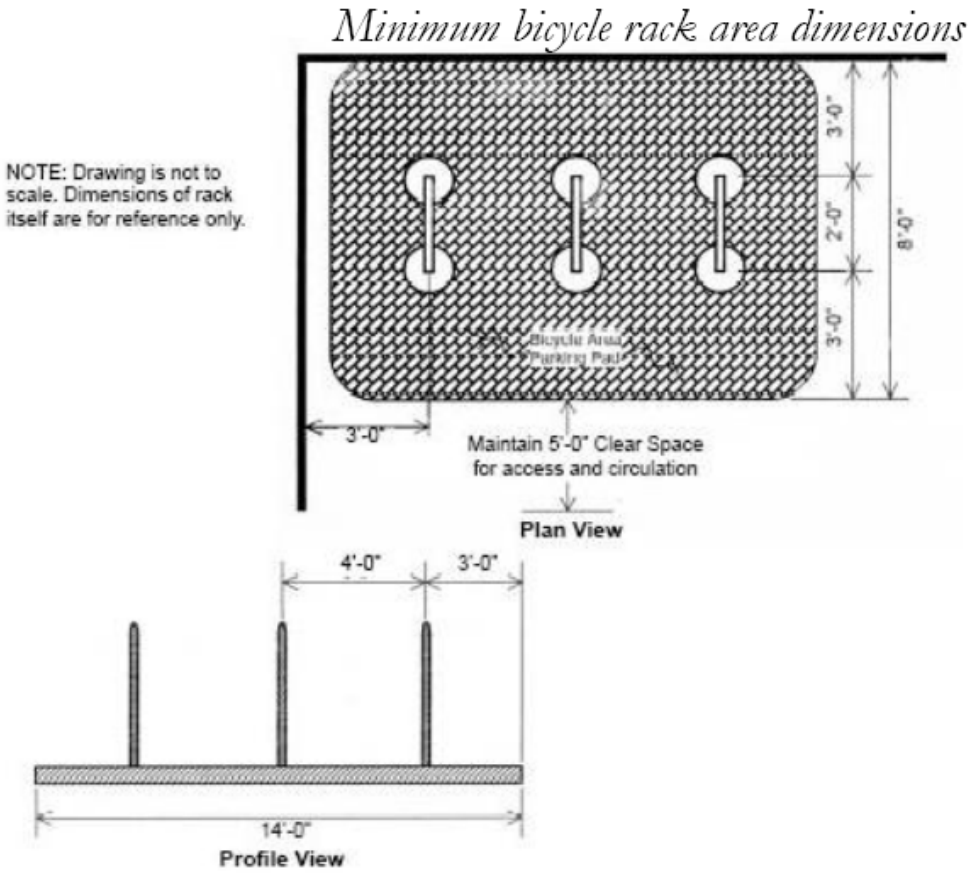
- Drop Inlets and Drainage Grates are recommended for replacement along North Main Street between 12th and 14th Streets.

4.12 BICYCLE PARKING GUIDELINES

As the number of bicyclists begin to increase in and around the Town, not only with their safety be a paramount importance, but so will be the accessibility to bicycle racks. In order to provide bicyclists some means to protect their investment, some steps should be taken to provide ample and effective bicycle parking. Chapter 3 under the Policies section suggests covered bicycle lockers for storage at end of trip facilities such as the Transit Transfer Site. In addition, bicycle parking is recommended as follows:

- Community centers – Provide bike rack spaces equivalent to at least 5 percent of the required number of vehicular parking spaces.
- Greenway trail heads – Provide at least 15 bike rack spaces at each trail head.
- Parks – Provide bike rack spaces at a rate of 15 spaces per acre. Parks over five acres in size should be evaluated to determine if additional bicycle parking is needed.

Salisbury's Land Development Ordinance (LDO) includes bicycle parking standards that require four feet between racks. From Salisbury's LDO, Chapter 10, Part 5:



Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

Chapter 5
Implementation

Chapter 5 – Implementation

After adoption of this plan, the City will then be positioned to consider an implementation strategy for the projects recommended in this plan. To aid in the selection of projects to pursue, this chapter presents a prioritization of projects based on a variety of metrics and a discussion of potential funding sources.

5.1 PRIORITIZATION OF PROJECTS

The recommendations found in this plan represent a wide variety of projects, from very short connections that can open large portions of the City to cycling, to long bicycle routes that, while large in length, may only serve the recreational user. With the focus on making bicycling a viable, convenient, and safe transportation choice throughout the City, the project team has developed a matrix of characteristics to rank the proposed facility recommendations in order to categorize these facilities into high priority short term (less than 5 years), medium priority medium term (5 to 10 years) and lower priority long term (greater than 10 years) recommendations. The criteria included in this analysis were:

- Total length
- Portion within City limits
- Length within City limits
- Total cost (from information from bicyclinginfo.org and other sources)
- Cost within City limits
- Public support (Based on input from the public)
- Elimination of barriers or constraints
- Improvement to problematic routes
- Accessibility to activity centers
- Connections of gaps in system
- Enhancement of quality of life
- Lack of environmental constraints
- Positive impact on children

Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

High Priority / Short Term Recommendations

The short term priorities were primarily focused on two objectives 1) Implement the projects that are low in scope and cost and somewhat easy to implement 2) Place a priority on proposed Loops and critical routes that provide the most enjoyable cycling experiences. The projects that are considered short term (high) priorities include:

Install Sharrow pavement markings along the following streets:

- Fulton Street
- Grove Street
- Jackson Street
- Mitchell Avenue
- Mocksville Avenue / Cemetery Street

Airport Road – While this is a state maintained secondary road, the City is encouraged to provide this proposed widening, sidewalk addition and edgeline striping within its City limits. The factor propelling this project to a high priority is the heavy population of low income and transportation-challenged citizens living in this area. Bicycle facilities here and along South Main Street will enhance these citizens' modal choices for safe transportation.

South Arlington Street – This street bisects major big box retail development along I-85 and Innes Street. Restriping to provide bicycle lanes will be a low cost improvement to enhance cycling along this street.

Brenner Avenue – The completion of greenway trail connections to the YMCA and Kelsey Scott Park, and from Kelsey Scott Park to the proposed greenway system north of Statesville Boulevard will provide a vital non-motor vehicle access to Catawba College and various Parks in Salisbury. Completing the minor resurfacing, striping and signing improvements to Brenner Avenue will provide cyclists with a wide, friendly lane to share the road with motorists.

Clubhouse Drive – Restripe edge lines to provide three (3) feet of width on the outside edges and install bicycle route signs from Confederate Avenue to Jackson Street.

Confederate Avenue / Maxwell Street / 13th Street – Restripe white edge line to provide two-three feet of bicycle width on the eastern end of Confederate Avenue and the entire lengths of Maxwell Street and 13th Street.

Crescent Loop (11.7 miles) - This Loop is considered a high priority due to the low cost, easily implemental improvements required to complete this Loop. Nearly all streets are suitable for cycling with no improvements other than the addition of "Share the Road" signs, and the cost incurred to widen the northern section of Innes Street (US601) is the only major cost that is necessary to incur. Streets included in this proposed Loop include:

a. Statesville Boulevard
b. Enon Church Road

c. West Ridge Road
d. West Innes Street
e. White Farm Road
f. Hidden Creek Circle
g. Hidden Creek Drive
h. Laurel Valley Way
i. Byron Drive
j. Hogans Valley Way

Family Friendly Loop (4.4 miles) – The majority of this proposed Loop makes use of Salisbury's system of greenway trails, and off-road trails provide the most user friendly options for cyclists, especially novice cyclists. The Loop will temporarily make use of Knollwood Avenue, Windsor Drive, and Sells Road until an extension of the greenway trail is made from the end of Prescot Drive. All of the other routes in this proposed Loop are discussed in this section, and improvements recommended are minimal pavement marking and signing items. Streets included in this proposed Loop are:

a. Greenway trail from south of Grove Street, northward to Mahaley Avenue
b. Mahaley Avenue
c. East Park Road
d. Greenway trail from end of East Park Road to Prescot Drive
e. Prescot Drive
f. Knollwood Avenue
g. Windsor Drive
h. Sells Road
i. West Innes Street
j. Parkview Circle
k. Grove Street

Historic Districts Tourism Loop (6.6 miles) – This project should be placed in the short term priorities due to its large impact on bicycling within Historic Downtown Salisbury and the access that it provides to basic goods and services. The initial focus should be on implementing improvements along Main Street (drainage grates) Fulton Street, West Henderson Street, and Lincolnton Road. Streets included in this proposed Loop are:

a. Henderson Street
b. Jackson Street
c. Thirteenth Street
d. Main Street
e. Fourteenth Street
f. Richard Street
g. Steele Street
h. Liberty Street
i. Lee Street
j. Monroe Street
k. Fulton Street
l. Mitchell Avenue
m. Lincolnton Road
n. Maupin Avenue

Hurley School Road – This road needs "Share the Road" signage to enhance its viability as a bicycle route. Completion of improvements to this road, along with improvements to Rowan Mill Road and Sherrill's Ford Road, will provide a bicycle friendly connection over several miles from Main Street in southwestern Salisbury to the Salisbury Community Park.

Innes Street – Widening West Innes Street in northern Salisbury from Jake Alexander Boulevard to Sells Road and adding Bicycle Route signage all the way to Stokes Ferry Road will invite cyclists to the heart of downtown Salisbury as East and West Innes Street provides gateways into the City from the north and south. Coordination with NCDOT will be necessary, and may lead to funding opportunities (more on funding below). Other sections of Innes Street are included below.

Institute Street/Wilson Road – This route is recommended to have Sharrow pavement markings. This is recommended due to the varying pavement width provided, presence of frequent on-street parking, and access from this route to two educational facilities.

Laurel Valley Way / Byron Drive / Hogans Valley Way – Install "Share the Road" signs and Loop signs.

Lee Street – Install bicycle route and loop signage along with "Share the Road" signs.

Lincolnton Road –Jake Alexander Boulevard to Fulton Street – Add edgelines and Bicycle route signage.

Mahaley Avenue – Between West Innes Street and West Henderson Street, this route is recommended to add four (4) foot wide bicycle lanes with bike symbols and signage on both sides.

Main Street – Much of the length of US29 (Main Street) is proposed for signage as a bicycle thoroughfare. This project is a low cost endeavor. However, parking and pavement marking changes in the downtown core will undoubtedly require early and often communication with the downtown merchants, possibly delaying implementation of the completion of this "gap" in the Main Street Bicycle Thoroughfare.

Martin Luther King Jr. Avenue – This major street provides access between retail and commercial areas and public housing areas. Access to Salisbury's Sports Complex and Towne Creek Park are also provided. The City recently changed the name of this street, and funding for a quick demonstration project on this street in the near term would enhance the City's reputation as a City that provides for all of its residents equally. While much of the entire length of the street is too narrow to designate bicycle lanes, the addition of Shared Lane (Sharrow) pavement markings is one option for a high priority project for the City.

West Miller Street – Strip edgelines to provide 2 to 4 feet of undesignated width along both edges and sign as Salisbury Loop.

East Park Road / West Park Road – Install bicycle route and specific loops signs.

Park Loop (5.1 miles) – For many of the same reasons as the Historic Districts Tourism Loop, the Park Loop should be placed in the short term priorities. The focus in this loop should be placed on improving Confederate Avenue, Mahaley Avenue, Grove Street, West Henderson Street, Jackson Street and Clubhouse Drive as they all work in concert with existing greenway trails to provide access to the Knox and Overton Schools, Catawba College, and four of the City's Park facilities. Improvements to Confederate Avenue and Mahaley Avenue include bicycle lanes and bike route signage and improvements at the intersection of Mahaley and East Park Street. Clubhouse Drive is recommended for edgeline and signing additions, while Grove Street is recommended for Sharrow additions. Streets included in this proposed Loop include:

a. Confederate Avenue
b. West Henderson Street
c. Pine Tree Road
d. North Road
e. Dogwood Road
f. Mocksville Avenue
g. Prescot Drive
h. Greenway trail at Prescot, southward to West Park Road
i. East Park Road / West Park Road
j. Mahaley Avenue
k. Greenway trail at Mahaley, southward to Grove Street
l. Grove Street
m. West Henderson Street
n. Jackson Street
o. West Miller Street
p. Club House Drive

Rowan Mill Road – Addition of "Share the Road" signage is recommended for this road to enhance its bicycle friendliness.

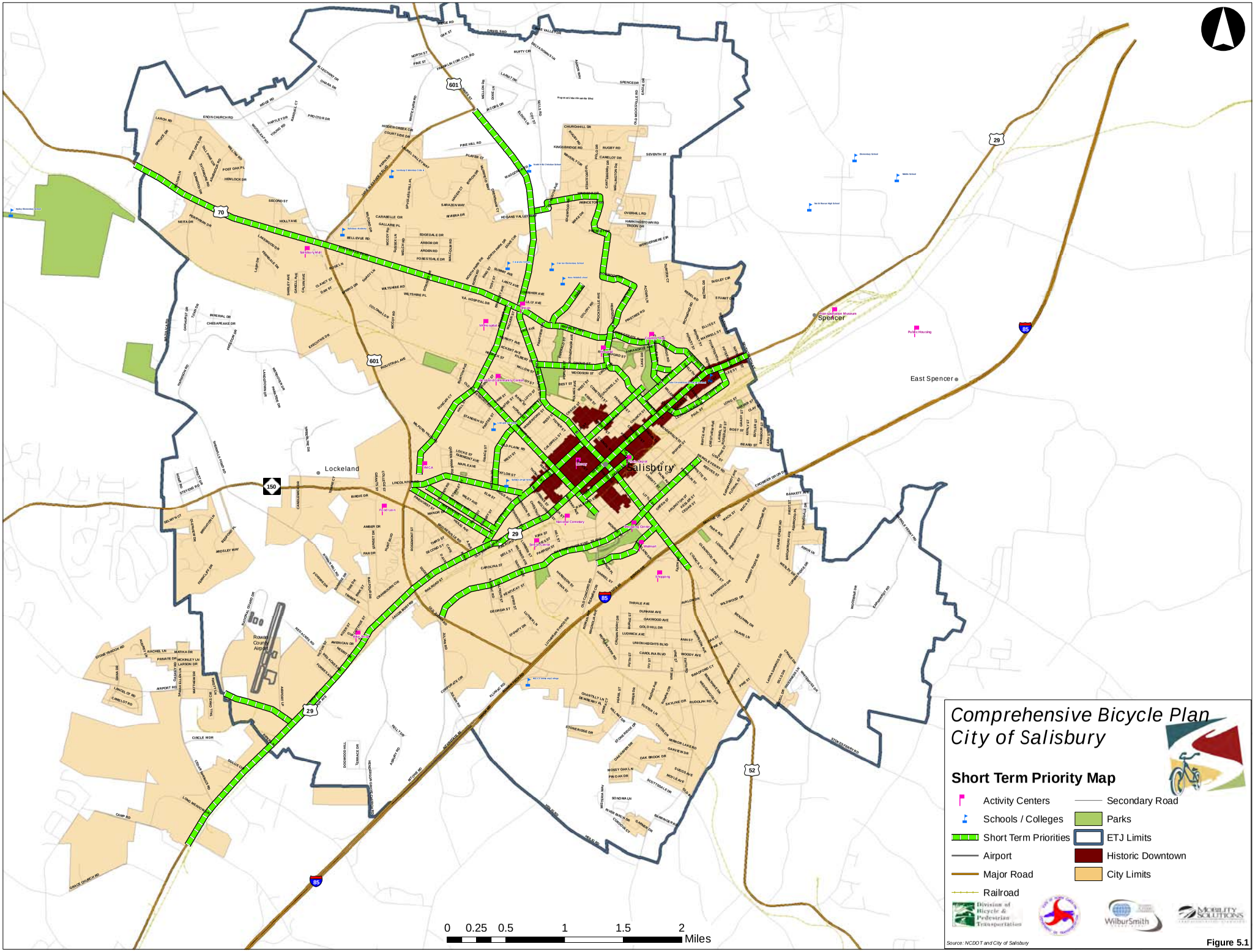
Sherrill's Ford Road – This road lies entirely outside of Salisbury's City limits and ETJ. However, cyclists have indicated they use this route currently to access the Salisbury Community Park. The addition of "Share the Road" signage to this road is needed to provide bicycle facilities along its length. This project, coupled with the recent improvements to Statesville Boulevard will open new bicycle facilities to the western reaches of Rowan County.

Statesville Boulevard – NCDOT has provided wide outside lanes for cyclists in the section that has just been widened. It has been recommended (Chapter 3) that the City evaluate the new wide outside lanes to determine if bike lanes would be more appropriate in the future. The City has a great opportunity to continue bicycle facilities eastward to Innes Street by implementing a Road Diet project. This connection will provide access from the residential areas along Statesville Boulevard to the amenities west of the City such as the Salisbury Community Park, by far the largest Park in Salisbury.

YMCA Loop (4.3 miles) – While resurfacing improvements to Monroe Street may not be completed until after the 5-year time horizon, the YMCA Loop project should still be considered a short term project. Improvements to Fulton Street, Lincolnton Road, and Mitchell Avenue involve markings and signage only. This facility will provide a connection to the Fulton Height's neighborhood amenities. Streets included in this proposed Loop include:

a. Existing Greenway along Brenner Avenue
b. Monroe Street
c. Fulton Street
d. Lincolnton Road
e. Mitchell Avenue

High Priority / Short Term Recommendations are shown in **Figure 5.1:**


Comprehensive Bicycle Plan
City of Salisbury
Short Term Priority Map
Activity Centers
Schools / Colleges
Short Term Priorities
Airport
Major Road
Railroad
Secondary Road
Parks
ETJ Limits
Historic Downtown
City Limits
Salisbury
Spencer
East Spencer
Lockeland
Rowan County Airport
0 0.25 0.5 1 1.5 2 Miles
Source: NCDOT and City of Salisbury
Figure 5.1

Medium Priority / Medium Term Recommendations
The medium term priority projects were those that fall within and outside the City's boundaries, but are more difficult to construct and provide less benefit to residents of the City. The projects that belong in this group, listed alphabetically, are:

Bringle Ferry Road – A significant amount of widening is required to provide adequate pavement widths for shared use. This route, in its present condition, is conducive for use by more experienced cyclists.

Fulton Street – Widen to 32 feet and install Sharrow pavement marking.

Gold Hill Drive – Widen to 30 feet with 4 foot paved shoulders and bike route signage.

Harrison Road – Another state maintained road in need of widening, Harrison Road is considered a favorable route for cyclists making "out and back" trips. Widening, pavement markings and signage is needed.

Heilig Road and Julian Road – Both of these roads combine to form a convenient connection from the south side of Salisbury to the commercial areas near the I-85 and Julian Road interchange. Both require widenings to provide bicycle facilities, and both are state maintained secondary roads.

West Henderson Street (widening for bike lanes) – An interim recommendation to add Sharrow pavement markings will provide for safer bicycle accommodations until funding can be secured for widening this critical bike route.

Industrial Avenue – While this wide street is an ideal candidate for restriping to add bicycle lanes, it is considered a medium priority since more costly improvements are necessary on either end of this street to establish a coordinated bicycle routing.

East Innes Street – The section of East Innes Street, from just north of Avalon Drive to Rudolph Road is recommended to have striped bicycle lanes, narrow travel lanes, and reduced speed limits in conjunction with the implementation of the Southern Connection Loop.

West Innes Street – West Ridge Road to Jake Alexander Boulevard – This northern section of Innes Street (US601) should be widened before being considered bicycle friendly.

Lincolnton Road – Mooresville Road to Jake Alexander Boulevard - Construct two 11 foot inside lanes, two 10 foot outside lanes, 10 foot center lane, 4 foot shoulder with edgeline. Also install 35 miles per hour (MPH) speed limit sign and bicycle signs.

