

**CITY OF WILSON COMPREHENSIVE BICYCLE PLAN • ADOPTED AUGUST 2008**





R- 041-08

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WILSON  
TO ENDORSE AND ADOPT THE COMPREHENSIVE BICYCLE PLAN**

**WHEREAS**, the City encourages development of transportation modal choices, including bicycle options, that connect residential areas to schools, transit, commercial districts, and other public facilities; and

**WHEREAS**, the City will adopt design standards that encourage the installation of bicycle-friendly infrastructure; and

**WHEREAS**, consultants, in conjunction with the Bicycle Plan Steering Committee, the citizens of Wilson, the North Carolina Department of Transportation (NCDOT), and the City of Wilson, have developed the Wilson Comprehensive Bicycle Plan; and

**WHEREAS**, the City of Wilson Comprehensive Bicycle Plan is consistent with the Pedestrian Improvement Plan, 1999 Growth Plan Update, Thoroughfare Plan, Wilson Parks and Recreation Master Plan, Wilson 20/20 Community Vision; and

**WHEREAS**, the City of Wilson Comprehensive Bicycle Plan is consistent with the Upper Coastal Plain RPO transportation needs and the Statewide transportation plan; and

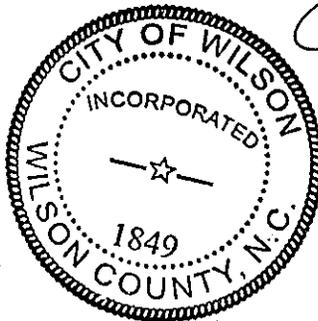
**WHEREAS**, the City will be developing a citywide Comprehensive Plan as a follow up and linkage to the Bicycle Plan.

**NOW, THEREFORE, BE IT RESOLVED** that the City Council hereby endorses and adopts the City of Wilson Comprehensive Bicycle Plan.

**DULY ADOPTED** this 21<sup>st</sup> day of August 2008.

ATTEST:

  
Rebecca D. Rose, City Clerk



  
C. Bruce Rose, Mayor

# City of Wilson Comprehensive Bicycle Plan

August • 2008

*Prepared by:*

City of Wilson, North Carolina  
North Carolina Department of Transportation  
Upper Coastal Plain Council of Governments  
The Louis Berger Group, Inc.

## Acknowledgements

 **Bicycling...**  
 Bicycling occurs at a scale that only the person that lives, works, and travels the planning area can fully appreciate. The visual and operational environments of a cyclist are much different than those of a motorist, and not something that a visitor can acquire quickly. A great bicycle plan therefore must include the specific ideas of many people. It is to those that provided their ideas that we dedicate this report.

*-Scott Lane, Director of Planning  
 The Louis Berger Group, Inc.*

The City of Wilson and the North Carolina Department of Transportation jointly funded the City of Wilson Comprehensive Bicycle Plan. Special thanks go to the following people that served on our Steering Committee, providing their time, attention, and invaluable insights to the planning process and products.

Steering Committee Member	Affiliation
Paula Furiness	Wilson Medical Center Wellness Department
Kevin Whalen	COWs - Cyclists of Wilson (local Bicycle Club)
James R. Lamm	Resident at Large
Rob Holsten	Wilson Community College Dean of Continuing Education & Sustainability
William Demchick	Resident at Large
Jim Davis	Wells Elementary School - Principal
Cynthia Little	Wilson Community College - GED instructor
William Staton	Resident-Destination Rider
Geronimo Torres	Resident-Hispanic Member
Craig Smith	City of Wilson Police Department
Bryant Bunn	City of Wilson Public Services
Dale Edmonds	City of Wilson Parks & Recreation
Kevin Medeiros	City of Wilson Png & Dev't Services - Land Dev't
Kathy Garner	City of Wilson Png & Dev't Services - Land Dev't
Will Deaton	City of Wilson Png & Dev't Services - Planning
Denise Boswell	City of Wilson Png & Dev't Services - Planning
Janet B. Holland	City of Wilson Png & Dev't Services
Dennis Patton	Upper Coast Plain Council of Governments
Jim Bradshaw	Upper Coast Plain Council of Governments
Jennifer Lewis	The Louis Berger Group, Inc.
Scott Lane	The Louis Berger Group, Inc.
Alison Carpenter	The Louis Berger Group, Inc.
John A. Vine-Hodge	NCDOT Division of Bicycle & Pedestrian Transportation
Rodger Lentz	City of Wilson Png & Dev't Services



Additionally, there are 508 people that we acknowledge for the time they spent telling us their thoughts on our survey of biking conditions and important improvements.