North and South Long Street – North Long Street is recommended for a Road Diet project to establish bicycle lanes alongside three lanes of vehicular traffic. South Long Street's current width is adequate to continue this bicycle thoroughfare from East Monroe Street to the eastern City Limits of Salisbury.

South Main Street – From West Thomas Street to Kerr Street, install back-in diagonal parking and 4 foot striped bicycle lanes.

Newsome Road – Widen symmetrically to provide 12 foot travel lanes and one five foot wide bicycle lane on each side, curb and gutter with appropriate drainage, and 5 foot sidewalk along both sides from Bringle Ferry Road and Stokes Ferry Road.

Old Concord Road – Restripe 10 foot lanes and 4 foot wide bike lanes on both sides, widen to provide 11 foot lanes and 4 foot bike lanes on the narrower part.

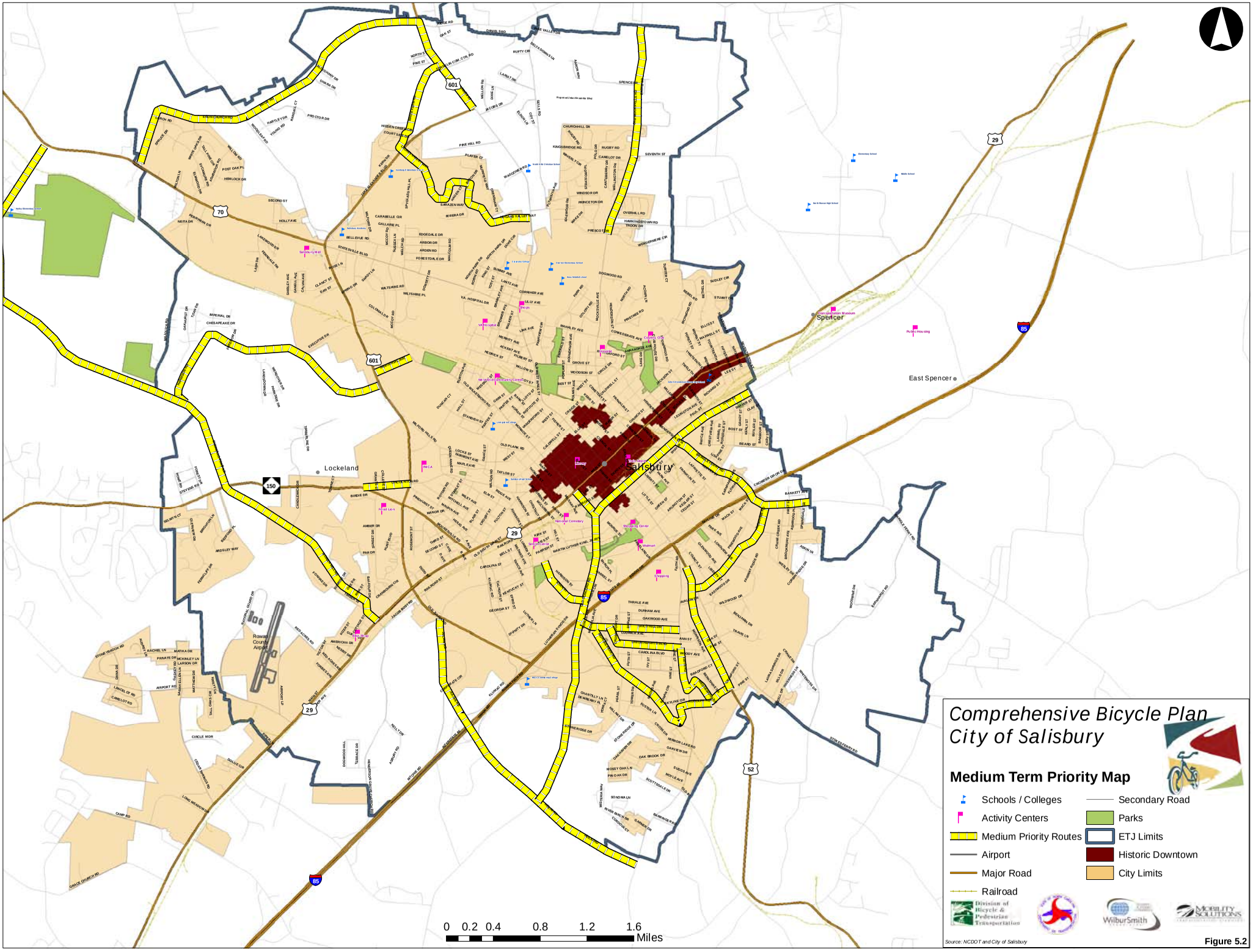
Old Mocksville Road – This state road is also in need of widening (1000 feet), but should be considered a medium priority due to its connection to the greenway system at Prescot Drive.

Ryan Street – Widen to 30 feet with 4 foot paved shoulders and bike route signage.

Southern Connection Loop (6.9 miles) – This Loop is placed in the medium term priorities due to the significant amount of road improvements required to complete this Loop. At present, this Loop would be considered a recommended route only for the most experienced cyclists. Road widenings are recommended along portions of Bringle Ferry Road, Newsome Road, Old Concord Road and Ryan Street. Coordination with NCDOT is required to accomplish many of these widenings. Completion of all improvements may take 10 or more years to complete. Streets included in this proposed Loop include:

a. Martin Luther King Jr. Avenue
b. Bringle Ferry Road
c. Newsome Road
d. East Innes Street
e. Rudolph Road
f. Pinetree Dr
g. Terrace Dr
h. Morlan Park Road
i. Old Concord Road
j. Ryan Street

The medium priority / medium term recommendations are shown in **Figure 5.2:**


Comprehensive Bicycle Plan
City of Salisbury
Medium Term Priority Map
Schools / Colleges
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Medium Priority Routes
Airport
Major Road
Railroad
Secondary Road
Parks
ETJ Limits
Historic Downtown
City Limits
Salisbury
Spencer
East Spencer
Lockeland
Rowan County Airport
0 0.2 0.4 0.8 1.2 1.6
Miles
Source: NCDOT and City of Salisbury

Figure 5.2

Lower Priority / Long Range Recommendations
The remaining projects are considered Long Range priorities. These projects lie almost solely outside of the Town limits and serve primarily medium to advanced recreational cyclists. The desire to have bicycle facilities on these routes should be considered as the area develops. The projects in this group, in alphabetical order, are:

Faith Road – Even though NCDOT will be widening a short section on the north end of this road, improvements are need much farther south. Widening the short section between Union Heights Boulevard and Stratford Road would be considered a much higher priority, short term project.

Forestdale/Welch – These streets do not need to be signed as bike routes until the greenway is connected to the dead end of Forestdale Drive.

Majolica Road – A narrow bridge over the railroad would be very costly to widen.

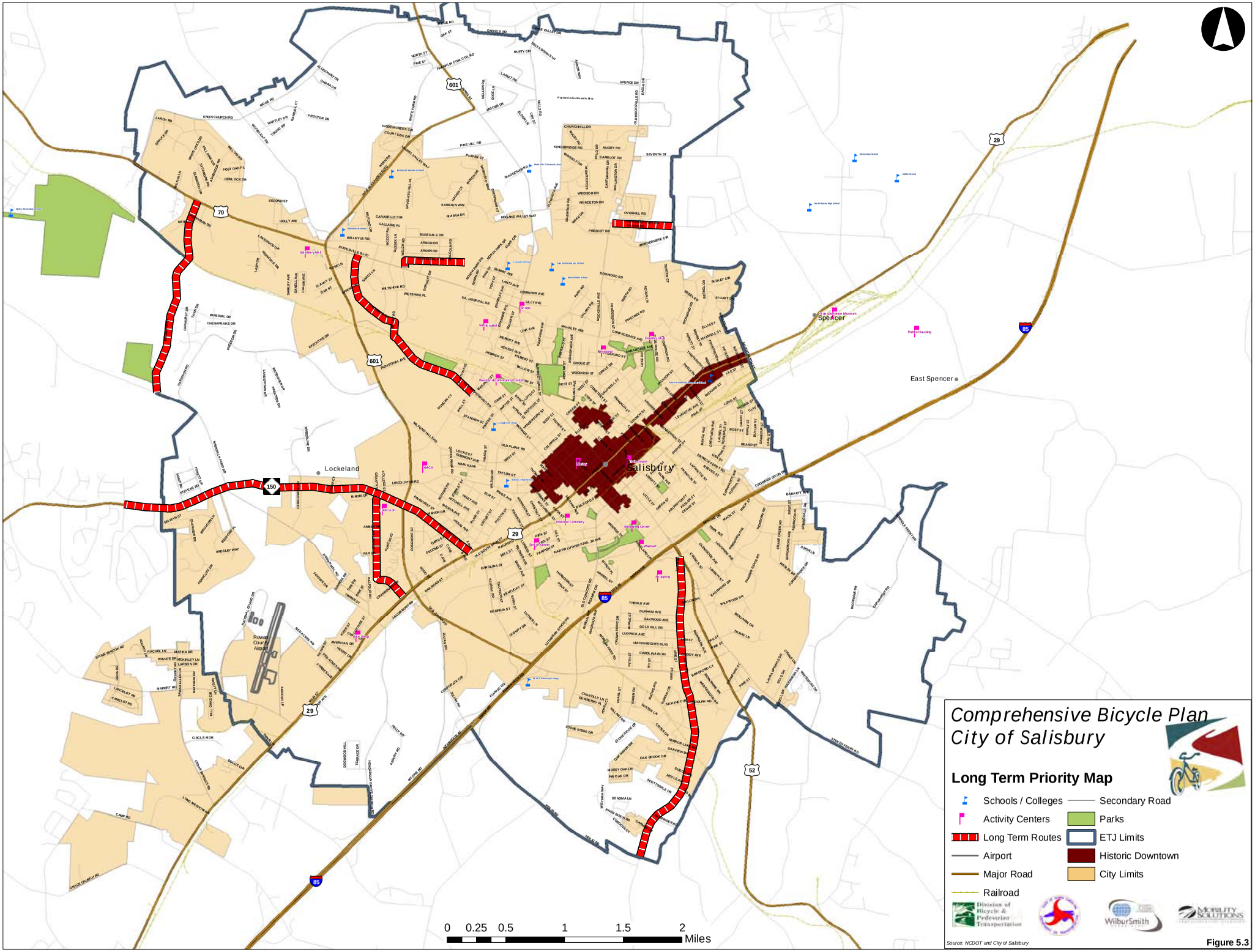
Mooresville Road – The City should wait for NCDOT to widen this road.

Old Wilkesboro Road – Construction of an extension of the Brenner Avenue Greenway Trail will provide a more conducive alternative for cyclists.

Stokes Ferry Road – This route is a low priority since it provides no connection outside of Salisbury's ETJ.

Sunset Drive – Parallel bike facilities make this widening a low priority.

The lower priority / long range recommendations are shown in **Figure 5.3:**


Salisbury
Spencer
East Spencer
Lockeland
Rowan County Airport
0 0.25 0.5 1 1.5 2 Miles
Comprehensive Bicycle Plan
City of Salisbury
Long Term Priority Map
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Long Term Routes
Airport
Major Road
Railroad
Secondary Road
Parks
ETJ Limits
Historic Downtown
City Limits
Division of Bicycle & Pedestrian Transportation
WilburSmith
Mobility Solutions
Source: NCDOT and City of Salisbury

Figure 5.3

5.2 FUNDING SOURCES

Local, state, federal, and private funding is available to support the planning, construction, right of way acquisition and maintenance of bicycle and pedestrian facilities. Available funding sources are related to a variety of purposes including transportation, water quality, hazard mitigation, recreation, air quality, wildlife protection, community health, and economic development. This section identifies a list of some of the bicycle and pedestrian facility funding opportunities available through federal, state, nonprofit and corporate sources. An important key to obtaining funding is for local governments to have adopted plans for greenway, bicycle, and pedestrian or trail systems in place prior to making an application for funding.

Funding Allocated by State Agencies

Funding Opportunities through NCDOT:

Bicycle and Pedestrian Independent Projects Funded through the Transportation Improvement Program (TIP) - In North Carolina, the Department of Transportation, Division of Bicycle and Pedestrian Transportation (DBPT) manages the Transportation Improvement Program (TIP) selection process for bicycle and pedestrian projects.

Projects programmed into the TIP are independent projects – those which are not related to a scheduled highway project. Incidental projects – those related to a scheduled highway project – are handled through other funding sources described in this section.

A total of $6 million is annually set aside for the construction of bicycle improvements that are independent of scheduled highway projects in communities throughout the state. Eighty percent of these funds are from STP-Enhancement funds[1], while the State Highway Trust provides the remaining 20 percent of the funding.

Each year, the DBPT regularly sets aside a total of $200,000 of TIP funding for the department to fund projects such as training workshops, pedestrian safety and research projects, and other pedestrian needs statewide. Those interested in learning about training workshops, research and other opportunities should contact the DBPT for information.

A total of $5.3 million dollars of TIP funding is available for funding various bicycle and pedestrian independent projects, including the construction of multi-use trails, the striping of bicycle lanes, and other low cost improvements. Prospective applicants are encouraged to contact the DBPT regarding funding assistance for bicycle and pedestrian

[1] After various administrative adjustments for programs within the Surface Transportation Program, or "STP", there is a 10% set-aside for Transportation Enhancements. The 10% set-aside is allocated within NCDOT to internal programs such as the Bicycle/Pedestrian Division, the Rail Division, the Roadside Environmental Unit, and others. The Enhancement Unit administers a portion of the set-aside through the Call for Projects process.

projects. For a detailed description of the TIP project selection process, visit: http://www.ncdot.org/transit/bicycle/funding/funding_TIP.html.

Incidental Projects – Bicycle and pedestrian accommodations such as bike lanes, widened paved shoulders, sidewalks and bicycle-safe bridge design are frequently included as incidental features of highway projects. In addition, bicycle-safe drainage grates are a standard feature of all highway construction. Most bicycle and pedestrian safety accommodations built by NCDOT are included as part of scheduled highway improvement projects funded with a combination of National Highway System funds and State Highway Trust Funds.

Sidewalk Program – Each year, a total of $1.4 million in STP-Enhancement funding is set aside for sidewalk construction, maintenance and repair. Each of the 14 highway divisions across the state receives $100,000 annually for this purpose. Funding decisions are made by the district engineer. Prospective applicants are encouraged to contact their district engineer for information on how to apply for funding.

Governor's Highway Safety Program (GHSP) – The mission of the GHSP is to promote highway safety awareness and reduce the number of traffic crashes in the state of North Carolina through the planning and execution of safety programs. GHSP funding is provided through an annual program, upon approval of specific project requests. Amounts of GHSP funds vary from year to year, according to the specific amounts requested. Communities may apply for a GHSP grant to be used as seed money to start a program to enhance highway safety. Once a grant is awarded, funding is provided on a reimbursement basis. Evidence of reductions in crashes, injuries, and fatalities is required. For information on applying for GHSP funding, visit: www.ncdot.org/programs/ghsp/.

Safe Routes to School Program, managed by NCDOT, DBPT - The NCDOT Safe Routes to School Program (SRTS) is a federally funded program that was initiated by the passing of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) in 2005, which establishes a national SRTS program to distribute funding and institutional support to implement SRTS programs in states and communities across the country. SRTS programs facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. The Division of Bicycle and Pedestrian Transportation at NCDOT is charged with disseminating SRTS funding.

The state of North Carolina has been allocated $15 million in Safe Routes to School funding for fiscal years 2005 through 2009 for infrastructure or non-infrastructure projects. All proposed projects must relate to increasing walking or biking to and from an elementary or middle school. An example of a non-infrastructure project is an education or encouragement program to improve rates of walking and biking to school. An example of an infrastructure project is construction of sidewalks around a school. Infrastructure improvements under this program must be made within 2 miles of an elementary or middle school. The state requires the completion of a competitive application to apply for funding. For more information, visit www.ncdot.org/programs/safeRoutes/ or contact Leza Mundt at DBPT/NCDOT, (919) 807-0774.

Transportation Enhancement Call for Projects, EU, NCDOT - The Enhancement Unit administers a portion of the enhancement funding set-aside through the Call for Projects process. In North Carolina the Enhancement Program is a federally funded cost reimbursement program with a focus upon improving the transportation experience in and through local North Carolina communities either culturally, aesthetically, or environmentally. The program seeks to encourage diverse modes of travel, increase benefits to communities and to encourage citizen involvement. This is accomplished through the following twelve qualifying activities:

1. Bicycle and Pedestrian Facilities
2. Bicycle and Pedestrian Safety
3. Acquisition of Scenic Easements, Scenic or Historic Sites
4. Scenic or Historic Highway Programs (including tourist or welcome centers)
5. Landscaping and other Scenic Beautification
6. Historic Preservation
7. Rehabilitation of Historic Transportation Facilities
8. Preservation of Abandoned Rail Corridors
9. Control of Outdoor Advertising
10. Archaeological Planning and Research
11. Environmental Mitigation
12. Transportation Museums

Funds are allocated based on an equity formula approved by the Board of Transportation. The formula is applied at the county level and aggregated to the regional level. Available fund amount varies. In previous calls, the funds available ranged from $10 million to $22 million.

The call process takes place on even numbered years or as specified by the Secretary of Transportation. The next call is anticipated to take place in 2008, barring financial constraints related to federal rescissions resulting from the war on terror and Hurricane Katrina. For more information, visit: www.ncdot.org/financial/fiscal/Enhancement/

Funding Opportunities from Other State Agencies:

The Carolina Thread Trail is a regional network of greenways and trails that will link people, places, cities, towns, and attractions in two states (NC and SC). The trail will reach 15 counties and approximately 2.3 million people. To date, $15 Million in private funds have been raised, with a goal of $25 Million. For more information, visit: www.carolinathreadtrail.org

Funding Available Through North Carolina Metropolitan Planning Organizations (MPO's) - MPO's in North Carolina which are located in air quality nonattainment or maintenance areas have the authority to program Congestion Mitigation Air Quality (CMAQ) funds. CMAQ funding is intended for projects that reduce transportation related emissions. Some NC MPO's have chosen to use the CMAQ funding for bicycle and pedestrian projects. Local governments in air quality nonattainment or maintenance area should contact their MPO for information on CMAQ funding opportunities for bicycle and pedestrian facilities.

The North Carolina Conservation Tax Credit (managed by NCDENR) - This program, managed by the North Carolina Department of Environment and Natural Resources, provides an incentive (in the form of an income tax credit) for landowners that donate interests in real property for conservation purposes. Property donations can be fee simple or in the form of conservation easements or bargain sale. The goal of this program is to manage stormwater, protect water supply watersheds, retain working farms and forests, and set-aside greenways for ecological communities, public trails, and wildlife corridors. For more information, visit: www.enr.state.nc.us/conservationtaxcredit/

Land and Water Conservation Fund (LWCF) -The Land and Water Conservation Fund (LWCF) program is a reimbursable, 50/50 matching grants program to states for conservation and recreation purposes, and through the states to local governments to address "close to home" outdoor recreation needs. LWCF grants can be used by communities to build a trail within one park site, if the local government has fee-simple title to the park site. Grants for a maximum of $250,000 in LWCF assistance are awarded yearly to county governments, incorporated municipalities, public authorities and federally recognized Indian tribes. The local match may be provided with in-kind services or cash. The program's funding comes primarily from offshore oil and gas drilling receipts, with an authorized expenditure of $900 million each year. However, Congress generally appropriates only a small fraction of this amount. The allotted money for the year 2007 is $632,846.

The Land and Water Conservation Fund (LWCF) has historically been a primary funding source of the US Department of the Interior for outdoor recreation development and land acquisition by local governments and state agencies. In North Carolina, the program is administered by the Department of Environment and Natural Resources. Since 1965, the LWCF program has built a permanent park legacy for present and future generations. In North Carolina alone, the LWCF program has provided more than $63 million in matching grants to protect land and support more than 800 state and local park projects. More than 37,000 acres have been acquired with LWCF assistance to establish a park legacy in our state. For more information, visit: http://ils.unc.edu/parkproject/lwcf/home1.html

NC Adopt-A-Trail Grant Program - This program, operated by the Trails Section of the NC Division of State Parks, offers annual grants to local governments to build, renovate, maintain, sign and map and create brochures for pedestrian trails. Grants are generally capped at about $5,000 per project and do not require a match. A total of $108,000 in Adopt-A-Trail money is awarded annually to government agencies. Applications are due during the month of February. For more information, visit : *http://ils.unc.edu/parkproject/trails/grant.html*.

Recreational Trails Program - The Recreational Trails Program (RTP) is a grant program funded by Congress with money from the federal gas taxes paid on fuel used by off-highway vehicles. This program's intent is to meet the trail and trail-related recreational needs identified by the Statewide Comprehensive Outdoor Recreation Plan. Grant applicants must be able contribute 20% of the project cost with cash or in-kind contributions. The program is managed by the State Trails Program, which is a section of the N.C. Division of Parks and Recreation.

The grant application is available and instruction handbook is available through the State Trails Program website at http://ils.unc.edu/parkproject/trails/home.html. Applications are due during the month of February. For more information, call (919) 715-8699.

North Carolina Parks and Recreation Trust Fund (PARTF) - The fund was established in 1994 by the North Carolina General Assembly and is administered by the Parks and Recreation Authority. Through this program, several million dollars each year are available to local governments to fund the acquisition, development and renovation of recreational areas. Applicable projects require a 50/50 match from the local government. Grants for a maximum of $500,000 are awarded yearly to county governments or incorporated municipalities. The fund is fueled by money from the state's portion of the real estate deed transfer tax for property sold in North Carolina.

The trust fund is allocated three ways:

- 65 percent to the state parks through the N.C. Division of Parks and Recreation.
- 30 percent as dollar-for dollar matching grants to local governments for park and recreation purposes.
- 5 percent for the Coastal and Estuarine Water Access Program.

For information on how to apply, visit:: www.partf.net/learn.html

Powell Bill Program - Annually, State street-aid (Powell Bill) allocations are made to incorporated municipalities which establish their eligibility and qualify as provided by statute. This program is a state grant to municipalities for the purposes of maintaining, repairing, constructing, reconstructing or widening of local streets that are the responsibility of the municipalities or for planning, construction, and maintenance of bikeways or sidewalks along public streets and highways. Funding for this program is collected from fuel taxes. Amount of funds are based on population and mileage of town-maintained streets. For more information, visit *www.ncdot.org/financial/fiscal/ExtAuditBranch/Powell_Bill/powellbill.html*.

Clean Water Management Trust Fund - This fund was established in 1996 and has become one of the largest sources of money in North Carolina for land and water protection. At the end of each fiscal year, 6.5 percent of the unreserved credit balance in North Carolina's General Fund, or a minimum of $30 million, is placed in the CWMTF. The revenue of this fund is allocated as grants to local governments, state agencies and conservation non-profits to help finance projects that specifically address water pollution problems. CWMTF funds may be used to establish a network of riparian buffers and greenways for environmental, educational, and recreational benefits. The fund has provided funding for land acquisition of numerous greenway projects featuring trails, both paved and unpaved. For a history of awarded grants in North Carolina and more information about this fund and applications, visit www.cwmtf.net/

Natural Heritage Trust Fund - This trust fund, managed by the NC Natural Heritage Program, has contributed millions of dollars to support the conservation of North Carolina's most significant natural areas and cultural heritage sites. The NHTF is used to acquire and protect land that has significant habitat value. Some large wetland areas may also qualify, depending on their biological integrity and characteristics. Only certain state agencies are eligible to apply for this fund, including the Department of Environment and Natural Resources, the Wildlife Resources Commission, the Department of Cultural Resources and the Department of Agriculture and Consumer

Services. As such, municipalities must work with State level partners to access this fund. Additional information is available from the NC Natural Heritage Program. For more information and grant application information, visit www.ncnhtf.org/

North Carolina Conservation Tax Credit Program - North Carolina has a unique incentive program to assist land-owners to protect the environment and the quality of life. A credit is allowed against individual and corporate income taxes when real property is donated for conservation purposes. Interests in property that promote specific public benefits may be donated to a qualified recipient. Such conservation donations qualify for a substantial tax credit. For more information, visit: www.enr.state.nc.us/conservationtaxcredit/

Urban and Community Forestry Assistance Program - This program offers small grants that can be used to plant urban trees, establish a community arboretum, or other programs that promote tree canopy in urban areas. The program operates as a cooperative partnership between the NC Division of Forest Resources and the USDA Forest Service, Southern Region. To qualify for this program, a community must pledge to develop a street-tree inventory, a municipal tree ordinance, a tree commission, and an urban forestry-management plan. All of these can be funded through the program. For more information, contact the NC Division of Forest Resources. For more information and a grant application, contact the NC Division of Forest Resources and/or visit http://www.dfr.state.nc.us/urban/urban_grantprogram.htm

Ecosystem Enhancement Program - Developed in 2003 as a new mechanism to facilitate improved mitigation projects for NC highways, this program offers funding for restoration projects and for protection projects that serve to enhance water quality and wildlife habitat in NC. Information on the program is available by contacting the Natural Heritage Program in the NC Department of Environment and Natural Resources (NCDENR). For more information, visit *www.nceep.net/pages/partners.html* or call 919-715-0476.

Conservation Reserve Enhancement Program (CREP) - This program is a joint effort of the North Carolina Division of Soil and Water Conservation, the NC Clean Water Management Trust Fund, the Ecosystem Enhancement Program (EEP), and the Farm Service Agency - United States Department of Agriculture (USDA) to address water quality problems of the Neuse, Tar-Pamlico and Chowan river basins as well as the Jordan Lake watershed area.

CREP is a voluntary program that seeks to protect land along watercourses that is currently in agricultural production. The objectives of the program include: installing 100,000 acres of forested riparian buffers, grassed filter strips and wetlands; reducing the impacts of sediment and nutrients within the targeted area; and providing substantial ecological benefits for many wildlife species that are declining in part as a result of habitat loss. Program funding will combine the Federal Conservation Reserve Program (CRP) funding with State funding from the Clean Water Management Trust Fund, Agriculture Cost Share Program, and North Carolina Wetlands Restoration Program.

The program is managed by the NC Division of Soil and Water Conservation. For more information, visit www.enr.state.nc.us/dswc/pages/crep.html

Agriculture Cost Share Program - Established in 1984, this program assists farmers with the cost of installing best management practices (BMP's) that benefit water quality. The

program covers as much as 75 percent of the costs to implement BMP's. The NC Division of Soil and Water Conservation within the NC Department of Environment and Natural Resources administers this program through local Soil and Water Conservation Districts (SWCD). For more information, visit www.enr.state.nc.us/DSWC/pages/agcostshareprogram.html or call 919-733-2302.

Water Resources Development Grant Program - The NC Division of Water Resources offers cost-sharing grants to local governments on projects related to water resources. Of the seven project application categories available, the category which relates to the establishment of greenways is "Land Acquisition and Facility Development for Water-Based Recreation Projects." Applicants may apply for funding for a greenway as long as the greenway is in close proximity to a water body. For more information, see: www.ncwater.org/Financial_Assistance or call 919-733-4064.

Small Cities Community Development Block Grants - State level funds are allocated through the NC Department of Commerce, Division of Community Assistance to be used to promote economic development and to serve low-income and moderate-income neighborhoods. Greenways that are part of a community's economic development plans may qualify for assistance under this program. Recreational areas that serve to improve the quality of life in lower income areas may also qualify. Approximately $50 million is available statewide to fund a variety of projects. For more information, visit www.hud.gov/offices/cpd/communitydevelopment/programs/stateadmin/ or call 919-733-2853.

North Carolina Health and Wellness Trust Fund - The NC Health and Wellness Trust Fund was created by the General Assembly as one of 3 entities to invest North Carolina's portion of the Tobacco Master Settlement Agreement. HWTF receives one-fourth of the state's tobacco settlement funds, which are paid in annual installments over a 25-year period.

Fit Together, a partnership of the NC Health and Wellness Trust Fund (HWTF) and Blue Cross and Blue Shield of North Carolina (BCBSNC) announces the establishment of Fit Community, a designation and grant program that recognizes and rewards North Carolina communities' efforts to support physical activity and healthy eating initiatives, as well as tobacco-free school environments. Fit Community is one component of the jointly sponsored Fit Together initiative, a statewide prevention campaign designed to raise awareness about obesity and to equip individuals, families and communities with the tools they need to address this important issue.

All North Carolina municipalities and counties are eligible to apply for a Fit Community designation, which will be awarded to those that have excelled in supporting the following:
- Physical activity in the community, schools, and workplaces
- Healthy eating in the community, schools, and workplaces
- Tobacco use prevention efforts in schools

Designations will be valid for two years, and designated communities may have the opportunity to reapply for subsequent two-year extensions. The benefits of being a Fit Community include:

• heightened statewide attention that can help bolster local community development and/or economic investment initiatives (highway signage and a plaque for the Mayor's or County Commission Chair's office will be provided)
• Reinvigoration of a community's sense of civic pride (each Fit Community will serve as a model for other communities that are trying to achieve similar goals)
• use of the Fit Community designation logo for promotional and communication purposes. The application for Fit Community designation is available on the Fit Together Web site: www.FitTogetherNC.org/FitCommunity.aspx.

Fit Community grants are designed to support innovative strategies that help a community meet its goal to becoming a Fit Community. Eight to nine, two-year grants of up to $30,000 annually will be awarded to applicants that have a demonstrated need, proven capacity, and opportunity for positive change in addressing physical activity and/or healthy eating. For more information, visit: www.healthwellnc.com/

The North Carolina Division of Forest Resources - Urban and Community Forestry Grant can provide funding for a variety of projects that will help toward planning and establishing street trees as well as trees for urban open space. See: *http://www.dfr.state.nc.us/urban/urban_ideas.htm*

Funding Allocated by Federal Agencies
Wetlands Reserve Program
This federal funding source is a voluntary program offering technical and financial assistance to landowners who want to restore and protect wetland areas for water quality and wildlife habitat. The US Department of Agriculture's Natural Resource Conservation Service (USDA-NRCS) administers the program
and provides direct payments to private landowners who agree to place sensitive wetlands under permanent easements. This program can be used to fund the protection of open space and greenways within riparian corridors. For more information, visit http://www.nrcs.usda.gov/PROGRAMS/wrp/

The Community Development Block Grant (HUD-CDBG)
The U.S. Department of Housing and Urban Development (HUD) offers financial grants to communities for neighborhood revitalization, economic development, and improvements to community facilities and services, especially in low and moderate income areas. Several communities have used HUD funds to develop greenways, including the Boulding Branch Greenway in High Point, North Carolina. Grants from this program range from $50,000 to $200,000 and are either made to municipalities or non-profits. There is no formal application process. For more information, visit: www.hud.gov/offices/cpd/communitydevelopment/programs/

USDA Rural Business Enterprise Grants
Public and private nonprofit groups in communities with populations under 50,000 are eligible to apply for grant assistance to help their local small business environment. $1 million is available for North Carolina on an annual basis and may be used for sidewalk and other community facilities. For more information from the local USDA Service Center, visit: http://www.rurdev.usda.gov/rbs/busp/rbeg.htm

Rivers Trails and Conservation Assistance Program (RTCA)
The Rivers, Trails, and Conservation Assistance Program, also known as the Rivers & Trails Program or RTCA, is the community assistance arm of the National Park Service. RTCA staff provide technical assistance to community groups and local, State, and federal government agencies so they can conserve rivers, preserve open space, and develop trails and greenways. The RTCA program implements the natural resource conservation and outdoor recreation mission of the National Park Service in communities across America

Although the program does not provide funding for projects, it does provide valuable on-the-ground technical assistance, from strategic consultation and partnership development to serving as liaison with other government agencies. Communities must apply for assistance. For more information, visit: www.nps.gov/ncrc/programs/rtca/
or call Chris Abbett, Program Leader, at 404-562-3175 ext. 522.

Public Lands Highways Discretionary Fund
The Federal Highway Administration administers discretionary funding for projects that will reduce congestion and improve air quality. The FHWA issues a call for projects to disseminate this funding. The FHWA estimates that the PLHD funding for the 2007 call will be $85 million. In the past, Congress has earmarked a portion of the total available funding for projects. For information on how to apply, visit: http://www.fhwa.dot.gov/discretionary/

Local Funding Sources
Municipalities often plan for the funding of pedestrian facilities or improvements through development of Capital Improvement Programs (CIP). In Raleigh, for example, the greenways system has been developed over many years through a dedicated source of annual funding that has ranged from $100,000 to $500,000, administered through the Recreation and Parks Department. CIP's should include all types of capital improvements (water, sewer, buildings, streets, etc.) versus programs for single purposes. This allows municipal decision-makers to balance all capital needs. Typical capital funding mechanisms include the following: capital reserve fund, capital protection ordinances, municipal service district, tax increment financing, taxes, fees, and bonds. Each of these categories are described below.

Capital Reserve Fund
Municipalities have statutory authority to create capital reserve funds for any capital purpose, including pedestrian facilities. The reserve fund must be created through ordinance or resolution that states the purpose of the fund, the duration of the fund, the approximate amount of the fund, and the source of revenue for the fund. Sources of revenue can include general fund allocations, fund balance allocations, grants and donations for the specified use.

Capital Project Ordinances
Municipalities can pass Capital Project Ordinances that are project specific. The ordinance identifies and makes appropriations for the project.

Municipal Service District
Municipalities have statutory authority to establish municipal service districts, to levy a property tax in the district additional to the citywide property tax, and to use the proceeds to provide services in the district. Downtown revitalization projects are one of the eligible uses of service districts.

Tax increment financing
Tax increment financing is a tool to use future gains in taxes to finance the current improvements that will create those gains. When a public project, such as the construction of a greenway, is carried out, there is an increase in the value of surrounding real estate. Oftentimes, new investment in the area follows such a project. This increase sit value and investment creates more taxable property, which increases tax revenues. These increased revenues can be referred to as the "tax increment." Tax Increment Financing dedicates that increased revenue to finance debt issued to pay for the project. TIF is designed to channel funding toward improvements in distressed or underdeveloped areas where development would not otherwise occur. TIF creates funding for public projects that may otherwise be unaffordable to localities. The large majority of states have enabling legislation for tax increment financing.

Installment Purchase Financing
As an alternative to debt financing of capital improvements, communities can execute installment/ lease purchase contracts for improvements. This type of financing is typically used for relatively small projects that the seller or a financial institution is willing to finance or when up-front funds are unavailable. In a lease purchase contract the community leases the property or improvement from the seller or financial institution.

The lease is paid in installments that include principal, interest, and associated costs. Upon completion of the lease period, the community owns the property or improvement. While lease purchase contracts are similar to a bond, this arrangement allows the community to acquire the property or improvement without issuing debt. These instruments, however, are more costly than issuing debt.

Taxes

Many communities have raised money through self-imposed increases in taxes and bonds. For example, Pinellas County residents in Florida voted to adopt a one-cent sales tax increase, which provided an additional $5 million for the development of the overwhelmingly popular Pinellas Trail. Sales taxes have also been used in Allegheny County, Pennsylvania, and in Boulder, Colorado to fund open space projects. A gas tax is another method used by some municipalities to fund public improvements. A number of taxes provide direct or indirect funding for the operations of local governments. Some of them are:

Sales Tax

In North Carolina, the state has authorized a sales tax at the state and county levels. Local governments that choose to exercise the local option sales tax (all counties currently do), use the tax revenues to provide funding for a wide variety of projects and activities. Any increase in the sales tax, even if applying to a single county, must gain approval of the state legislature. In 1998, Mecklenburg County was granted authority to institute a one-half cent sales tax increase for mass transit.

Property Tax

Property taxes generally support a significant portion of a municipality's activities. However, the revenues from property taxes can also be used to pay debt service on general obligation bonds issued to finance greenway system acquisitions. Because of limits imposed on tax rates, use of property taxes to fund greenways could limit the municipality's ability to raise funds for other activities. Property taxes can provide a steady stream of financing while broadly distributing the tax burden. In other parts of the country, this mechanism has been popular with voters as long as the increase is restricted to parks and open space. Note, other public agencies compete vigorously for these funds, and taxpayers are generally concerned about high property tax rates.

Excise Taxes

Excise taxes are taxes on specific goods and services. These taxes require special legislation and the use of the funds generated through the tax are limited to specific uses. Examples include lodging, food, and beverage taxes that generate funds for promotion of tourism, and the gas tax that generates revenues for transportation related activities.

Occupancy Tax
The NC General Assembly may grant towns the authority to levy occupancy tax on hotel and motel rooms. The act granting the taxing authority limits the use of the proceeds, usually for tourism-promotion purposes.

Fees
Three fee options that have been used by local governments to assist in funding pedestrian and bicycle facilities are listed here:

Stormwater Utility Fees
Greenway sections may be purchased with stormwater fees, if the property in question is used to mitigate floodwater or filter pollutants. Stormwater charges are typically based on an estimate of the amount of impervious surface on a user's property. Impervious surfaces (such as rooftops and paved areas) increase both the amount and rate of stormwater runoff compared to natural conditions. Such surfaces cause runoff that directly or indirectly discharge into public storm drainage facilities and creates a need for stormwater management services. Thus, users with more impervious surface are charged more for stormwater service than users with less impervious surface. The rates, fees, and charges collected for stormwater management services may not exceed the costs incurred to provide these services. The costs that may be recovered through the stormwater rates, fees, and charges includes any costs necessary to assure that all aspects of stormwater quality and quantity are managed in accordance with federal and state laws, regulations, and rules.

Streetscape Utility Fees
Streetscape Utility Fees could help support streetscape maintenance of the area between the curb and the property line through a flat monthly fee per residential dwelling unit. Discounts would be available for senior and disabled citizens. Non-residential customers would be charged a per foot fee based on the length of frontage on streetscape improvements. This amount could be capped for non-residential customers with extremely large amounts of street frontage. The revenues raised from Streetscape Utility fees would be limited by ordinance to maintenance (or construction and maintenance) activities in support of the streetscape.

Impact Fees
Developers can be required to provide greenway impact fees through local enabling legislation. Impact fees, which are also known as capital contributions, facilities fees, or system development charges, are typically collected from developers or property owners at the time of building permit issuance to pay for capital improvements that provide capacity to serve new growth. The intent of these fees is to avoid burdening existing customers with the costs of providing capacity to serve new growth ("growth pays its own way"). Greenway impact fees are designed to reflect the costs incurred to provide sufficient capacity in the system to meet the additional needs of a growing community. These charges are set in a fee schedule applied uniformly to all new development. Communities that institute impact fees must develop a sound financial model that enables policy makers to justify fee levels for different user groups, and to ensure that revenues generated meet (but do not exceed) the needs of development. Factors used to determine an appropriate impact fee amount can include: lot size, number of occupants, and types of subdivision improvements. If Holly Springs is interested in pursuing open space impact fees, it will require enabling legislation to authorize the collection of the fees.

Exactions
Exactions are similar to impact fees in that they both provide facilities to growing communities. The difference is that through exactions it can be established that it is the responsibility of the developer to build the greenway or pedestrian facility that crosses through the property, or adjacent to the property being developed.