Elected and appointed officials have the important job of making sure that the time and interests represented in this Plan are carried out – to them we owe thanks for their current and future support.

Finally, there are the people that attended workshops and public meetings, providing us with comments that are sincerely appreciated.

May the wind be at your back and all the hills you travel downward....

*- from the staff and consulting team*

## Table of Contents

### List of Appendices

- Appendix 1: Public input materials
- Appendix 2: Demographics analysis results
- Appendix 3: Survey results
- Appendix 4: Inventory results
- Appendix 5: On-road projects, proposed actions, and final treatments
- Appendix 6: On-road project ratings
- Appendix 7: On-road project cost estimates

### List of Tables

- Table 1-1. Partial responses from Public Review Workshop
- Table 2-1. Wilson Schools
- Table 3-1. City of Wilson Capital Improvement Program Listing
- Table 3-2. NC Department of Transportation Improvements
- Table 4-1. Bicycle facility types
- Table 5-1. On-Road Project Recommendations
- Table 5-2. Priority crossing improvements
- Table 7-1. Summary of short-term recommendations
- Table 7-2. Summary of mid-term recommendations
- Table 7-3. Summary of long-term recommendations

### List of Figures

- Figure 2-1. Map of major roads and destinations in Wilson
- Figure 2-2. Wilson subdivisions and residential zoning
- Figure 2-3. Map of Wilson schools
- Figure 2-4. Map of Wilson parks
- Figure 2-5. Map of Wilson transit routes
- Figure 2-6. Map of bicycle compatibility index rating for Wilson roads
- Figure 4-1. Share the road signage
- Figure 4-2. Bicycle facility design treatments
- Figure 4-3. Signage
- Figure 4-4. Intersection treatment
- Figure 4-5. Bicycle Loop detector
- Figure 4-6. Bicycle slip ramp
- Figure 4-7. Bicycle boulevard treatments
- Figure 4-8. Bicycle detour sign
- Figure 4-9. Advanced warning sign
- Figure 4-10. ADA ramp treatment
- Figure 4-11. Railroad crossing treatment
- Figure 4-12. Multi-use path at intersections
- Figure 4-13. Typical sidepath crossing at intersection
- Figure 4-14. Sample bicycle rack
- Figure 4-15. "U-Rack" drawing
- Figure 5-1. Proposed signed bicycle routes
- Figure 5-2. Map of proposed on-road projects by treatment type
- Figure 5-3. Map of proposed on-road projects by priority
- Figure 5-4. Map of proposed greenways
- Figure 5-5. Map of proposed priority crossing improvements

**Executive Summary.....i**

**Section 1: Goals and Objective.....1**

- 1.1 Introduction
- 1.2 Public Involvement
- 1.3 Goals and Objectives
- 1.4 Plan Contents

**Section 2: Existing Conditions.....5**

- 2.1 Introduction
- 2.2 Demographic Analysis
- 2.3 Survey Results
- 2.4 Existing Facilities
- 2.5 Bicycle Compatibility Analysis

**Section 3: Plan and Policy Review.....25**

- 3.1 Introduction
- 3.2 Plans and Reports
- 3.3 City of Wilson Policies and Ordinances
- 3.4 NCDOT Policies and Programs

**Section 4: Design Guidelines.....41**

- 4.1 Introduction
- 4.2 Bicycle Facility Types
- 4.3 Bicycle Signage
- 4.4 Bicycle Treatments at Intersections
- 4.5 Additional Treatment Considerations
- 4.6 Off-Road Bicycle Facility Design
- 4.7 Bicycle Parking Guidelines
- 4.8 School Zone Guidelines

**Section 5: Projects and Prioritization.....61**

- 5.1 Signed Routes
- 5.2 On-Road Projects
- 5.3 Off-Road Projects
- 5.4 Crossing Improvements

**Section 6: Policy and Program Recommendations...85**

- 6.1 Policy Recommendations
- 6.2 Program Recommendations

**Section 7: Implementation.....99**

- 7.1 Recommendations
- 7.2 Financing

*This page left intentionally blank*



# Executive Summary

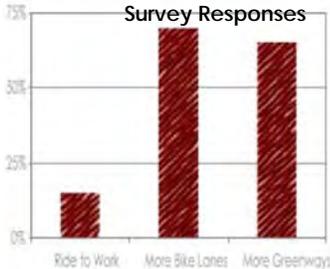
The Wilson Bicycle Plan is the first Comprehensive Bicycle Plan of its kind for the City of Wilson. Funded in part by a grant from the North Carolina Department of Transportation Bicycle and Pedestrian Transportation Division, the main purpose of the Plan is to improve the bicycle-friendliness of the City through a set of projects, programs, and policies.