In-Lieu-Of Fees
As an alternative to requiring developers to dedicate on-site greenway sections that would serve their development, some communities provide a choice of paying a front-end charge for off-site protection of pieces of the larger system. Payment is generally a condition of development approval and recovers the cost of the off-site land acquisition or the development's proportionate share of the cost of a regional facility serving a larger area. Some communities prefer in-lieu-of fees. This alternative allows community staff to purchase land worthy of protection rather than accept marginal land that meets the quantitative requirements of a developer dedication but falls a bit short of qualitative interests.

Bonds and Loans
Bonds have been a very popular way for communities across the country to finance their projects. A number of bond options are listed below. Contracting with a private consultant to assist with this program may be advisable. Since bonds rely on the support of the voting population, an education and awareness program should be implemented prior to any vote. Billings, Montana used the issuance of a bond in the amount of $599,000 to provide the matching funds for several of their TEA-21 enhancement dollars. Austin, Texas has also used bond issues to fund a portion of their bicycle and trail system.

Revenue Bonds
Revenue bonds are bonds that are secured by a pledge of the revenues from a certain local government activity. The entity issuing bonds, pledges to generate sufficient revenue annually to cover the program's operating costs, plus meet the annual debt service requirements (principal and interest payment). Revenue bonds are not constrained by the debt ceilings of general obligation bonds, but they are generally more expensive than general obligation bonds.

General Obligation Bonds
Cities, counties, and service districts generally are able to issue general obligation (G.O.) bonds that are secured by the full faith and credit of the entity. In this case, the local government issuing the bonds pledges to raise its property taxes, or use any other sources of revenue, to generate sufficient revenues to make the debt service payments on the bonds. A general obligation pledge is stronger than a revenue pledge, and thus may carry a lower interest rate than a revenue bond. Frequently, when local governments issue G.O. bonds for public enterprise improvements, the public enterprise will make the debt service payments on the G.O. bonds with revenues generated through the public entity's rates and charges. However, if those rate revenues are insufficient to make the debt payment, the local government is obligated to raise taxes or use other sources of revenue to make the payments. G.O. bonds distribute the costs of land acquisition and greenway development and make funds available for immediate purchases and projects. Voter approval is required.

Special Assessment Bonds
Special assessment bonds are secured by a lien on the property that benefits by the improvements funded with the special assessment bond proceeds. Debt service payments on these bonds are funded through annual assessments to the property owners in the assessment area.

State Revolving Fund (SRF) Loans
Initially funded with federal and state money, and continued by funds generated by repayment of earlier loans, State Revolving Funds (SRF's) provide low interest loans for local governments to fund water pollution control and water supply related projects including many watershed management activities. These loans typically require a revenue pledge, like a revenue bond, but carry a below market interest rate and limited term for debt repayment (20 years).

Other Local Options

Facility Maintenance Districts
Facility Maintenance Districts (FMD's) can be created to pay for the costs of on-going maintenance of public facilities and landscaping within the areas of the Town where improvements have been concentrated and where their benefits most directly benefit business and institutional property owners. An FMD is needed in order to assure a sustainable maintenance program. Fees may be based upon the length of lot frontage along streets where improvements have been installed, or upon other factors such as the size of the parcel. The program supported by the FMD should include regular maintenance of streetscape of off road trail improvements. The municipality can initiate public outreach efforts to merchants, the Chamber of Commerce, and property owners. In these meetings, Town staff will discuss the proposed apportionment and allocation methodology and will explore implementation strategies.

The municipality can manage maintenance responsibilities either through its own staff or through private contractors.

Partnerships
Another method of funding pedestrian systems and greenways is to partner with public agencies and private companies and organizations. Partnerships engender a spirit of cooperation, civic pride and community participation. The key to the involvement of private partners is to make a compelling argument for their participation. Major employers and developers should be identified and provided with a "Benefits of Walking"-type handout for themselves and their employees. Very specific routes that make critical connections to place of business would be targeted for private partners' monetary support following a successful master planning effort. Potential partners include major employers which are located along or accessible to pedestrian facilities such as multi-use paths or greenways. Name recognition for corporate partnerships would be accomplished through signage trail heads or interpretive signage along greenway systems. Utilities often make good partners and many trails now share corridors with them. Money raised from providing an easement to utilities can help defray the costs of maintenance. It is important to have a lawyer review the legal agreement and verify ownership of the subsurface, surface or air rights in order to enter into an agreement.

Local Trail Sponsors
A sponsorship program for trail amenities allows smaller donations to be received from both individuals and businesses. Cash donations could be placed into a trust fund to be accessed for certain construction or acquisition projects associated with the greenways and open space system. Some recognition of the donors is appropriate and can be accomplished through the placement of a plaque, the naming of a trail segment, and/or special recognition at an opening ceremony. Types of gifts other than cash could include donations of services, equipment, labor, or reduced costs for supplies.

Volunteer Work
It is expected that many citizens will be excited about the development of a greenway corridor. Individual volunteers from the community can be brought together with groups of volunteers form church groups, civic groups, scout troops and environmental groups to work on greenway development on special community work days. Volunteers can also be used for fund-raising, maintenance, and programming needs.
Private Foundations and Organizations

Many communities have solicited greenway funding assistance from private foundations and other conservation-minded benefactors. Below are a few examples of private funding opportunities available in North Carolina.

Land for Tomorrow Campaign
Land for Tomorrow is a diverse partnership of businesses, conservationists, farmers, environmental groups, health professionals and community groups committed to securing support from the public and General Assembly for protecting land, water and historic places. The campaign is asking the North Carolina General Assembly to support issuance of a bond for $200 million a year for five years to preserve and protect its special land and water resources. Land for Tomorrow will enable North Carolina to reach a goal of ensuring that working farms and forests; sanctuaries for wildlife; land bordering streams, parks and greenways; land that helps strengthen communities and promotes job growth; historic downtowns and neighborhoods; and more, will be there to enhance the quality of life for generations to come. For more information, visit http://www.landfortomorrow.org/

The Trust for Public Land
Land conservation is central to the mission of the Trust for Public Land (TPL). Founded in 1972, the Trust for Public Land is the only national nonprofit working exclusively to protect land for human enjoyment and well being. TPL helps conserve land for recreation and spiritual nourishment and to improve the health and quality of life of American communities. TPL's legal and real estate specialists work with landowners, government agencies, and community groups to:
• Create urban parks, gardens, greenways, and riverways
• Build livable communities by setting aside open space in the path of growth
• Conserve land for watershed protection, scenic beauty, and close-to home recreation safeguard the character of communities by preserving historic landmarks and landscapes.

The following are TPL's Conservation Services:
• Conservation Vision: TPL helps agencies and communities define conservation priorities, identify lands to be protected, and plan networks of conserved land that meet public need.

• Conservation Finance: TPL helps agencies and communities identify and raise funds for conservation from federal, state, local, and philanthropic sources.
• Conservation Transactions: TPL helps structure, negotiate, and complete land transactions that create parks, playgrounds, and protected natural areas.
• Research & Education: TPL acquires and shares knowledge of conservation issues and techniques to improve the practice of conservation and promote its public benefits.

Since 1972, TPL has worked with willing landowners, community groups, and national, state, and local agencies to complete more than 3,000 land conservation projects in 46 states, protecting more than 2 million acres. Since 1994, TPL has helped states and communities craft and pass over 330 ballot measures, generating almost $25 billion in new conservation-related funding. For more information, visit http://www.tpl.org/

Z. Smith Reynolds Foundation
This Winston-Salem based Foundation has been assisting the environmental projects of local governments and non-profits in North Carolina for many years. The foundation has two grant cycles per year and generally does not fund land acquisition. However, the foundation may be able to support municipalities in other areas of greenways development. More information is available at www.zsr.org

North Carolina Community Foundation
The North Carolina Community Foundation, established in 1988, is a statewide foundation seeking gifts from individuals, corporations, and other foundations to build endowments and ensure financial security for nonprofit organizations and institutions throughout the state. Based in Raleigh, North Carolina, the foundation also manages a number of community affiliates throughout North Carolina that make grants in the areas of human services, education, health, arts, religion, civic affairs, and the conservation and preservation of historical, cultural, and environmental resources. In addition, the foundation manages various scholarship programs statewide. Web site: http://nccommunityfoundation.org/

National Trails Fund
In 1998, the American Hiking Society created the National Trails Fund, the only privately supported national grants program providing funding to grassroots organizations working toward establishing, protecting and maintaining foot trails in America. Each year, 73 million people enjoy foot trails, yet many of our favorite trails need major repairs due to a $200 million in badly needed maintenance. National Trails Fund grants give local organizations the resources they need to secure access, volunteers, tools and materials to protect America's cherished public trails. For 2005, American Hiking distributed over $40,000 in grants thanks to the generous support of Cascade Designs and L. L. Bean, the program's Charter Sponsors. To date, American Hiking has granted more than $240,000 to 56 different trail projects across the U.S. for land acquisition, constituency building campaigns, and traditional trail work projects. Awards range from $500 to $10,000 per project.

What types of projects will American Hiking Society consider? Securing trail lands, including acquisition of trails and trail corridors, and the costs associated with acquiring conservation easements. Building and maintaining trails will result in visible and substantial ease of access, improved hiker safety, and/ or avoidance of environmental damage. Constituency building surrounding specific trail projects - including volunteer recruitment and support. Web site: www.americanhiking.org/alliance/fund.html.

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ASSOCIATES

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Appendix A – Meeting Minutes

SALISBURY COMPREHENSIVE BICYCLE PLAN
KICKOFF MEETING MINUTES

INTRODUCTION

A kickoff meeting for the subject project was held on January 11, 2007 at 11:00am in the Second Floor Conference Room at the City of Salisbury Utilities Building. The following persons attended this meeting:

Name	Agency
Preston Mitchell	City of Salisbury
Kathryn Clifton	City of Salisbury
Joe Morris	City of Salisbury
Dan Mikkelson	City of Salisbury
David Bender	Wilbur Smith Associates
William Letchworth	Wilbur Smith Associates
Anthony Isley	Wilbur Smith Associates
Phil Conrad	Mobility Solutions

GENERAL ISSUES

- A meeting agenda was provided to each attendee at the meeting.
- Dan Mikkleson opened the meeting by stressing that the City of Salisbury preferred new and innovative ideas over traditional ideas.
- One important deliverable would be a plan for resurfacing. The City would like to identify a process for determining bike improvements for the resurfaced roadways.
- The vision for this project is to provide a measurable decrease in the Average Daily Traffic (ADT) Volumes while improving the air quality and providing universal bicycle accessibility in the City of Salisbury.
- Bicycle registration is to be considered in the long term planning.
- The size of the committee is expected to be relatively large, between the ranges of 12 - 15 members.
- The committee is expected to be very diverse and comprise of various backgrounds and social classes.
- WSA discussed the development of a Bike Facility Criteria Tool to be integrated with the Constructability Analysis.
- City would like to see policies or strategies which would address on-street parking issues.
- WSA will coordinate with Kathryn Clifton for any GIS data that could be helpful with creating the graphics.
- WSA will prioritize bicycle improvement projects based on short, medium, and long terms ranges and include them in a Matrix for Road Accommodations.
- WSA will identify cut-thru routes (Bicycle Thoroughfares) on the map with classifications.

Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

- The steering committee discussed strategies to resolve the conflicts with on-street parking. WSA will continue to investigate strategies to resolve these conflicts.

POTENTIAL STAKEHOLDERS LIST

- Local businesses
- Police
- Fire and Rescue
- Hospital
- City/County
- Pete Kennedy – Chairman

INFORMATION TO BE PROVIDED BY CITY

- Once the bike routes are narrowed down, the City has volunteered to send out data collectors to get existing roadway geometrics along these potential bike routes.
- City will provide additional GIS information to WSA.
- City will be responsible for contacting the utilities company (water bill) to get notices of events out to the public.
- City will provide accurate dates for the Bicycle Rodeo in hopes that WSA can partner in the event.

SCHEDULE

- Steering Committee Meeting 11:30 AM February 13th – City of Salisbury - Utilities Building

The meeting adjourned at approximately 1:30pm.

This is our understanding of the discussions held during the subject Kickoff Meeting. If errors and/or omissions are identified, please email dbender@wilbursmith.com by Monday, January 15, 2007.

cc: Project File

Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

City of Salisbury Comprehensive Bicycle Plan
Bicycle Plan Steering Committee Meeting
April 26, 2007

AGENDA

1. Greetings (City of Salisbury)

2. Introductions (City of Salisbury)

3. Planning Grant Initiative Presentation (NCDOT)

4. Scope of Work (WSA & Mobility Solutions)
    a. Data Collection
    b. Public Involvement (Mobility Solutions)
        i. Public Meetings
        ii. One-Day Bicycling Event
    c. Mapping
    d. Deliverables
        i. Implementation Plan
    e. City Responsibilities

5. Schedule (WSA & City of Salisbury)
    a. Project Timeline
    b. Meeting Arrangements

6. Goals and Objectives (BPSC)
    a. (i.e. Safety, Access, Comprehensive, Environmental, Livable Communities, Education, Funding, Maintenance, Policy)

7. Action Items (WSA)
    a. Bicycle Plan Logo
    b. Pavement Width Measurement Policy
    c. Existing Conditions Workshop (BPSC)

8. Next Steps (WSA)

9. Other Discussion (BPSC)

Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

SALISBURY COMPREHENSIVE BICYCLE PLAN
STEERING COMMITTEE MEETING MINUTES

INTRODUCTION

The Steering Committee meeting for the subject project was held on April 26, 2007 at 12:00pm in the Conference Room at the Park Avenue Community Center. The following persons attended this meeting:

Name	Agency
Preston Mitchell	City of Salisbury
Kathryn Clifton	City of Salisbury
Dan Mikkelson	City of Salisbury
Benita Staples	City of Salisbury
Catherine Goodnight	City of Salisbury / Catawba College
David Bender	Wilbur Smith Associates
Anthony Isley	Wilbur Smith Associates
Phil Conrad	Mobility Solutions
Bob Mosher	North Carolina Department of Transportation
Michele d'Hemecourt	Landtrust / Surge / FHNA
Norde Wilson	Fulton Heights
Pete Kennedy	City Council
Jack Owens	Confederate Heights
Sean Meyers	N. Main District
Staton Carter	Summersett Funeral Home
Lynn Pitson	Salisbury OB / GYN
Paul A. Moore	Salisbury Parks & Recreation
Zorda Tucker	Windsong Bicycle Shop
Charlie Brown	Judge
Ester Burgess	Rowan County YMCA
Sara Phillips	RSS Schools
Randy Hemann	Downtown Salisbury Inc.

GENERAL ISSUES

- Councilman Kennedy welcomed the members of the Steering Committee and thanked them for their participation in the Salisbury Bicycle Plan.
- Each committee member took time to introduce themselves.
- NCDOT representative Robert Mosher made a presentation to the committee on the NCDOT Bicycle and Pedestrian Comprehensive Planning Grant Initiative program.
- David Bender (WSA) and Phil Conrad (Mobility Solutions) presented the project scope of work and project schedule in detail to the Steering Committee.
- Dan Mikkelson opened the meeting stating that the estimated deadline for recommendations would be around January or February of 2008.
- Steering Committee agreed that the 3 remaining steering committee meetings would all be at noon.
- Preston Mitchell stated that he would like to see policy / guidelines developed that would label zoning codes to plan for future bike lanes / routes.

- Public Service Announcements on Public Access Television are planned to be shown throughout the month of May (National Bike Month). May 18th is national "Bike to Work Day."
- City of Salisbury requested that WSA summarize state laws in the final report.

WORKSHOP

David Bender conducted a workshop with the committee to assess the committee's goals and objectives for the Bicycle Plan. Below is a list of goals and objectives that were obtained from the committee:

Accessibility

- Bicycle access to major trip generators
  - Schools / Colleges
  - Grocery Stores
  - Commercial Centers
  - Parks / Greenways
  - Recreation Facilities
  - Train and Bus Stations
  - Employment Centers
  - Malls
  - Downtown Area
  - Movie Theatre
  - Wal-Mart
- Parking / Bicycle Racks should be provided at major facilities.
- Universal bicycle access to allow bicycles to be used to get to any location in Salisbury.
- Dan Mikkelson stated that he would like to see an increase in number of bicycle trips. Most people do not consider bicycles as a legitimate means of transportation. Dan also stated he would like to see a reduction of vehicle miles driven which leads to extra driving costs and additional environmental issues.

Safety

- Greenways are currently a high traffic area. Possibly allow space for pedestrians as well as bicycle riders.
- Install more bicycle crossings.
- Provide bicycle facilities that have separation from traffic.

Interconnectivity

- Local to Regional connectivity should be considered. Plans should be coordinated to connect with neighboring cities / counties in the future.
- Interconnectivity between neighborhoods for cycling.
- Provide off road facilities for less experienced riders.
- Possibly increase the size of the sidewalks to allow for bicycle riding.

Security

- Provide a more secure feeling along Salisbury's Greenway System.
- Speed limits along roadways need to be consistent.
- Provide stop lights for bicycle routes.

Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

Education

- Work cooperatively with Public Health and Environmental Agencies to help educate the public of the positive impact bicycling can have on overall quality of life.
- Provide recommendations to school system to incorporate bicycle safety programs for students.
- Provide bicycle education for both bicycle riders and automobile drivers.

Enforcement

- Bicycle enforcement by police officers should be provided.

Design

- Investigate the possibility of using rubberized asphalt along bike trail in greenways as well as school / college campuses.
- Gather input for the Bicycle Plan from other cities that have done bicycle plans to find out what was the most effective or ineffective bicycle treatment / facilities.

ACTION ITEMS

The committee discussed the proposed Bicycle Plan logo and had the following comments:

- WSA will get input from graphics department regarding revising the bike plan logo with another modern bicycle. (Hopefully not causing too much clutter).
- WSA will have graphics department change the slogan from "Salisbury Cycle Vision" to "Cycle Salisbury."

WSA requested the committees input on a Pavement Width Measurement Policy. The following comments were provided:

- Dan Mikkelson proposed that 2 measurements be made:
  1) Lip to lip of existing pavement, and
  2) Back of curb to back of curb.
- City of Salisbury will continue to research the Pavement Width Measurement Policy.
- NCDOT will bring striping guidelines for bike lanes to the next Steering Committee Meeting.

Additional comments provided by the committee members:

- WSA will update the maps for the 2nd Steering Committee Meeting in July of 2007.
- WSA will contact the City of Salisbury to get any additional GIS data needed to create the base mapping.
- City of Salisbury will decode the "Salisbury Parks & Recreation Department" Bike Routes and forward to WSA.
- City of Salisbury will provide materials via email and website to improve the education of the Steering Committee in regards to bike facilities and laws.

- Steering Committee will approve dates for the following:
  - One-day Bicycling Event
  - 1st Public Hearing
  - 3rd Steering Committee Meeting

HANDS-ON WORKSHOP

The WSA Project Team conducted a hands-on Existing Conditions Workshop with the committee members. Maps and markers were provided to each committee member to mark up the maps with corrections, revisions, recommendations on the maps of existing facilities, origin/destinations, etc.

The steering committee meeting adjourned at approximately 2:00pm.