In 2007, The City of Wilson hired the Upper Coastal Plain Council of Governments and the Louis Berger Group, Inc. to assist with the Plan's preparation. The recommendations in the Plan were generated based on professional analysis, public input, and staff involvement. Public involvement was a key element throughout the Plan process and a Steering Committee was established to guide the Plan's development. Several goals resulting from this exercise are shown at left and described in **Section 1.0**.

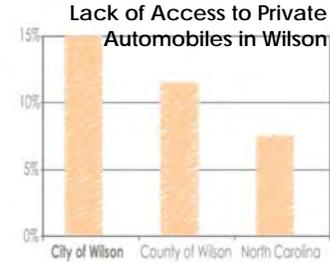
## PLAN GOALS

- **Aesthetics:** Create kid-friendly, family-friendly and people friendly attractive places to ride.
- **Environment:** Use the Bicycle Plan as a way to promote environmental awareness and increase the use of alternative forms of transportation, such as bicycling.
- **Transportation:** Publicly reinforce bicycling as an accepted, legal form of transportation by providing safe facilities, especially to "necessity" destinations such as the grocery store, places of work, or shopping centers.
- **Education:** Develop educational programs that will teach safe bicycling skills for cyclists, safe driving skills for motorists who encounter cyclists, and promote mutual respect between cars and bikes.
- **Construction:** Construct a variety of bicycle facilities and improve existing facilities for cyclists, especially beginning near schools to address safety issues for children.
- **Ancillary Facilities:** Provide bike-related facilities such as bike racks, signage and bike racks on buses throughout the City.
- **Connectivity:** Improve connectivity for cycling to major destinations and neighborhoods.

The public was extensively surveyed and engaged during the course of the planning process, notably including three public workshops and 508 surveys of citizens. The findings in **Section 2.0** indicate that the City of Wilson is not only well-suited from a topographical and climatic perspective for cycling, but the population is ready for more bicycling opportunities: 15 percent of all residents do not have access to a private automobile, double the State average; and nearly 93 percent of those responding to the survey would like to ride their bicycles more frequently.



Plans and policies guide future development in the City, and therefore the Plan includes a fairly extensive assessment of a number of existing plans and policy documents previously adopted by the City in **Section 3.0**:



- 301 Task Force Action Plan: 2003
- City of Wilson Growth Plan: 1999 Update
- Capital Improvement Plan: 2007 – 2011
- City of Wilson Pedestrian Improvement Plan
- Thoroughfare Plan for the City of Wilson
- Parks and Recreation Master Plan
- City of Wilson J. Burt Gillette Athletic Complex Master Plan
- Wilson 2020 Community Vision
- Code of Ordinances
- Zoning Ordinance
- Subdivision Ordinance

A thorough discussion of recommended bicycle parking design details for various types of facilities as well as bicycle parking concepts are explained in **Section 4.0**. Design indicators and representations are included for both on- and off-road bicycle facilities like bicycle lanes, wide outside shoulders, and greenways. Recommended guidance on parking minimums is also provided.

**On-Road Bicycle Routes**

- Airport Boulevard Parallel Route
- Lakeside-Glendale North-South Route
- West Nash Street Parallel Route
- East Nash Street Parallel Route
- Forest Hills-Toisnot Middle Schools East-West Route
- Westwood-Toisnot East-West Route
- Lodge Street East-West Connector
- Elvie Street East-West Connectors 1 and 2
- Denby Field North-South Connector

**Section 5.0** describes all of the project priorities and details on the types of recommended treatments for each. Several signed, on-road bicycle routes are recommended in the Plan, as shown in the text box at left. Additionally, a priority system using cost, access to popular destinations like schools and parks, public input, and constructability was completed to produce a number of short-, middle-, and long-term project priorities. Off-road facilities are derived from the proposed greenway connections, and additional crossing treatments are also suggested in this Plan.

Detailed policy and program recommendations are included in **Section 6.0** to provide education, enforcement, engineering, encouragement, and evaluation to the bicycle community. Detailed suggestions for creating a bicycle parking ordinance are also shown in this Section.

The following table indicates the short-term implementation priorities identified in the Plan in **Section 7.0**, which also contains recommendations for longer-term (six or more years after Plan adoption) priorities as well as a brief description of many financing opportunities.