SCHEDULE

During the de-briefing, conducted after the Steering Committee meeting, Dan Mikkelson requested WSA to move the 1st public meeting back to follow the One-Day Bicycle Event in order to provide more detail on the draft plan to the public. Bob Mosher (NCDOT) concurred with this schedule modification. Thus, the current schedule is shown below (NOTE: dates, times and locations are to be determined):

- 2nd Steering Committee Meeting - July 2007 (TBA)
- One-day Bicycling Event – September 2007 (TBA)
- 1st Public Meeting – October 2007 (TBA)

This is our understanding of the discussions held during the subject Bicycle Plan Steering Committee meeting. If errors and/or omissions are identified, please email dbender@wilbursmith.com by Wednesday, May 16, 2007

cc: Project File

City of Salisbury Comprehensive Bicycle Plan
2nd Bicycle Plan Steering Committee Meeting
July 17, 2007

AGENDA

1. Bicycle Safety Presentation and Video
    a. Box lunch

2. Greetings (City of Salisbury)

3. Introductions (City of Salisbury)

4. Goals and Objectives Discussion (WSA)
    a. Vision

5. Hands-On Mapping Workshop (WSA)
    a. Existing Conditions
    b. Proposed Bicycle Facilities
    c. Barriers and Constraints

6. Public Survey Discussion (WSA & MSU)

7. Bicycle Fest Event Planning Discussion (WSA & MSU)
    a. Local Event Coordinator
    b. Schedule (September 2007)
    c. Activities (Bike Inspections, Helmet Fittings, Bike Rodeo, Ride-About, Safety Education)
    d. Venders (Food, Radio Remote, Bike Shops)
    e. Raffles or Give Away
    f. Interactive Maps (WSA)

8. Next Steps (WSA)

9. Other Discussion (BPSC)

Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

SALISBURY COMPREHENSIVE BICYCLE PLAN
2nd BICYCLE PLAN STEERING COMMITTEE
MEETING MINUTES

INTRODUCTION

The 2nd Steering Committee meeting for the subject project was held on July 17, 2007 at 12:00pm in the Conference Room at the Park Avenue Community Center. The following persons attended this meeting:

Name	Agency
Preston Mitchell	City of Salisbury
Kathryn Clifton	City of Salisbury
Dan Mikkelson	City of Salisbury
Benita Staples	City of Salisbury
Catherine Goodnight	City of Salisbury / Catawba College
Jennifer Goble	City of Salisbury
Trevor Allen	City of Salisbury
Jerry Shelby	Rowan County AARP, Planning
David Bender	Wilbur Smith Associates
Anthony Isley	Wilbur Smith Associates
Phil Conrad	Mobility Solutions
Bob Mosher	North Carolina Department of Transportation
Michele d'Hemecourt	Landtrust / Surge / FHNA
Rodney Harrison	Public Services Transit
Pete Kennedy	City Council
Jack Owens	Confederate Heights
Sean Meyers	N. Main District
Staton Carter	Summersett Funeral Home
Lynn Pitson	Salisbury OB / GYN
Paul A. Moore	Salisbury Parks & Recreation
Randy Hemann	Downtown Salisbury Inc.

GENERAL ISSUES

- Dan Mikkelson opened the Steering Committee Meeting by showing a brief PowerPoint presentation to educate the committee of the various types of bike facilities.
  - Side Trail, Bike Lane, Off road/Greenway Trail, Edge Line, Paved Shoulder, Wide Outside Lane, Shared Road and Signed Bike Route.
- Dan stated that the Steering Committee would be asked to provide recommendations for determining what is considered a low, medium, or high volume street.
- David Bender introduced the project team from Wilbur Smith Associates and Mobility Solutions.
- David Bender (WSA) and Phil Conrad (Mobility Solutions) asked the committee for input on the goals and objectives which were handed out to each of the committee members.

Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

- It was stated that Goal 1.1 on the Goals & Objectives handout should be reworked to include resource centers such as the YMCA, libraries, hospitals, etc.
- Preston Mitchell stated that Policies and Ordinances would be in place in order to address any new development's accessibility issues.
- The new "Cycle Salisbury" logo was approved by the steering committee.

VISION STATEMENT

- The Steering Committee was asked to generate a Vision Statement for the Bicycle Plan.
- *"To facilitate Salisbury into becoming a bikable friendly community for all ages and skill levels."*
- *or "To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, and environmental and human health."*
- Dan Mikkelson expressed a concern with promoting bicycling as recreation. Promoting bicycling as recreation may diminish the value of bicycling as a means of transportation.

WORKSHOP

- Wilbur Smith Associates and Mobility Solutions conducted a hands-on workshop with the committee. The committee reviewed the mapping for Existing Conditions, Proposed Bicycle Facilities, and Obstacles & Constraints. The workshop lasted approximately 25 minutes and all comments were recorded on the maps provided by the consultants.
- Committee members were asked to identify any additional activity centers, schools, greenways, and any possible misspellings on the Existing Conditions map.
- The Committee was also asked to view the Proposed Bicycle Facilities and Obstacles / Constraints and provide any additional information such as skewed railroad crossings, high volume areas, or additional problematic bike facilities to be considered in the Bicycle Plan.

PUBLIC SURVEY DISCUSSION

- The project team gathered input from the Steering Committee on the Public Survey and how the survey would be distributed.
- Ideas for survey distribution provided by the Steering Committee are shown below:
  - Online / Web Based
  - Newspaper
  - Bike Rodeo
  - Post at local Bike Shops
  - Post at YMCA
  - Incentive Programs / Coupons
  - Survey Schools / Colleges
  - Housing Authority Newsletter
  - Survey participants entered in raffle
  - SNAG
  - WEEKO
- An additional action of "Pollution Reduction" should be added to #13 on the survey regarding "…*actions you think are most needed for bicycling in Salisbury*."
- To ensure that the survey is completed, add "OVER" to the bottom of the page to prompt citizens to turn the page over and complete the remaining questions.

Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

BICYCLE FEST EVENT PLANNING

- The project team gathered input on an approximate date and place where the bicycling event would be held, as well as what events would take place during the bicycling event.
- Event ideas provided by Steering Committee are shown below:
  - Raffles
  - Bicycle Registry (Free bike helmet)
  - Basic bike maintenance
  - Vendors (Chick-fil-a, Hot dogs, Cheerwine, Food Lion, etc.)
  - Inflatable play areas
  - Free bike helmets (provided by Salisbury Police Department for completed Surveys)
  - Maps provided at stations for public input
- Steering Committee agreed that the last weekend in September/ first week in October would be the logical target date for the bicycling event due to all of the various events that will be happening in the month of October.
- There were recommendations for the bike-a-thon being held along the greenway around Overton and Knox schools.
- Another idea was starting the bike-a-thon near the greenway at Catawba College.
- One committee member suggested that the bike-a-thon cover several types of streets to allow the committee to get an idea of which bicycle facility would work best in certain areas.
- A sub-committee will be formed to organize the bicycling event.
- Phil Conrad (Mobility Solutions) will be point of contact for the event organization until the sub-committee is formed.

ACTION ITEMS

- WSA will update the mapping to reflect the changes from the 2nd Steering Committee Meeting and have the mapping available for the bicycling event.
- WSA will begin identifying and prioritizing proposed bicycle facility projects.
- City of Salisbury will provide shapefiles for the following:
  - Public housing locations
  - Public facilities
  - On-street parking
  - 85th percentile speeds
  - Average Daily Traffic counts
  - Private Schools
- Steering Committee will approve dates for the following:
  - One-day Bicycling Event
  - 1st Public Hearing
  - 3rd Steering Committee Meeting

The steering committee meeting adjourned at approximately 2:00pm.

SCHEDULE

- During the de-briefing, conducted after the Steering Committee meeting, David Bender explained to the City of Salisbury the next steps of the Bike Plan:
  - Gathering Survey Results
  - Gathering additional data from City of Salisbury (ADT counts / 85th Percentile Speeds)
  - Identifying Projects
  - Developing Policies & Ordinances which will be tied to the Goals and Objectives for the project.
- The current schedule is shown below (NOTE: dates, times and locations are to be determined):
  - One-day Bicycling Event – Late September / Early October (TBA)
  - 3rd Steering Committee Meeting – October 2007 (TBA)
  - 1st Public Meeting – October 2007 (TBA)

This is our understanding of the discussions held during the subject Bicycle Plan Steering Committee Meeting #2. If errors and/or omissions are identified, please email dbender@wilbursmith.com by Tuesday, July 31, 2007

cc: Project File

Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

SALISBURY COMPREHENSIVE BICYCLE PLAN
BICYCLE PLAN STEERING COMMITTEE
MEETING #3
MINUTES

INTRODUCTION

The third Steering Committee meeting for the subject project was held on October 17, 2007 at 3:00pm in the Conference Room at the Park Avenue Community Center in Salisbury. The following persons attended this meeting:

Name	Agency
William "Pete" Kennedy	Salisbury City Council
Preston Mitchell	City of Salisbury
Dan Mikkelson	City of Salisbury
Catherine Goodnight	City of Salisbury / Catawba College
Trey Cleaton	City of Salisbury
Jennifer Goble	City of Salisbury
Michele d'Hemecourt	Landtrust
Zorda Tucker	Windsong Bicycle Shop
Jerry Shelby	Rowan County AARP, Planning, Council on Aging
Sean Meyers	N. Main District (Resident)
Staton Carter	Summersett Funeral Home
Bob Mosher	North Carolina Department of Transportation
Helen Chaney	North Carolina Department of Transportation
Dale Privette	Wilbur Smith Associates
Anthony Isley	Wilbur Smith Associates
Phil Conrad	Mobility Solutions

GENERAL ISSUES

- Pete Kennedy thanked the committee for their input and encouraged the committee to attend the public meeting at 6:30pm.
- Project team and committee members took a brief moment to introduce themselves.
- Dale Privette addressed the committee and conveyed the message that the Bicycle and Pedestrian Plan was not just a map, but a Comprehensive Plan for the City of Salisbury.
- National Bicycling Programs are held throughout the year:
  - Bike to Work Day – 3rd Friday in May
  - Bike to Work Month- May
- The bicycling event is planned to take place in early 2008. There is a bike race that takes place at the end of March / first week in April. The committee feels that partnering with the bike race would be a great opportunity to build onto and create a bicycling festival weekend.
- Proactive planning needs to be done and a definite date needs to be made for the bicycling festival.

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DRAFT PUBLIC SURVEY RESULTS

- Dale Privette stated that the project team received only 190 survey responses to date. It was expected that WSA would receive responses between 5-10% from a population of 30,000 (approximately 3,000 surveys). Dale challenged the committee to get the survey out to more people and get responses back by ***December 15, 2007***.
- Dale Privette showed a brief PowerPoint presentation to the Committee and addressed questions at the end of the presentation. Preliminary results of the public survey were shared with the committee, along with the status of preparation of the Bicycle Plan document and mapping.
- Dan Mikkelson stated that the survey was not targeted for only bicycle riders. He noted that non-supporters are shown in the pie charts. He also stated that the more surveys the project team gets back, the more reliable the overall survey results will be.
- One committee member stated that surveys should be distributed to low income areas and Hispanic communities.

DRAFT RECOMMENDATIONS

- The Draft Recommendations were presented to each of the committee members.
- Dale Privette asked the committee members to take the Draft Recommendations home to read over and provide any comments or questions to the project team.
- Dan Mikkelson stated that Salisbury Street Division would street-sweep more often to decrease the debris along the street corridors, making the corridors safer and more aesthetically pleasing if bicycle lanes were installed.

OPEN FORUM AT MAPS

- The committee met around the map stations to create possible loops for the bicycle plan.
- The following are a listing of the Bicycle Loops that were recommended by the Steering Committee and will be reflected on the Bicycle Plan:
    - Family Friendly Loop
    - Historic Districts Tourism Loop
    - Park Loop
    - YMCA Loop
    - Southern Loop
- Loops can be used as a measure to get a “Safe Routes to School” program started for Salisbury. By properly training the kids when they are young, they will have a solid foundation and potentially be better bicyclist as they get older.
- Family Friendly Loop could serve as a “training loop” for beginners and children who are just learning to ride.
- Historic Districts Loop could possibly be used for tourists who would like to bike to various historic places of interest in the City of Salisbury.
- Zorda Tucker suggested that “Out and Backs” also be shown along with the proposed loops. These are trips that cyclists tend to take on weekends and other times and consist of traveling along one road to a destination and returning along the same road.

Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

ACTION ITEMS

- The Steering Committee will continue to get the word out about the survey to all the citizens to ensure that the project team receives quantifiable public feedback for the Bicycle Plan. The deadline for survey responses is December 15, 2007.
- The City of Salisbury staff will poll the Steering Committee to arrive at a preferred Cycle Salisbury Logo and inform WSA of the winner.
- WSA will update the PowerPoint presentation bar charts to reflect the "higher" numbers as being the more popular answer and the "lower" numbers as the least popular answers to the survey.
- WSA will recommend parking policies to be included in the Salisbury Parking Ordinance.
- WSA will show 85th Percentile Speeds and Average Daily Traffic volumes on the mapping.
- City of Salisbury staff will create a webpage dedicated to bicycling (to be included as a recommendation in the final Plan report).
- City of Salisbury staff will investigate new ideas to get the survey out to the citizens.

NEXT STEPS

- Dale Privette discussed the next steps of the Bike Plan process with the attendees:
  - Mobility Solutions and the City will be gathering additional Survey Results through December 15, 2007.
  - WSA will continue to refine the draft recommendations and prepare the final draft report. This draft report will be provided to the City staff and steering committee members for review during late December and early January 2008.

SCHEDULE

- The following milestones are forthcoming in the next few months:
  - Final Steering Committee Meeting – late January 2008 (TBA)
  - Final Public Meeting – late January 2008 (TBA)
  - City Council Meeting – February 2008 (As Directed by City Staff)
  - One-day Bicycling Event – Late March / Early April 2008 (to coincide with bike race event TBA)

The steering committee meeting adjourned at approximately 5:00pm.

This is Wilbur Smith Associate's understanding of the discussions held during the subject Bicycle Plan Steering Committee Meeting #3. If errors and/or omissions are identified, please email dprivette@wilbursmith.com by Friday, November 7, 2007

cc: Project File

Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

City of Salisbury Comprehensive Bicycle Plan

FINAL
Bicycle Plan Steering Committee Meeting
May 5, 2009

AGENDA

10. Greetings (City of Salisbury)
11. Introductions (BPSC)
12. Purpose of BPSC Meeting
    a. Receive Review Comments on DRAFT Plan
    b. Discuss Decisions on Outstanding Issues
    c. Plan for Bicycle Fest
    d. Plan for Second Public Meeting
4. Discussion (WSA & BPSC)
    a. Finalize bicycle route priorities
    b. Review and comment on proposed items to be included as policies in the LDO
    c. Does BPSC recommend a Bike Share Program in Chapter 3?
    d. Gather input on the routing of the Southern Connection Loop and recommendations for improvements to Faith Road.
    e. Gather input on the southern section of Innes Street. Is that section appropriate to designate as a bicycle thoroughfare?
    f. Committee's concurrence on the removal of Morlan Park Road and the addition of Gold Hill and Union Heights as an alternative.
5. Other Discussion (BPSC)
6. Next Steps (WSA)
    - Obtain review comments from BPSC
    - Submit FINAL Salisbury Comprehensive Bicycle Plan
    - Set date for Bicycle Fest
    - Set date for Second Public Meeting

Vision: To develop Salisbury as a bicycle friendly community for the pursuits of transportation, recreation, environment and health.

SALISBURY COMPREHENSIVE BICYCLE PLAN
BICYCLE PLAN FINAL STEERING COMMITTEE
MEETING MINUTES

INTRODUCTION

The Steering Committee Meeting #4 for the subject project was held on Tuesday May 5, 2009 at 12:00pm in the Conference Room at the Park Avenue Community Center. The following persons attended this meeting:

Name	Agency
Preston Mitchell	City of Salisbury
Dan Mikkelson	City of Salisbury
Diana Moghrabi	City of Salisbury
Bob Mosher	North Carolina Department of Transportation
Norde Wilson	Fulton Heights
Pete Kennedy	City Council
Sean Meyers	N. Main District
Lynn Pitson	Salisbury OB / GYN
Zorda Tucker	Windsong Bicycle Shop
Ester Marsh	Rowan County YMCA
Randy Hemann	Downtown Salisbury Inc.
Jerry Shelby	AARP, Council on Aging, Rowan Planning
Terry Snow	Wilbur Smith Associates
Rajit Ramkumar	Wilbur Smith Associates
Anthony Isley	Wilbur Smith Associates
Deanna Berlin	Wilbur Smith Associates

GENERAL DISCUSSIONS

Terry Snow opened the Steering Committee Meeting stating the purpose of today's meeting is as follows:

e. Receive Review Comments on DRAFT Plan
f. Discuss Decisions on Outstanding Issues
g. Plan for Bicycle Fest
h. Plan for Second Public Meeting

A copy of the Meeting Agenda is attached.

During the subject Steering Committee Meeting, the following comments were made by members of the Steering Committee:

- Add Rowan County Bicycle Route as graphics in plan
- Add length of the Loops in the Priorities table
- Sharrows are to be shown as graphics on maps
- Evaluate Main Street for recommendations for Sharrows
- North Main Street Recommendations – Edit text in report where South Main Street is labeled on North Main Street
- Need ordinances which requires vehicles to yield to bicyclists

- Add table to report with facility name and recommendation to supplement text descriptions
- Add NCDOT & NCDOT Ped & Bike logos to report and graphics
- Check policy statement to give Council teeth to implement recommended policies
- Revaluate Morlan Park Road to be included in the bike plan and remove Union Heights Blvd.
- Address Signage – safety & beneficial "Share the Road" notifications
- Reconsider/reevaluate the need for "Share the Roads" signs throughout neighborhoods
- Public Awareness/Education needed
- Enhanced bicycle shelters at train station and major transportation hubs and commercial areas are to be included in the plan
- Evaluate East Inness Street for narrowing travel lanes, reducing speed limit, adding bike lanes near the southern loop
- Evaluate Morlan Park Road to Faith Road for inclusion in the plan
- Committee concerned with intersection at Jake Alexander Blvd/Faith & Jake Alexander Blvd/Morlan Park Road
- Revise summary of revisions in report with alternate colors and note specific page location changes

ACTION ITEMS

WSA to address the issues above and revise the DRAFT report and resubmit back to the City by May 22, 2009.
Steering Committee Members to review the current DRAFT report and provide WSA comments through the City.

SCHEDULE

- The second public meeting date will be dependent on the City Budget Schedule/Council availability

This is our understanding of the discussions held during the subject Bicycle Plan Steering Committee Meeting #3. If errors and/or omissions are identified, please email dberlin@wilbursmith.com by Monday, May 11, 2009.

Attachment: Agenda
Addendum

cc: Project File

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Addendum to 5-5-09 Salisbury

Comprehensive Bicycle Plan Steering Committee Minutes

Date: 5-7-09

To: Steering Committee Members

Re: Amendment/Modification No. 1. –
Comments received from Committee Members following Steering Committee Meeting.

Comments:

- It is more "visual clutter" and a waste of money to put share the road signs in neighborhoods that are already very bike friendly...there were more areas than the Crescent.
- Money is tight for anything that improves cycling routes.
- Main St North and South had sections that are faster than 35 mph but they are necessary roads to use in order to get to other places when wanting to ride 50 or 60 miles. Sharrows would be a lot more effective and more likely to catch motorists attention...may even make them consider moving out of the lane when there is a cyclist in it...considering there are 4 lanes for a long stretch. I have never ever felt safe riding on a road because of "share the road signs" Motorists ignore them...I think they are a waste of money. Paved or wider shoulders that do not drop off suddenly would be much more beneficial....we use Sherrills ford road a lot and the shoulders on that road are horrible.
- Bike rental, loaners are a great option in a big city....cannot imagine anyone taking advantage of them in a small place like Salisbury to warrant the costs.
- Commuting to a train/ bus station is a great "vision" but we are still a tiny place...works in huge metro centers.
- Not thrilled with Brenner Ave..great path, best we have but creepy people up and down the road. Do not feel safe if we had had a mechanical...."share the road signs" would not help.
- This is not Europe where people still walk and use bikes as transportation...this is the USA where 90% of people are overweight, drive everywhere , live in huge houses and want magic weight loss pills and giant SUV's .I wish we could be more like Europeans and Asians who ride bikes but as people in the third world get more money the first thing they get rid of is their bikes and get the motorized something!
- Committee member suggested viewing information at the following link: http://www.sharetheroadsafely.org/
- Spots of interest JF Hurley YMCA is missing.

Appendix B – Public Survey

CYCLE SALISBURY

City of Salisbury *Public Survey*
Comprehensive Bicycle Plan

The City of Salisbury is currently conducting a Comprehensive Bicycle Plan, which will evaluate existing conditions and recommend projects and programs to improve bicycling throughout the City over time. In order to gain more information for this important Plan, we need your input and assistance. Please complete the survey questions below and return to the address at the end of the survey or drop off at Salisbury City Hall. For more information on the Salisbury Comprehensive Bicycle Plan, contact Preston Mitchell at 704-638-5244.

1. What is your age?
   _____Under 12
   _____12 to 15
   _____16 to 24
   _____25 to 39
   _____40 to 54
   _____55 or older

2. Are you male or female?
   _____Male
   _____Female

3. Do you live and/or work inside the city limits of Salisbury?
   _____Live Only
   _____Work Only
   _____Both (Live and Work)

4. Do you own a bicycle?
   _____Yes
   _____No

5. How often do you ride a bicycle?
   _____Daily
   _____Several times a week
   _____Several times a month
   _____Several times a year
   _____None

6. What is the primary reason for riding your bicycle in Salisbury during the past year? *(Check all that apply)*
   _____Personal Fitness / Exercise
   _____Leisure / Recreation
   _____Transportation purposes around Salisbury
   _____No other transportation available

7. Have you or your children received formal bicycle education training through the following venues? *(Check all that apply)*
   _____Bicycle Rodeo
   _____School System
   _____Boy Scouts
   _____Other _____

8. Do you think the City should encourage and promote bicycle transportation in Salisbury?
   _____Very Supportive
   _____Somewhat Supportive
   _____Not Supportive
   _____Not Sure

   Please state why?
   _____

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9. Rank where you ride a bicycle most often in Salisbury. *(Rank 1=most often and 4=least often)*
   _____ On a greenway
   _____ On the sidewalk
   _____ On the street in the same direction as traffic
   _____ On the street in the opposite direction as traffic
   _____ Do not ride

10. Do you usually wear a helmet when you ride a bicycle in Salisbury?
    _____ Yes
    _____ No
    _____ Do not ride

11. How important do you think it is for Salisbury to develop a connected system of bicycle facilities that allow people to bicycle safely throughout the city?
    _____Very Important
    _____Somewhat Important
    _____Not Important
    _____Not Sure

12. Why do you think bicycling is beneficial in Salisbury? *(Check all that apply)*
    _____Environmental benefits i.e. reduce traffic, improve air quality, etc.
    _____Less expensive than driving
    _____Less stressful than driving
    _____Good for tourism
    _____Good for children
    _____Health purposes
    _____Other _____

13. Rank each of the following actions you think would improve bicycling in Salisbury. *(Rank 1=Most Important and 6=Least Important)*
    _____ Safer bicycle routes
    _____ Increased enforcement of cycling laws
    _____ Increased enforcement of motorist laws
    _____ Increased cycling education and safety programs
    _____ A map of bicycle facilities and routes in Salisbury
    _____ More bicycle parking at public and private destinations

14. Would you be supportive of Salisbury requiring new development to include bicycling facilities such as bicycle lanes, bicycle racks, greenways, etc?
    _____ Very Supportive
    _____ Somewhat Supportive
    _____ Not Supportive
    _____ Not Sure

15. What are the key factors that would encourage you to use your bicycle more over the next year? *(Check all that apply)*
    _____Safer on-road bicycle routes
    _____Bicycle map
    _____Education about bicycle transportation in the city
    _____Community events that promote bicycle safety and skills
    _____Not a bicycle user
    _____Other _____

Thank you for your time and participation! Please mail this survey to:
Preston Mitchell, City of Salisbury, P.O. Box 479, Salisbury, NC 28145-0479
Completed surveys can also be submitted in person at Salisbury City Hall, by email to pmitc@salisburync.gov , or by fax to 704-638-8437

Mobility Solutions

WilburSmith

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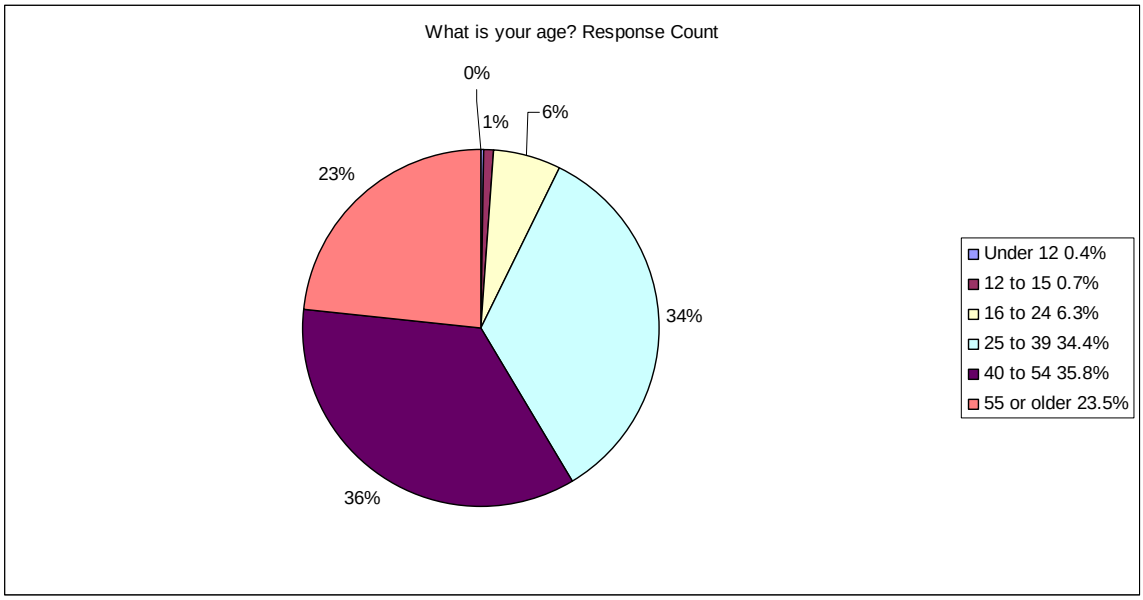
Public Survey Results

1. What is your age?		
Answer Options	**Response Percent**	**Response Count**
Under 12	0.4%	1
12 to 15	0.7%	2
16 to 24	6.3%	18
25 to 39	34.4%	98
40 to 54	35.8%	102
55 or older	23.5%	67
	answered question	**285**
	skipped question	**3**



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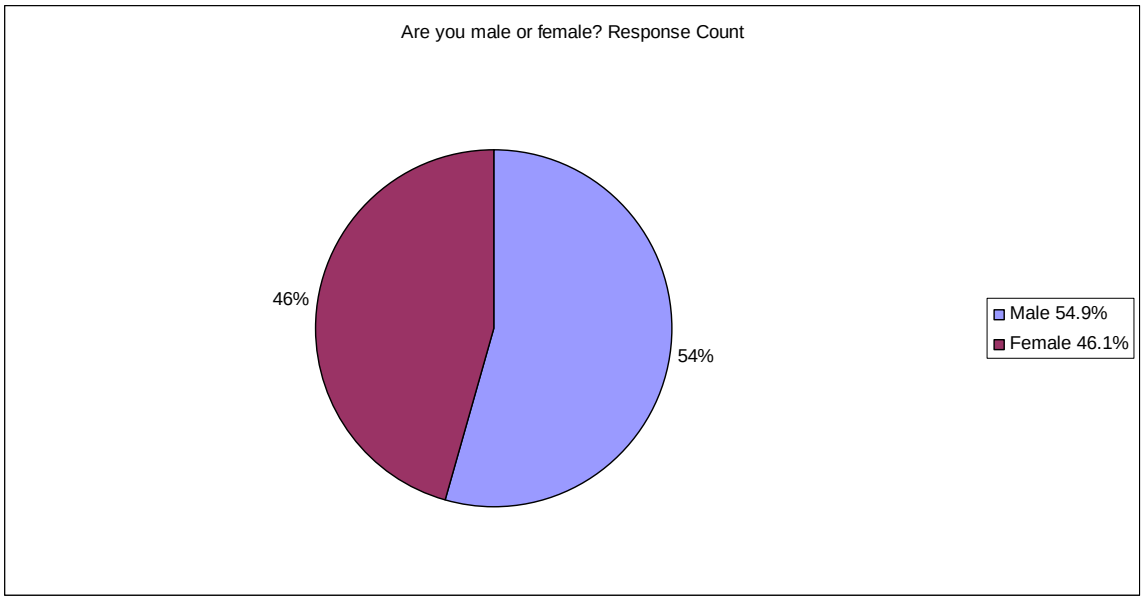
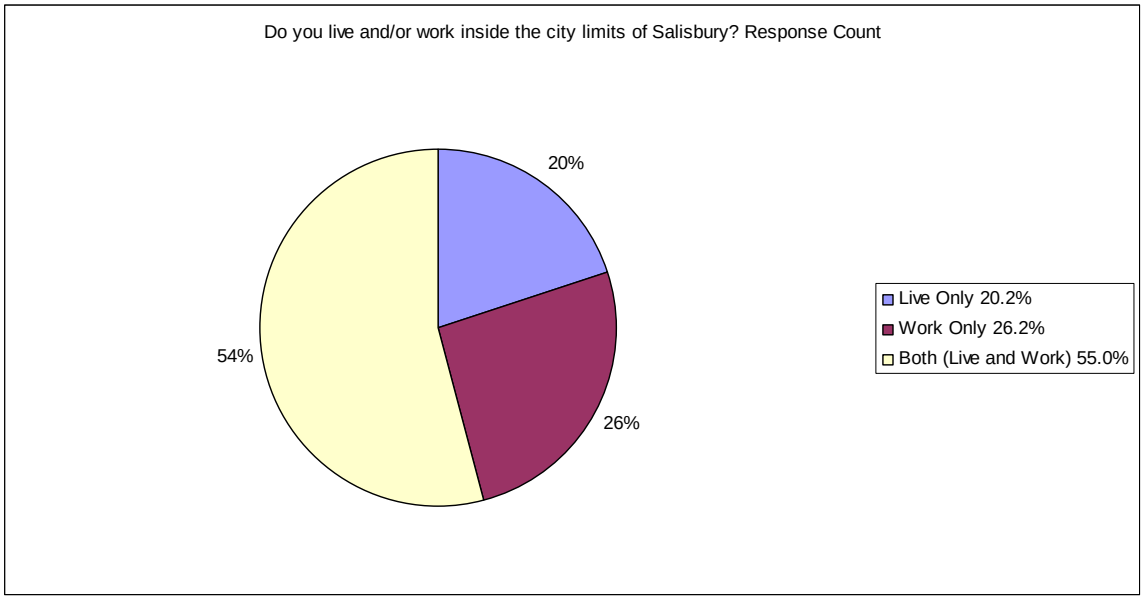
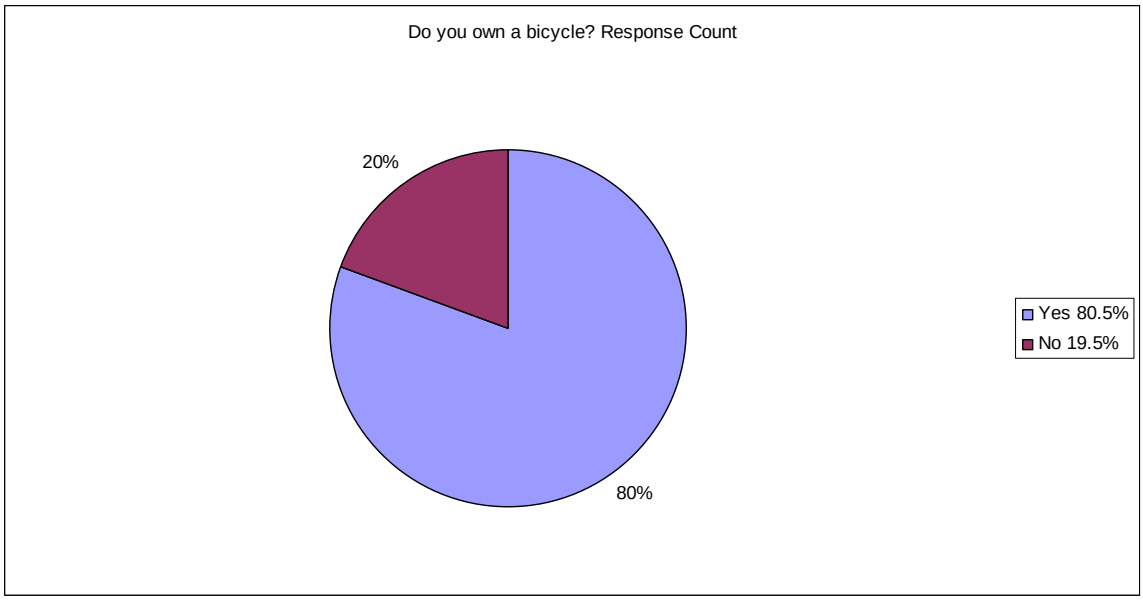
2. Are you male or female?		
Answer Options	**Response Percent**	**Response Count**
Male	54.9%	156
Female	46.1%	131
answered question		**284**
skipped question		**3**



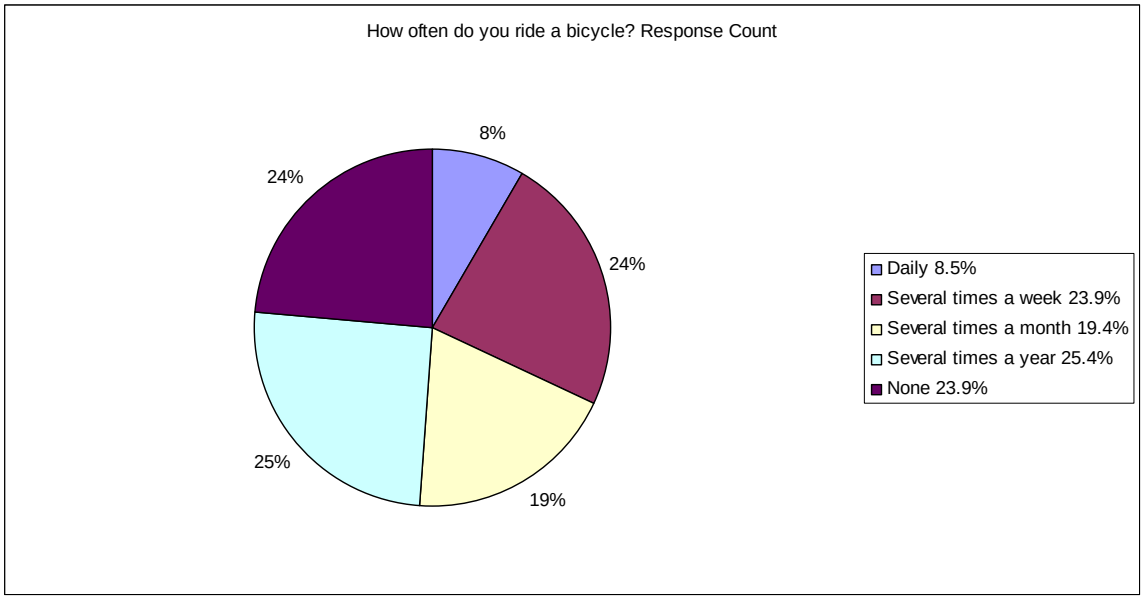
3. Do you live and/or work inside the city limits of Salisbury?		
Answer Options	**Response Percent**	**Response Count**
Live Only	20.2%	57
Work Only	26.2%	74
Both (Live and Work)	55.0%	155
answered question		**282**
skipped question		**4**



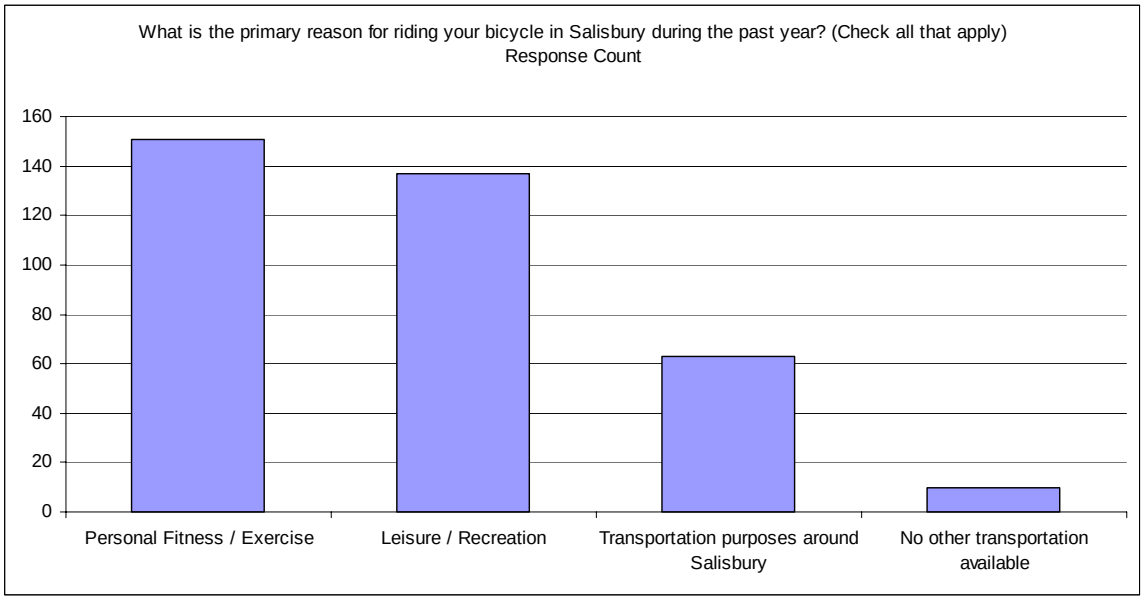
4. Do you own a bicycle?		
Answer Options	**Response Percent**	**Response Count**
Yes	80.5%	231
No	19.5%	56
answered question		**287**
skipped question		**3**



5. How often do you ride a bicycle?		
Answer Options	**Response Percent**	**Response Count**
Daily	8.5%	24
Several times a week	23.9%	68
Several times a month	19.4%	55
Several times a year	25.4%	72
None	23.9%	68
answered question		**284**
skipped question		**3**



6. What is the primary reason for riding your bicycle in Salisbury during the past year? (Check all that apply)		
Answer Options	**Response Percent**	**Response Count**
Personal Fitness / Exercise	69.3%	151
Leisure / Recreation	63.2%	137
Transportation purposes around Salisbury	29.2%	63
No other transportation available	4.7%	10
answered question		**219**
skipped question		**71**