Short-Term Project Recommendations			
Road Name	Start	Stop	Action
ACC	Corbett	Nash	- Restripe to accommodate bike lane (one way)
Airport	Chelsea	Buckingham	- Sign parallel route in neighborhood & shared lane/signage treatment on route
Black Creek	Pender	Ward	- Shared lane/signage treatment
Corbett	Tilghman	ACC	- Paint sharrows
Corbett	Ward	Toisnot Park	- Redesign to accommodate bike lanes per NCDOT standards
Glendale	Katherine	Raleigh	- Paint sharrows
Glendale	Downing	Katherine	- Redesign to accommodate bike lanes per NCDOT standards
Goldsboro	Downing	Ward	- Shared lane/signage treatment (may be unnecessary)
Lake Wilson	Nash	Lake Wilson Park	- Redesign to accommodate bike lanes per NCDOT standards
Lane	Tuskegee	MLK	- Shared lane/signage treatment
Lodge	Green	Goldsboro	- Shared lane/signage treatment (may be unnecessary)
Nash	Pender	Packhouse	- Sign parallel route in neighborhood & shared lane/signage treatment on route
Packhouse	Bloomery	Nash	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder
Pender	Herring	Black Creek	- Paint sharrows or shared lane/signage treatment
Raleigh	Corbett	Hines	- Restripe to accommodate bike lane (one way)
Short-Term Policy Recommendations		Short-Term Program Recommendations	
Pursue funding opportunities		Wilson Bike Route System	
Road construction and maintenance		Bicycle Parking Program	
Private construction and maintenance		Annual Cycling Events	
Public facility bicycle parking		Safe Routes to School Program	
School zone establishment		Promotional/Educational Material	
Bicycle circulation study		School Zone Monitors/Crossing Guards	
Bicycle Plan design section guidance		Bicycle Helmet Program	
Annual Bicycle Projects Budget		Driver/Cyclist Education Pamphlets	
City Employee Bicycle Use			
Adopt an interconnected street policy			



## Section 1. Goals and Objectives

### 1.1. Introduction

The Wilson Bicycle Plan is the first Comprehensive Bicycle Plan of its kind for the City of Wilson. Funded in part by a grant from the North Carolina Department of Transportation Bicycle and Pedestrian Transportation Division, the main purpose of the Plan is to improve the bicycle-friendliness of the City through a set of projects, programs, and policies.

In 2007, The City of Wilson hired the Upper Coastal Plain Council of Governments and the Louis Berger Group, Inc. to assist with the Plan's preparation. The recommendations in the Plan were generated based on professional analysis, public input, and staff involvement. Public involvement was a key element throughout the Plan process and a Steering Committee was established to guide the Plan's development. The Final Plan was approved by the North Carolina Department of Transportation and adopted by the Wilson City Council in 2008.

### 1.2. Public Involvement

Public input played a critical role in the City of Wilson Bicycle Plan. The process to gather public input has had several elements. First, the Plan was advertised in a variety of forums. City staff attended approximately six neighborhood association meetings; eight City board and five Steering Committee meetings; and sent mass emails out to City employees and local students. The Wilson Daily Times published articles about the Plan, and the Channel 8 "Around the Town" TV show aired a brief interview with Planning Director Rodger Lentz in which he discussed the Plan. Over 1500 flyers announcing the Plan and advertising for the March 19, 2008 Open Houses were distributed at a variety of locations in the City, including recreation centers and the library. Denise Boswell, Senior Planner with the City of Wilson, was interviewed on a local radio station, *Jammin 99.3*, regarding the Plan and upcoming meetings.

A 24-Member Steering Committee, comprised of Wilson citizens, area bicycle club, City staff, and the Consulting Team, met five times throughout the planning process to discuss priorities, existing conditions, and the community's vision for the Plan and cycling in Wilson. Creating and refining specific on- and off-road cycling projects were an important part of the Steering Committee's work, as was providing comments and participating in two Open Houses and a Review Workshop.

Public input was solicited through surveys, Open Houses, and a standing Steering Committee. The surveys were distributed in paper copy and available online. Surveys were distributed through recreation centers, the library, City Hall, City Hall at the Mall, Don's Bicycle Sales and Service, and the YMCA. Section 2: *Existing Conditions* contains a more thorough discussion of the survey methods and results. Open Houses were held on Wednesday, March 19, 2008 at two locations for greater convenience for residents – the Reid Street Recreation Center and the Recreation Park Community Center on Sunset Road. At the Open Houses, participants

were provided an opportunity to speak directly with City staff and their consultants about the Plan. Maps were available for participants to indicate the locations of bicycle-related issues and desired improvements, and flyers and surveys were available for distribution. In total, there were 36 participants at the two Open Houses. Copies of the flyers and survey are available in Appendix 1.