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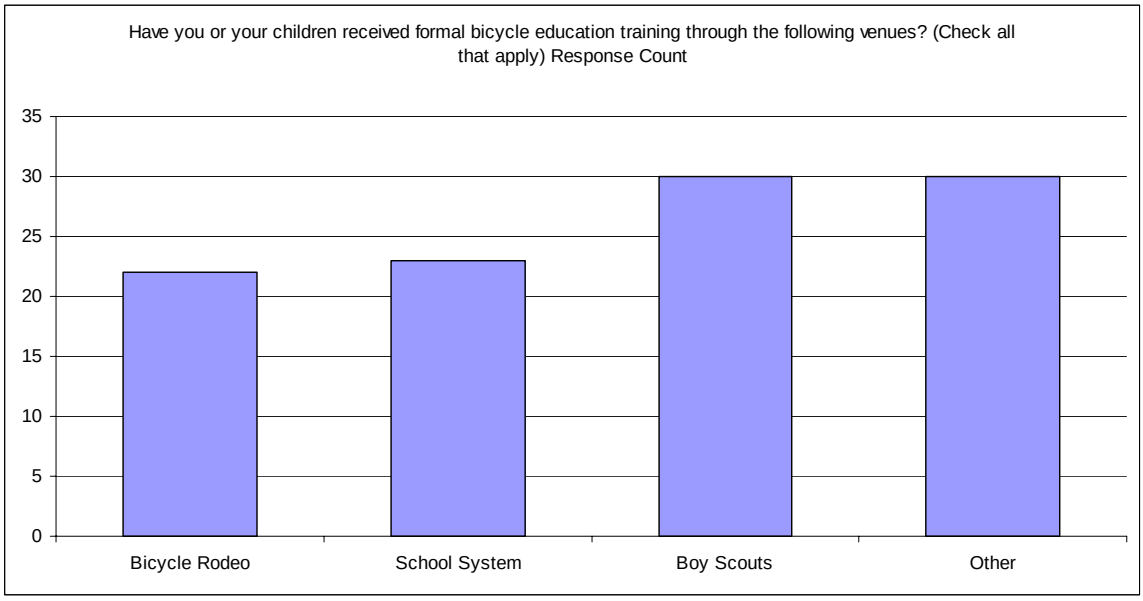
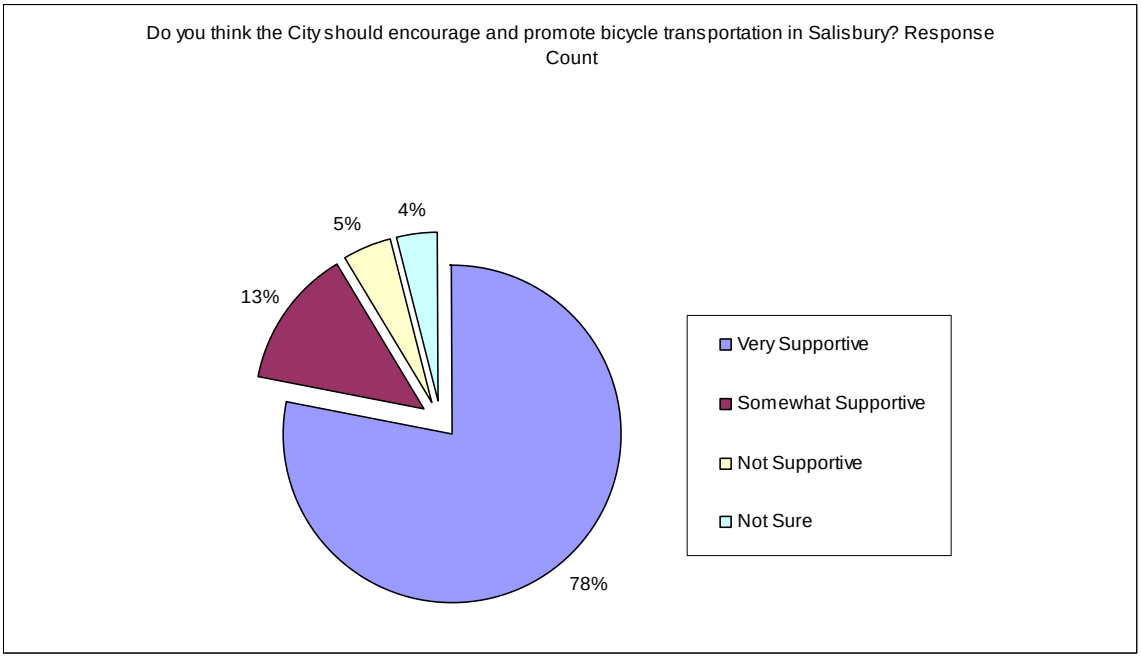
7. Have you or your children received formal bicycle education training through the following venues? (Check all that apply)		
Answer Options	**Response Percent**	**Response Count**
Bicycle Rodeo	26.5%	22
School System	26.5%	23
Boy Scouts	34.9%	30
Other	34.9%	30
answered question		**86**
skipped question		**204**



Number	Other
1	none
2	mountain biking class
3	No, not formal training
4	NA
5	family
6	Time trail events
7	State Certified Bike officer
8	former bike events in other states
9	Bruce Guild, Certified Cycling Coach
10	Reviewed safety skills from my parents.
11	No

12	a child development program
13	Father taught me
14	Private training - work.
15	USACycling.org
16	Work
17	Bicycling magazines
18	Group rides
19	NO CHILDREN YET
20	parents
21	no
22	Dad
23	parents
24	route savty
25	no fomal training
26	family
27	I have rode bikes my entire life
28	Expert Racing with NORBA (National Off Road Bicycling Association
29	No formal training

8. Do you think the City should encourage and promote bicycle transportation in Salisbury?		
Answer Options	**Response Percent**	**Response Count**
Very Supportive	78.1%	207
Somewhat Supportive	13.2%	35
Not Supportive	4.9%	13
Not Sure	3.8%	10
Please state why?		124
answered question		**265**
skipped question		**25**



Number	Please state why?
1	Bicycling is good exercise, and an easy way to get around town. Will also cut down on unnecessary automobile use.
2	It is beneficial to our health, to the health of the environment (and supports the Cool City agreement), and it will alleviate traffic concerns as the City's population continues to grow.
3	Good source of a healthy lifestyle and good opportunity for needed transportation. A safe bike route plan should be encouraged.
4	much of town is within an easy pedal, of course bike travel should be promoted. With huge amounts of downtown devoted to parking individual cars, at least a little should be put aside to park bikes. Same goes for roads.
5	It's great exercise and helps reduce pollution and save money
6	fitness, reduce auto use, reduce energy use, reduce air pollution

7	Salisbury is such a beautiful city and to be able to bike places with your family or just yourself and friends would be not only healthy and family oriented but also great for the environment.
8	I rode bicycles in my previous community and think it is an excellent way to get exercise and reduce pollution but currently not very safe
9	It's environmentally beneficial, helps promote health thru exercise.
10	great exercise, contributes to community feeling, lessens pollution
11	Better for the environment; better fitness;
12	It's the future...clean, quiet, brings people together, reminds you to slow down and enjoy the moment.
13	Bicycling is sustainable and environmentally friendly, while at the same time, it is a lifestyle-integrated exercise. Promoting bicycling on a citywide basis will help make Salisbury a healthier, future-oriented place to live.
14	Due to traffic it is necessary to have bicycle plan.
15	its a no brainer
16	Helps cut pollution and we need to be taking care of our environment for future generations. Salisbury can help with a promoting bicycles.
17	I think it is great city and not to big. it is easy to get around on a bike.
18	Environmental impact, sustainability, personal fitness
19	Exercise, Reduce Pollution, Save Fuel, Cut cost of road maintenance. Fewer accidents. There is many other advantages.
20	Pedestrian friendly is more attractive, safe, and clean! Less expensive. Could bring back some vitality to the historic district. Why not!
21	Pollution, Gas Prices, An obese America to name a few
22	People who bike will bike, they don't need to be encouraged. Biking plans are expensive, and given the size of the population that cannot/will not use them, it seems inappropriate to fund bike lanes everywhere with taxpayer money. I bike on side streets where there is very low traffic. I think providing bike lanes on well traveled roads is dangerous. I realize those that use bikes for travel would benefit from bike lanes on say Innes, Main, Jake, or Fulton, but I think smarter bikers would be well advised to stay off of those streets altogether. I work in Charlotte as well as Salisbury, and their bike lanes are a disaster. Bikers with lanes tend to develop a false sense of safety and dare drivers to hit them. The bike path out by the Y seems a decent idea on paper, but what does it really accomplish. It encourages me to drive my car over to the Y to use the bike path. That's ridiculous. I do think bikes are a MUCH smarter idea than Charlotte's light rail fiasco, which at max takes 7000 vehicles a day off the road while not accounting for the jump from 82000 vehicles per day to 150,000 a day in 5 years. I am very happy to see Salisbury making a plan now regarding bikes, but the fact is with the downtown layout everything is either a) in walking distance, or b) too spread out for bikes anyway. I think the planning would better be spent on parking, which is an absolute DISASTER, since most people who work downtown commute from beyond reasonable biking distance and then walk all day. If there were a decent sized free parking garage downtown you would encourage a lot more growth than a biking lane could, as people would tend to park somewhere hassle free and walk. If you could do this, then you could convert the parking lanes in Salisbury to a bike lane and have two major issues solved... at least for a while until growth caught up.
23	If we had safe places to bike, I would buy a bicycle.
24	health and environmental reasons
25	healthy, and environmentally friendly
26	clean air means the world to us all!
27	Its healthy, it reduces road congestion, it is good for the environment and it promotes the friendly open atmosphere that I believe Salisbury wants to project.
28	An alternative means of transportation; important to improve air quality; health and fitness for adults and children; an important, relatively low cost form of recreation for adults and children; a way to transform useless rails to useful trails -- an initiative most other states are pursuing.
29	Not only is it healthy, but it would reduce hydrocarbon emissions into an atmosphere already polluted by Charlotte traffic.
30	Several reasons--bike-riding is: 1. environmentally friendly; 2. cheap; 3. healthy; 4. social, to name a few.
31	Good for health, good for environment.
32	A bike is cheap and free to operate. However, cars do not treat those who operate them well on

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	the roads. This is why I do not ride the 1.3 miles to work. Statesville Avenue traffic offers no easy means to without putting myself in danger. It has been nearly 2 years since I rode due to near accidents with careless drivers.
33	To improve air quality
34	Bicycle transportation is health friendly, environmentally friendly, and a great way to make a positive contribution to society to one's own personal health.
35	I believe it is very important to conserve fuel whenever possible. Perhaps more people would commute to work by bicycle if they felt safer. I know I would.
36	There are lots of bikers but we have to ride on the roads or parking lots. Bike trails encourage fitness and family togetherness.
37	Energy conservation, health
38	Provided that there are safe bike trails and route and that drivers respect the rights of cyclists and cyclists obey traffic laws.
39	saves on gas, promotes fitness, family time together
40	We need to prioritize the use of non-motorized methods of transportation because we are facing an ever increasing fossil fuel crisis as well as declining personal health/increasing obesity issues.
41	Reduce emissions, reduce traffic, create community.
42	Salisbury motorists are not respectful of bicycles and it is dangerous to ride on city streets.
43	It is good exercise, as well as effective transportation that reduces pollution.
44	healthier population, less money spent on fuel, less pollution, etc.
45	Great form of exercise and prevent pollution.
46	With gas prices what they are, bicycling is an extreme cost effective means of transportation
47	Indeed, people need to realize all the great benefits of riding a bicycle including saving money, exercise, speed(as opposed to walking), being more environmentally friendly etc.
48	We would utilize bikes more for transportation if safer bike trails were available
49	My family just moved from Boulder, CO and everyone bicycled there. It was common to have people ride into work that way. The various trails and bike paths made it easy to do so. Bike etiquette would have to be followed though. Bicyclists there would tend to feel they had the right of way versus the cars.
50	Gas is expensive, and Americans are too sedentary.
51	I would like to be able to ride a bike in downtown Salisbury but wouldn't dream of it. WE have bikes but don't use them here. Attempting to cross the street when pedestrians have the right of way is risky at best. Driving is horrendous in downtown. There doesn't appear to be any policing of traffic violations at all. Speeding is out of control on the side streets. We live downtown and see it all the time. Until the city can police the drivers better, I can't imagine putting bikers in the mix.
52	The reason I haven't ridden my bicycle since we moved to Salisbury this past March is because I live right off Faith Rd and would be taking my life in my hands if I ventured out of my subdivision on a bicycle!
53	Less emissions from cars. Physical fitness. Creating a more relaxed atmosphere that could bring more people downtown. More parking places available for people that live out of town.
54	Because it is good for the citizens health wise, good for the environment, good for traffic and parking issues in the city limits and sets a good image for the city in general.
55	The city streets of Salisbury are not what I would consider safe enough for me or my child to ride their bikes on. Clean up the drugs and crimes before you make attempts to support bicycling in the city.
56	Decreases air pollution.
57	It would help with fitness issues and energy issues.
58	ecologically sound plan
59	Bicycling is very sustainable, saves fuel, reduces congestion and promotes fitness and well being. Alternative modes of transportation should always be promoted as a way to encourage people to be a part of the city instead of getting in their autos and driving to a mall. As bicycle popularity increases opportunities will also to support the activity. God knows Salisbury needs some forward thinking to save it's old town area. Look what is happening in Albemarle. A little investment goes a long way. Now just convince the business property owners of that and we may have something.
60	It is a wonderful way to really see Salisbury.
61	People seem to be very ignorant and intolerant of cyclist. Maybe it would help if they saw more

	of them.
62	We all need to learn not to be totally dependant on cars for every trip we make, especially those which are only a mile or two from where we work/live.
63	The climate is very well suited for cycling. It is win/win - no pollution, good for one's health, and fewer parking problems. I would LOVE to ride my bike to work when weather permits, but current problems include narrow, unsafe roadways, insufficient places to park & lock up (downtown), and I am REALLY unclear concerning “laws” about biking on sidewalks --as I feel like I MUST do this when the traffic area seems VERY unsafe for biking.
64	If more people rode their bikes, and fewer people drove, than they would be healthier, and the city would be cleaner and healthier.
65	it would force bike lanes and street safety
66	Better for the environment. Better interaction between citizens. Increase attractiveness of community to those looking to relocate here.
67	Physical and mental health of rider Cuts back on pollution caused by exhaust Less damaging to roads The more people on bikes, the safer it is for others on bikes.
68	a great form of family time, exercise and reducing traffic!
69	Health and recreation benefits. Cheap transportation, no gasses.
70	Reduce traffic congestion; promote fitness and bicycle safety awareness
71	Reduce traffic, conserve fuel, reduce emissions and pollution locally-it's a small condensed town, and if cycling were safer, there are many opportunities to bike rather than drive.
72	good for environment, exercise, social
73	Alternative transportation, healthy lifestyle, environmentally friendly.
74	Helps promotes a healthy lifestyle and is fun
75	help the environment
76	dangers of riding on the roadway. If they would ride on the sidewalks only, then would be OK.
77	It is a highly uncovered mode of transportation restricted totally by weather conditions. For exercise it is fine but as transportation, it is too limited for tax dollars. Mass transit would be better use of our taxes.
78	Bike riders a serious safety threat. I find them very dangerous and their attitude is usually; “get out of my way.” Sometimes you just don't see them
79	WOULD BE A GREAT WAY TO SHAPE UP AND PROMOTE PHYSICAL FITNESS
80	health reasons and environment
81	Only if the city instructs bicyclist on road safety, i.e. the right side to ride the bike, helmets, obeying road laws.
82	Energy conservation as well as personal physical improvement
83	It would cut down on greenhouse gases and the amount of traffic. Not to mention we have a great town and you see and actually notice more on a bike.
84	Exercise, traffic
85	Bicycling should not be allowed on busy streets or highways. They should always respect the drivers of vehicles.
86	To provide a safe transportation method and a way to exercise without being run over by cars
87	Fear for the safety of Cyclist who are not safety conscious.
88	Cleaner
89	safety factor with such narrow city streets and increasing number of cars.
90	when a car is not handy just ride your bike
91	It is healthy for the person and better for the environment.
92	so cyclers have a safe place to ride
93	I have been to other countries where everyone rides bikes or uses public transportation! We should be more aware of the costs savings as well as the environmental savings if we encouraged people to ride bikes.
94	Good for your health and environment friendly.
95	Very good for the environment and for physical fitness
96	It would encourage fitness, promote leisurely activities which would in turn keep car pollution down and also promote more bicycle races for tourism.

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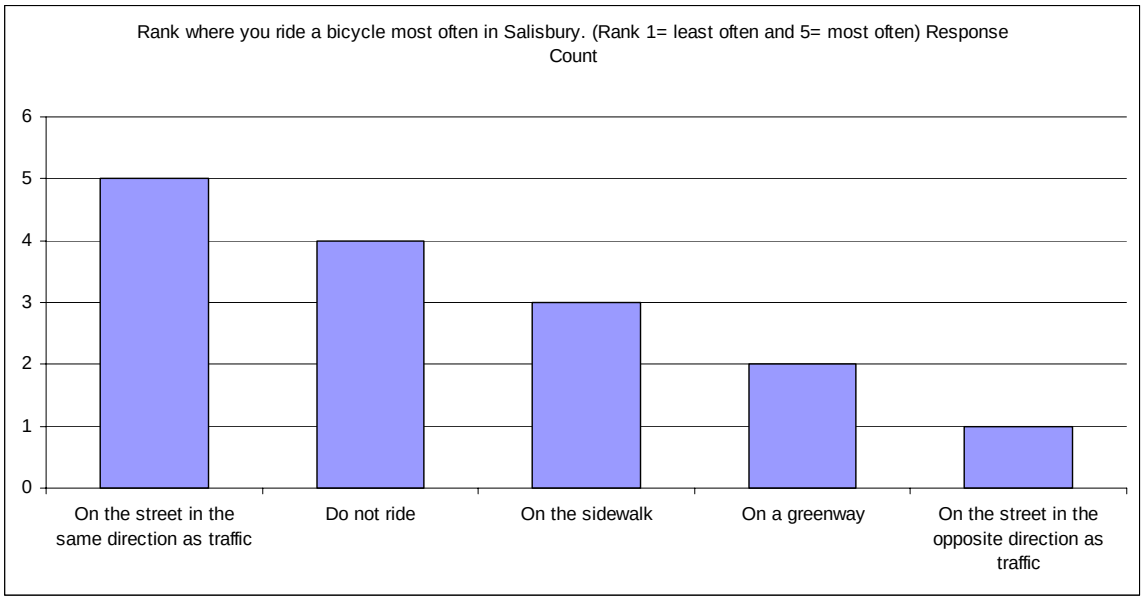
97	Good exercise and good family activity.
98	Should support bike routes and bike lanes when opportunities exist.
99	SALISBURY IS VERY EASY TO NAVIGATE VIA BICYCLE.
100	The idea of alternative means of transportation via bicycle is worth looking into. I waiver on being very supportive based upon safety issues in highly congested areas.
101	Riding bicycles promote a healthier and more fit Salisburians. Also, it means less traffic for those who ride bicycles to work or to run errands
102	the people who drive cars have no respect for others
103	As long as bicycle paths and does not take private land or create problems for land owners.
104	Until you get out and ride the streets, you don't truly realize how easy it is to commute by bicycle - it is all about changing our perceptions. Better bike facilities may do just that.
105	Because there are so many people that do not own cars and this will be a less expensive way for them to get around. It also promotes a healthier lifestyle.
106	Health, fuel
107	Salisbury is NOT a safe city for a bicycle trail. I drive out to Woodleaf and bike for pleasure in the country. That would be taking one's life into one's on hands in our high-crime city.
108	You should spend the money to clean up the town first. Bicyclists drive the wrong way down the streets, facing traffic, and the wrong way down Council Street, making for more hazardous conditions for pedestrians and motorists. The crime rate here doesn't encourage decent, law-abiding citizens to use your streets for cycling. We go out of town to ride our bikes.
109	We have sidewalks that I will keep using. They safer than streets or trails.
110	The sidewalks work fine
111	Our taxes are already oppressively high.
112	Personal Fitness Environmental Healthful
113	YES SO THEN I CAN RIDE MY BICYCLE ON THE ROAD IN SALISBURY,NC FOR TRANSPORTATION VERY SUPPORTIVE.
114	We have enough people cycling already. I don't want the sidewalks crowded with more of them.
115	Other peoples on bikes ride like fools
116	Even though we are a smaller city, the traffic is growing. Plus is a form of community, but we need for it to be safe for all.
117	save gas, decrease pollution, great physical exercise, just a great idea any way you look at it... however, not just cyclists but ALL MOTORISTS should be safety trained in terms of watching out for cyclists.
118	Less traffic. Good for the environment. Good for health.
119	alternate mode of transportation; save money
120	I would often ride my bike if I thought it was safe. I ride my bike at the beach where the lanes are wider or there is a specified bike lane. In Salisbury, we have sidewalks, which bikers should not use, so I tend to walk rather than ride.
121	it is environmentally responsible, fun, good exercise
122	It promotes fuel efficiency and good health for families- we just need to have safe, well lighted places to ride!
123	Its imperative we offer both residents and visitors to our fine city, the opportunity to safely pursue alternative means of transportation. With the escalating cost of gas as well as American independence on foreign oil, it is perhaps these alternative means Americans will find not only beneficial for personal well being, but cost effective as well. It is important for the city to not only encourage bicycle transportation, but in doing so provide the average pedestrian a safe environment to commute away from, and/or protected from automobile traffic (see Wrightsville Beach NC's “loop”).
124	It gets cold in the winter