The final Review Workshop was conducted on Wednesday, June 4, 2008. After listening to introductory presentations by Mr. Lentz, and Scott Lane with The Louis Berger Group, Inc., the approximately 45 meeting participants separated into four groups to answer the following questions; some of the responses to each question are provided in Table 1-1.

1. What would you tell the City Council about the Bicycle Plan?
2. How do you feel you can help implement elements of the Plan?
3. Who can you tell about the Plan?

At the end of the Review Workshop, Mr. Lentz announced the winners of several prize drawings, and the meeting adjourned.

### ***1.3. Goals and Objectives***

The vision and goals for the Wilson Bicycle Plan were generated through input from the Wilson Bicycle Plan Steering Committee as part of an exercise to identify the key target areas for the Plan. Several goals were generated from this exercise, as follows:

- **Aesthetics:** Create kid-friendly, family-friendly and people-friendly attractive places to ride.
  - **Objective:** Design a variety of routes based on all skill levels.
- **Environment:** Use the Bicycle Plan as a way to promote environmental awareness and increase the use of alternative forms of transportation, such as bicycling.
  - **Objective:** Increase bicycle use and other forms of alternative transportation use (walking, transit).
  - **Objective:** Change public perception to support bicycling and other forms of transportation.
  - **Objective:** Develop a program to re-use confiscated or abandoned bicycles.
- **Transportation:** Publicly reinforce bicycling as an accepted, legal form of transportation by providing safe facilities, especially to "necessity" destinations such as the grocery store, places of work, or shopping centers.
  - **Objective:** Identify routes to "necessity" destinations and develop a program to systematically improve the routes for cycling.
  - **Objective:** Communicate existing safe routes through a compatibility/suitability map or similar route map on the internet.

<i>What would you tell the City Council about the Bicycle Plan?</i>	<i>How do you feel you can help implement elements of the Plan?</i>	<i>Who can you tell about the Plan?</i>
Education is needed for bicyclists and motorists in Wilson	Promoting biking as a solution to the current economy/gas situation	PD cyclists riding routes and 'spreading the word'
Bicycling helps to address increasing public health concerns	pass out info to Barton students	Local businesses and store management
The City should have a bicycle-related website	Notify the City of pot holes, grates below grade and other barriers	Wilson Daily Times – letters to the editor
Educate Police Department about cyclist rights	Contact PB & CC members regarding biking issues	Civic groups
Create bike safety DVD tools for teachers	Send email to CC members	Place at YMCA, gyms, local recreation centers
The Bike Plan and its recommendations would provide a real asset to community	Ask business and industry to incorporate bike and pedestrian ideas into their health programs	Public school officials, students and parents
Educate motorists about how to behave around cyclists	Ask Chamber of Commerce to assist	Other cyclists, small group rides, local cycling clubs (COWs)
Publish and distribute materials such as a bike map, pamphlets, bumper stickers (Bikes Belong), etc to promote 'a more livable town'	Ask for a Bike/Ped Committee to be appointed as a standing committee for the City	Co-workers
Kids health issues - children need safe bike facilities	Community bike rides to build local bike community	Whirly-Gig ride & Whirly-Gig Festival (September)
Bike facilities will make Wilson a friendlier City	Create an email listserv for local cyclists	Channel 8 (Around town & City Talk)
Create better, safer connections that help youth and others become more independent & mobile	Get private industry on board through signage sponsorship program	Barton & Wilson Community College
Wilson needs cycling facilities b/c people are already biking & others need better transportation options	Get fellow community members and businesses interested for a better chance of success	Pass out info at work and in community
There are cost-effective, immediate solutions recommended in the Plan	Mesh with recreational plans; synergy of various facilities	Health awareness programs @ major employers
Students could bike/walk to school with improvements	Help to distribute materials, such as pamphlets or mailers	Run for Robin event - 25 mi ride in the Fall
Invest in projects that help lots of people access major destination	Exhibit exemplary, safe bicycling behavior	Fire Dept - educate w/posters from children
Need to have a local helmet ordinance	Approach City council as citizens & community	Church members
Wilson needs better, safer cycling options for need-based cyclists	Participate in a bike fair/rodeo (hand signals, helmets, maintenance)	Wilson Business Alliance
In 21 <sup>st</sup> century (1) people are exercising (2) global warming	Community bike rides to build local bike community	Need a talking point sheet

Table 1-1. Partial responses from Public Review Workshop (June 4, 2008).