9. Rank where you ride a bicycle most often in Salisbury. (Rank 1= most often and 4= least often)			
Answer Options	**Response Average**	**Response Total**	**Response Count**
On a greenway	2.566879	403	160
On the sidewalk	2.547771	400	160
On the street in the same direction as traffic	1.588889	286	183
On the street in the opposite direction as traffic	3.277311	390	121
Do not ride	2.138889	154	78
		answered question	**238**
		skipped question	**52**



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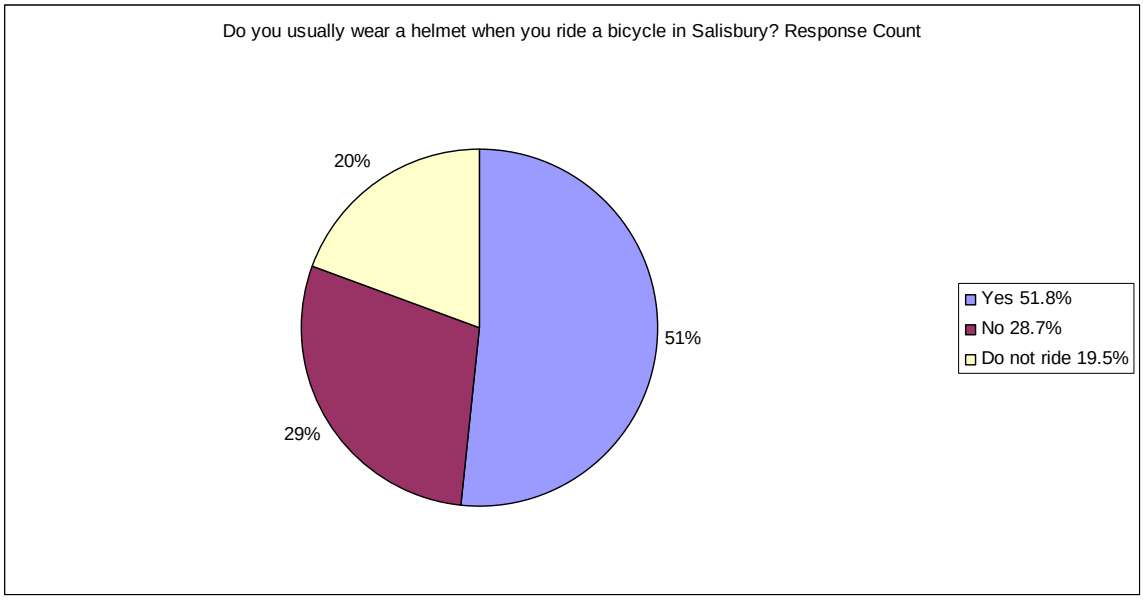
10. Do you usually wear a helmet when you ride a bicycle in Salisbury?		
Answer Options	**Response Percent**	**Response Count**
Yes	51.8%	130
No	28.7%	72
Do not ride	19.5%	49
answered question		**251**
skipped question		**39**



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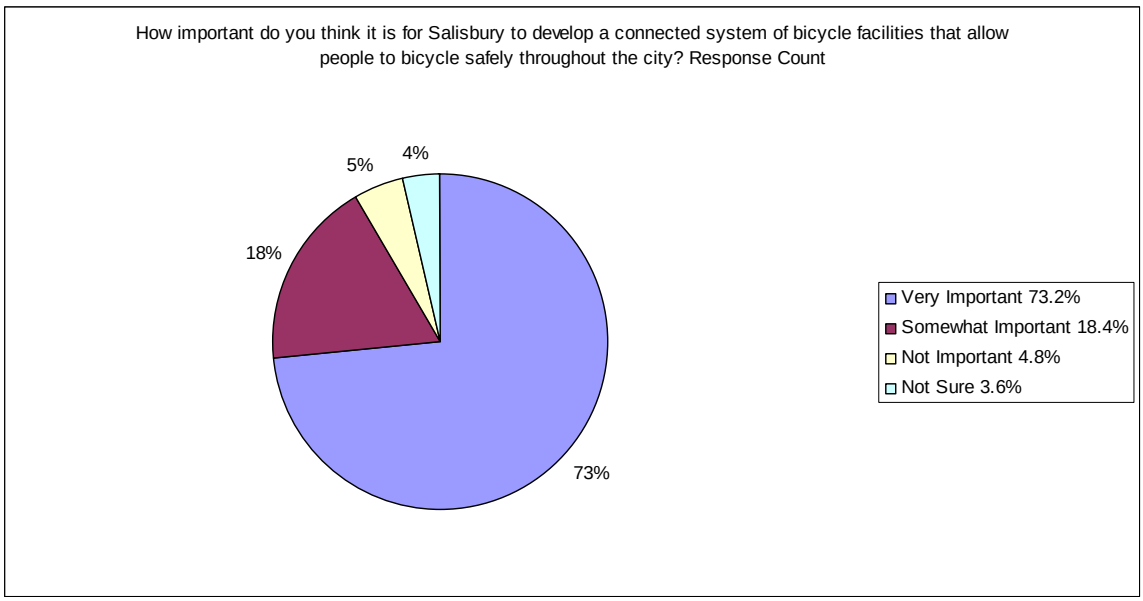
11. How important do you think it is for Salisbury to develop a connected system of bicycle facilities that allow people to bicycle safely throughout the city?		
Answer Options	**Response Percent**	**Response Count**
Very Important	73.2%	183
Somewhat Important	18.4%	46
Not Important	4.8%	12
Not Sure	3.6%	9
answered question		**250**
skipped question		**39**



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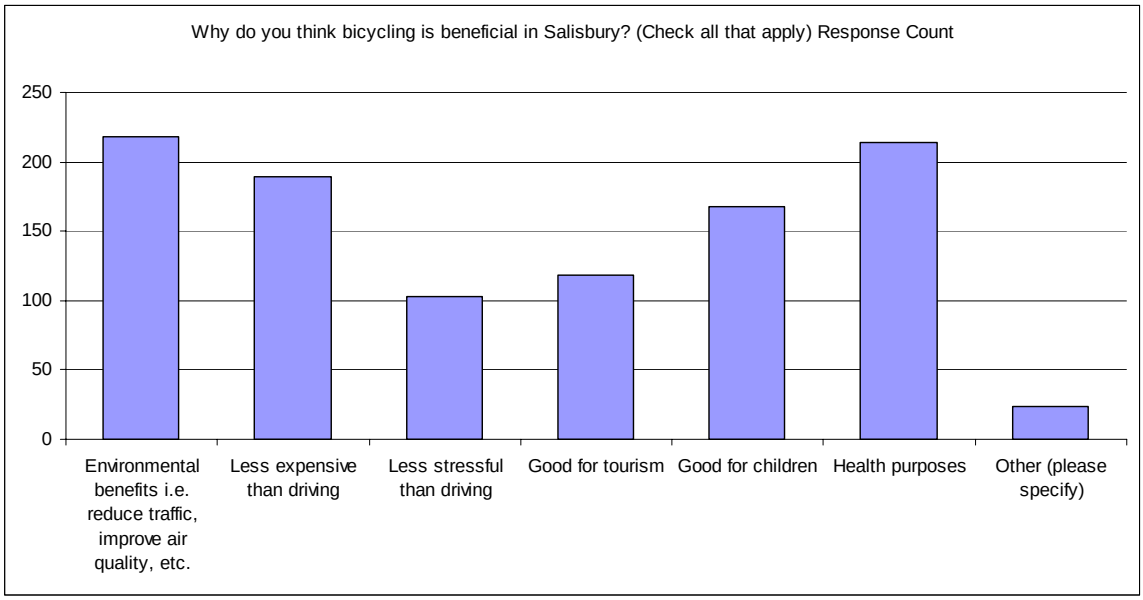
12. Why do you think bicycling is beneficial in Salisbury? (Check all that apply)		
Answer Options	**Response Percent**	**Response Count**
Environmental benefits i.e. reduce traffic, improve air quality, etc.	89.4%	218
Less expensive than driving	77.9%	189
Less stressful than driving	42.6%	103
Good for tourism	48.5%	118
Good for children	69.8%	168
Health purposes	88.5%	214
Other (please specify)	9.8%	24
answered question		**235**
skipped question		**46**



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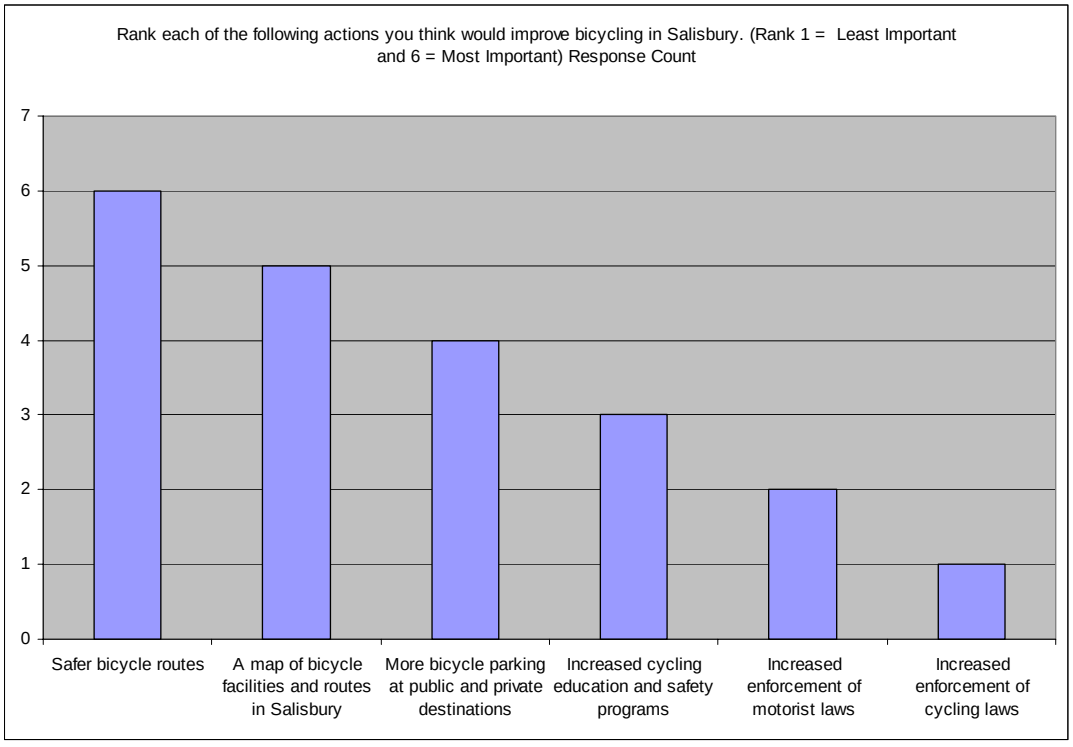
Number	Other (please specify)
1	to get connected with your neighbors
2	It's FUN
3	Economically good for small businesses in the downtown because bicyclists get their food and products more locally
4	Helps revitalize the historic district.
5	Builds a more diverse community, which will help with Salisbury's culture and growth
6	Helps create an open friendly atmosphere
7	See response to earlier question.
8	social
9	encourages sense of community
10	Brings people closer to the city
11	exercise
12	you feel more connected to your world/community
13	Sports
14	Recreation and exercise, cheap, old & young1
15	An amenity that will bring in new residents
16	It's more fun than driving
17	anything to keep them off the streets
18	energy conservation
19	decrease reliance on fossil fuel
20	Not beneficial. Too dangerous.
21	Not beneficial--will slow traffic and cause more problems than it is worth.
22	it my only transportation
23	FUN

13. Rank each of the following actions you think would improve bicycling in Salisbury. (Rank 1 = Most Important and 6 = Least Important)			
Answer Options	**Response Average**	**Response Total**	**Response Count**
Safer bicycle routes	1.411255	326	231
Increased enforcement of cycling laws	4.086957	846	207
Increased enforcement of motorist laws	3.28169	699	213
Increased cycling education and safety programs	3.264151	692	212
A map of bicycle facilities and routes in Salisbury	2.714932	600	221
More bicycle parking at public and private destinations	3.219731	718	223
		answered question	**234**
		skipped question	**47**



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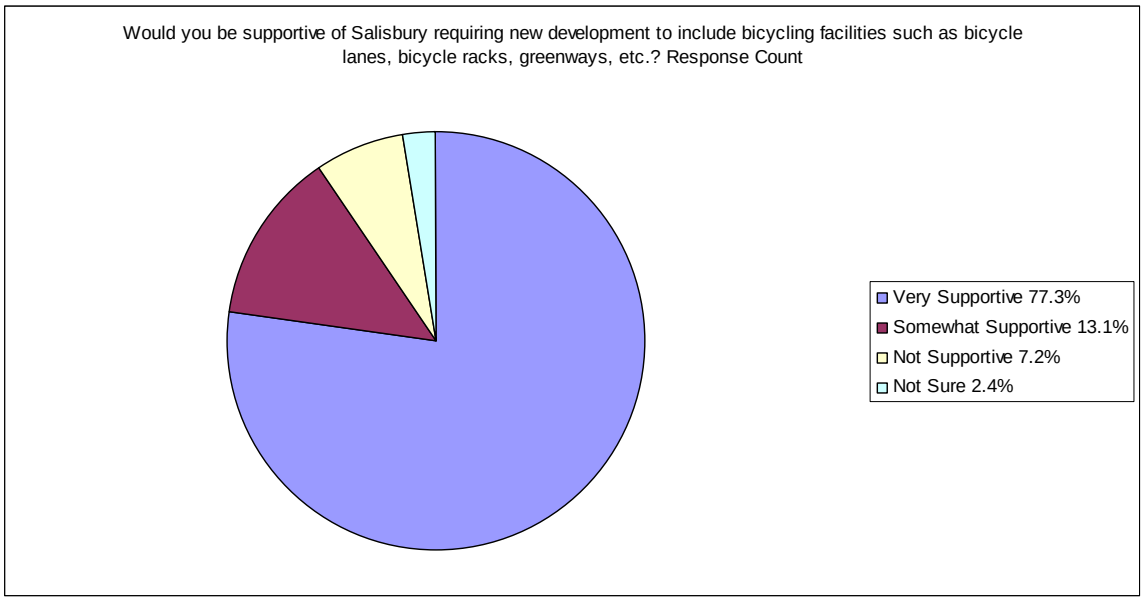
14. Would you be supportive of Salisbury requiring new development to include bicycling facilities such as bicycle lanes, bicycle racks, greenways, etc.?		
Answer Options	**Response Percent**	**Response Count**
Very Supportive	77.3%	194
Somewhat Supportive	13.1%	33
Not Supportive	7.2%	18
Not Sure	2.4%	6
answered question		**251**
skipped question		**39**



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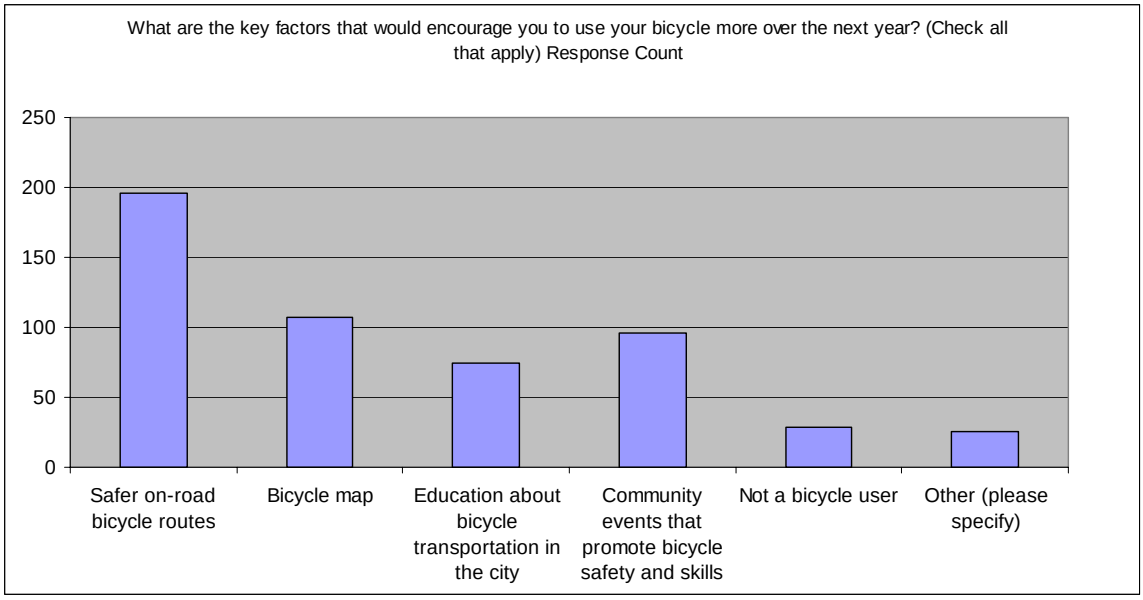
15. What are the key factors that would encourage you to use your bicycle more over the next year? (Check all that apply)		
Answer Options	**Response Percent**	**Response Count**
Safer on-road bicycle routes	79.0%	196
Bicycle map	42.9%	107
Education about bicycle transportation in the city	30.7%	75
Community events that promote bicycle safety and skills	38.7%	96
Not a bicycle user	11.8%	29
Other (please specify)	10.9%	26
answered question		**247**
skipped question		**43**



Number	Other (please specify)
1	Drivers obeying traffic laws pertaining to bicycles and speed limits
2	if my job could be transferred to within reasonable biking distance!
3	bike racks
4	speed limit enforcement of cars
5	Tax benefit for bicyclists!
6	Bicycle racks

7	somewhere to lock the bike when arrived
8	Bicycle racks downtown, a community free bike program where bikes are donated to the city for public use.
9	more bicycle parking
10	driver education programs to show where cyclists are at
11	The only thing that would encourage us to begin biking here is to see changes in the driving habits and enforcement of traffic laws on a continuous basis.
12	It is my only form of transportation so I will use it regardless
13	decrease in drug trafficking and violence. I have to be cautious when driving to my parking place behind south main street. I would hate to see $$$$ go to something like bycycle routes when crime is affecting me right outside my door.
14	Less harassment by motorists, increase minimum passing clearance to 5 feet for motorists passing a cyclist
15	Bicycle off-road trails for recreation
16	Encourage Motorists to share the road
17	nothing
18	would ride if safe
19	would purchase a bike/safer routes
20	have a car
21	party's
22	I've recently moved to Salisbury from an area that promoted bike trails through the entire county, funded by the parks system. I think this is a project that the City of Salisbury should work together with neighboring towns and the county to get this initiative moving in the right direction.
23	A successful assault on criminal activity in Salisbury.
24	$6 per gallon gasoline
25	city can afford to buy bicicles and loan them to peples that cant afford them.
26	Visit historical sites scattered throughout Salisbury.

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