- **Objective:** Engage businesses in the Bicycle Plan and recommended programs, and use the Bicycle Plan and programs as a marketing tool for the City.
- **Objective:** Develop a program for bike registration.
- **Education:** Develop educational programs that will teach safe bicycling skills for cyclists, safe driving skills for motorists who encounter cyclists, and promote mutual respect between cars and bikes.
  - **Objective:** Develop a helmet program.

- **Objective:** Air an educational program on Channel 8 about bicycle safety and safe motorist behavior.
- **Construction:** Construct a variety of bicycle facilities and improve existing facilities for cyclists, especially beginning near schools to address safety issues for children.
  - **Objective:** Create a program to identify and systematically fix safety “hot spots”.
  - **Objective:** Provide signage and pavement marking design guidelines for roads and other infrastructure that facilitate bicycling.
  - **Objective:** Create greenways that can be used for bicyclists.
  - **Objective:** Identify priority projects around schools.
- **Ancillary Facilities:** Provide bike-related facilities such as bike racks, signage, and bike racks on buses throughout the City.
  - **Objective:** Identify and improve key signalized intersections to make them accessible and convenient for cyclists.
  - **Objective:** Provide funding for ancillary facilities, such as bike-on-bus racks.
- **Connectivity:** Improve connectivity for cycling to major destinations and neighborhoods.
  - **Objective:** Increase linkages for more convenient cycling.
  - **Objective:** Provide bicycle access to major destinations in the City.
  - **Objective:** Increase connectivity of neighborhoods.
  - **Objective:** Develop a network of bicycle facilities to link destinations and increase convenience.

#### **1.4. Plan Contents**

The Plan is divided into three major sections: existing conditions, recommendations, and an implementation plan. The existing conditions, discussed in Section 2 and 3, includes items such as a review of the current roadway network in Wilson; the locations of greenways, parks, recreation facilities; a crash analysis; a demographic analysis of the City; and a review of the existing plans and policies that may effect bicycling and bicycle facilities in the City. The recommendations are addressed in Sections 4, 5, and 6. These sections present recommendations for projects, programs, and policies that build upon the existing conditions in the City to help make Wilson more bicycle-friendly. A set of design guidelines for proposed projects are also provided. Lastly, Section 7 presents an implementation plan with suggested funding sources to help guide the City as it begins to implement the Plan.



## Section 2. Existing Conditions

### 2.1. Introduction

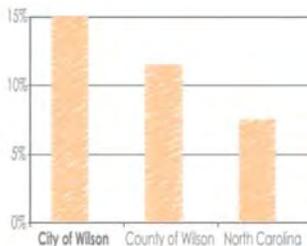
As part of the recommendation process, an existing conditions analysis was conducted to assess the current bicycle network and community needs in Wilson. It is important to conduct an existing conditions analysis because it builds the foundation and guides the development of any project, program, and policy recommendations.

An existing conditions analysis must address the bicycle needs of physical conditions, such as roads, parks, and schools, as well as less concrete items, such as the potential community needs due to their work habits, personal preferences, and travel behaviors. This section contains the following items:

- Demographic Analysis
- Bicycle Survey Results
- Existing Facilities Analysis
  - Location and major roads
  - Major destinations
  - Residential areas
  - Schools
  - Parks and greenways
- Bicycle Compatibility Analysis

### 2.2. Demographic Analysis

It is important to examine a City's demographics before developing a bicycle plan because demographic information provides valuable clues about citizen travel behavior and preferences. Characteristics such as age, income, vehicle ownership, and commute time can suggest a population's potential for using bicycles as a mode of transportation. The following paragraphs provide a summary of the demographic analysis for the City of Wilson and explain the implications of the analysis for the recommendations made in the Bicycle Plan. The complete demographic analysis can be found in Appendix 2.



#### Lack of Access to Private Automobiles in Wilson

*The percentage of homes without access to a personal vehicle is double in the City of Wilson compared to North Carolina, and is second only to nearby Goldsboro for any municipality between 25,000 and 75,000 population in the State. (2000 Census)*

According to 2000 US Census data, the City of Wilson's population is racially balanced between Caucasian and African-Americans, relatively low income, and mirrors North Carolina and the US in age-distribution patterns. The City's household vehicle availability statistics are congruent with the City's relatively low-income levels and high poverty rate; Wilson has a higher percentage of households with no or one car available and a lower percentage of households with two or more cars available than both the State and Nation. Roughly 15 percent of Wilson households do not have access to a vehicle. Despite this, only six percent of all workers do not commute by automobile. It is also interesting to note that the City's percentage of bicycle commuters equals the Nation's percentage and is considerably higher than either the County or the State figure. The demographic analysis also reveals that Wilson has a higher percentage of work commuters who travel less than 20 minutes and a lower percentage

of work commuters who travel between 20 and 59 minutes than both the State and Nation. The short to-work commute times suggest that people who work in the City also live within the City, which means that increasing bicycle commuting is a realistic goal.

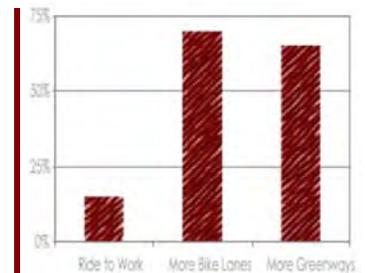
Overall, the results of the demographic analysis suggest that the City's population would be amenable to traveling by bicycle. Based on the income levels, poverty rate, and household vehicle availability, bicycle commuting seems to be a potentially practical option for many workers. Therefore, the Bicycle Plan should make recommendations that focus on improving bicycle facilities to encourage people to travel to work by bicycle, as well as make recommendations to promote recreational or non-work trip bicycling. In addition to the environmental and air quality benefits of increased cycling and decreased automobile use, the effects of adopting these bicycle improvements will also ease vehicle traffic congestion while potentially improving the overall health of the residents of Wilson.

### 2.3. Survey Results

As part of the public involvement process, a survey about bicycling in Wilson was available in both an online and paper version. The online version could be accessed through a link on the City of Wilson webpage, or through a web address that was provided on handouts and flyers about the Plan and the Open Houses. The paper survey was distributed through various neighborhood and City meetings, to the Steering Committee, at the Open Houses, and also available for pick-up at recreation centers, YMCA, Dan's Bicycle Shop, City Hall, and the library. Surveys were accepted between February 19 and March 28, 2008. Overall, there were a total of 508 survey responses, 270 of which were online and 238 of which were through paper surveys. Respondents represented a broad cross-section of the neighborhoods in Wilson and residents of all ages and both genders.

The survey gathered information about respondents' bicycling preferences such as where and when they like to ride, as well as their hopes for the future of bicycling in Wilson. Although most respondents appeared to be recreational cyclists, approximately 15 percent of respondents reported that they ride their bicycle to work, and 15 percent of respondents ride their bicycles more than five times a week. Almost 70 percent of respondents indicated that they would like the opportunity to ride a bicycle more often.

Although respondents from both the paper and online survey versions indicated similar reasons they bike (exercise, recreation, and family events), there were significant differences between the types of respondents and respondent preferences in the paper and online surveys. In the paper survey more men than women responded, whereas in the online survey more women than men responded. Most respondents in the online survey (66.7 percent) had ridden a bicycle in the last six months, and most respondents (92.6 percent) indicated they would like to ride a bicycle more in Wilson; in the paper survey, most respondents (57.6 percent) indicated they had not ridden a bicycle in the last six months



**Key Survey Responses**  
*A lot of the 508 respondents said that they would like to ride their bicycle more (70%); many (15%) already ride their bicycles to work.*

and most respondents (56.7 percent) indicated they would not like to bicycle more in Wilson. In addition, most online survey respondents indicated that they wear a helmet when riding (56.1 percent), but most paper survey respondents do not (60.4 percent).

The respondents' cycling preferences also varied. Of online respondents, 60 percent of respondents ride on weekdays; of paper respondents, 72.7 ride on weekdays. In weather conditions, only 8.9 percent of online respondents ride in any conditions, but nearly 30 percent of paper respondents ride in any conditions.

There are several potential explanations to these differences in the responses to online vs. paper versions of the survey. One explanation may be that more "need"-based riders responded to the paper version of the survey, and more recreational riders responded to the online survey. "Need"-based riders are more likely to bicycle as a means of transportation because they have limited access to a car, and therefore are more likely to ride any time of the week and under any weather conditions. Such riders may make up a significant number of the 56.7% paper survey respondents who would not like to bike more, as they already bike a substantial amount. In addition, a substantial number of the paper surveys were from one of the bicycle shops in Wilson. Another possible explanation for the differences in results is that respondents from the bicycle shop may be more expert and dedicated than the average cyclist, and therefore more likely to ride in any weather and at any time. The response to the question about frequency of cycling per week further emphasizes the difference between the types of riders that may be responding to the two survey formats. In online surveys, only 10 percent of respondents indicated they ride more than five times per week, but in paper surveys, nearly 26 percent indicated that they ride more than five times per week.

In spite of these differences, the overall results of the survey indicate resounding support for the City to implement improvements that would make Wilson more bicycle-friendly. In particular, over 70 percent of respondents felt the City should build more bike lanes and over 65 percent felt the City should build more greenways. Roads that many respondents indicated needed bicycle improvements included: Airport Boulevard, Forest Hills Road, Goldsboro Street, Herring Avenue, Lake Wilson Road, London Church Road, Nash Street, Glendale Drive, and Tilghman Road.

The Plan includes recommendations to address the priority on-road and off-road bicycle needs indicated in the survey. Beyond projects, recommendations in the Plan also outline programs and policies to address community needs indicated in the survey, such as bicycle safety, education, and awareness needs. Nearly half of survey respondents indicated that they do not wear a helmet when riding, and many do not wear one because they do not own one.

The complete overall results, and results of both the online and paper versions of the survey are available in Appendix 3.

## ***2.4. Existing Facilities***

As part of a Comprehensive Bicycle Plan, it is important to assess the existing facilities and major destinations in a City. Currently, Wilson has no designated on-road or off-road bicycle facilities, but current cyclists utilize a number of City roads for transportation and recreational cycling. An assessment of the major destinations and their access routes will help identify appropriate new project locations and bicycle routes, while assessing the condition of the existing facilities and roadways will guide recommendations for treatments and types of bicycle-related improvements. The following paragraphs describe the analysis for the existing physical conditions in the City of Wilson, including:

- Major Roads
- Major Destinations
- Residential Areas
- Schools
- Parks and Greenways
- Transit

An inventory of major roads in the City was conducted as part of the Plan. The inventory addressed conditions such as: number of lanes, speed, traffic volume, curb and shoulder conditions, and road surface conditions. This inventory (illustrated visually in Appendix 4) indicates that Wilson has many low-speed and low-volume roadways in the center city, as well as a number of roads with wide travel lanes (“wide outside lanes”), that are conducive to bicycling. Outside of the center city, several more rural roads are equipped with wide shoulders, also helpful to local cyclists. However, a number of Wilson’s roadways were observed to have a “fair or poor” surface condition, indicating the need for better maintenance city-wide to improve on-road cycling conditions. In addition, the City will need to address any obvious constraints for cyclists, such as narrow bridges and/or non-bicycle friendly drainage grates. Finally, the inventory noted that most of the major roadways in Wilson are designed with curb-and-gutter cross-sections, which may limit applicable treatments and/or raise the cost of bicycle improvements recommended later in the Plan.

The inventory conducted for this Plan focused mostly on larger thoroughfares in Wilson (for both the major roads and major destinations inventories), and generally did not account for traditional neighborhood streets. Due to their narrower widths, decreased traffic volumes, and slower speeds many of these streets are considered to be safe and convenient for bicyclists already. Wilson is fortunate to have a number of streets exhibiting these characteristics. Oftentimes, these local streets can provide important connections to the major roads for which treatments are being recommended, creating a higher density network for riders and easier access for people living in the adjacent neighborhoods. It is important for the City to continue such grid-connected development through the adoption of policies that require connected street patterns.

### Location and Major Roads

The City of Wilson is located in Eastern North Carolina, about two hours from the coast and just over 110 miles to each of North Carolina's port cities, Morehead City and Wilmington. The City is one of the major hubs in the region, and serves as the county seat for Wilson County. It is located just north of US 264, which provides access to both Raleigh to the west and Greenville to the east. Other major roads in the City include:

- Ward Boulevard Loop/US 301
- Herring Avenue (East-west connection)
- Tarboro Street (East-west connection)
- US 264 Alt./Raleigh Road
- Forest Hills Road
- Nash Street (North-South connection)
- Vance Street (North-South connection)
- Hines Street
- Tilghman Road

Figure 2-1 shows a map of the major roads in the City.

### Major Destinations

Wilson has a central downtown business district, along with several other major employment centers throughout the City, including the Wilson Medical Center. Figure 2-1 shows the location of major shopping centers, the Medical Center, and the downtown business district. Wilson also has a significant amount of industrial activity.

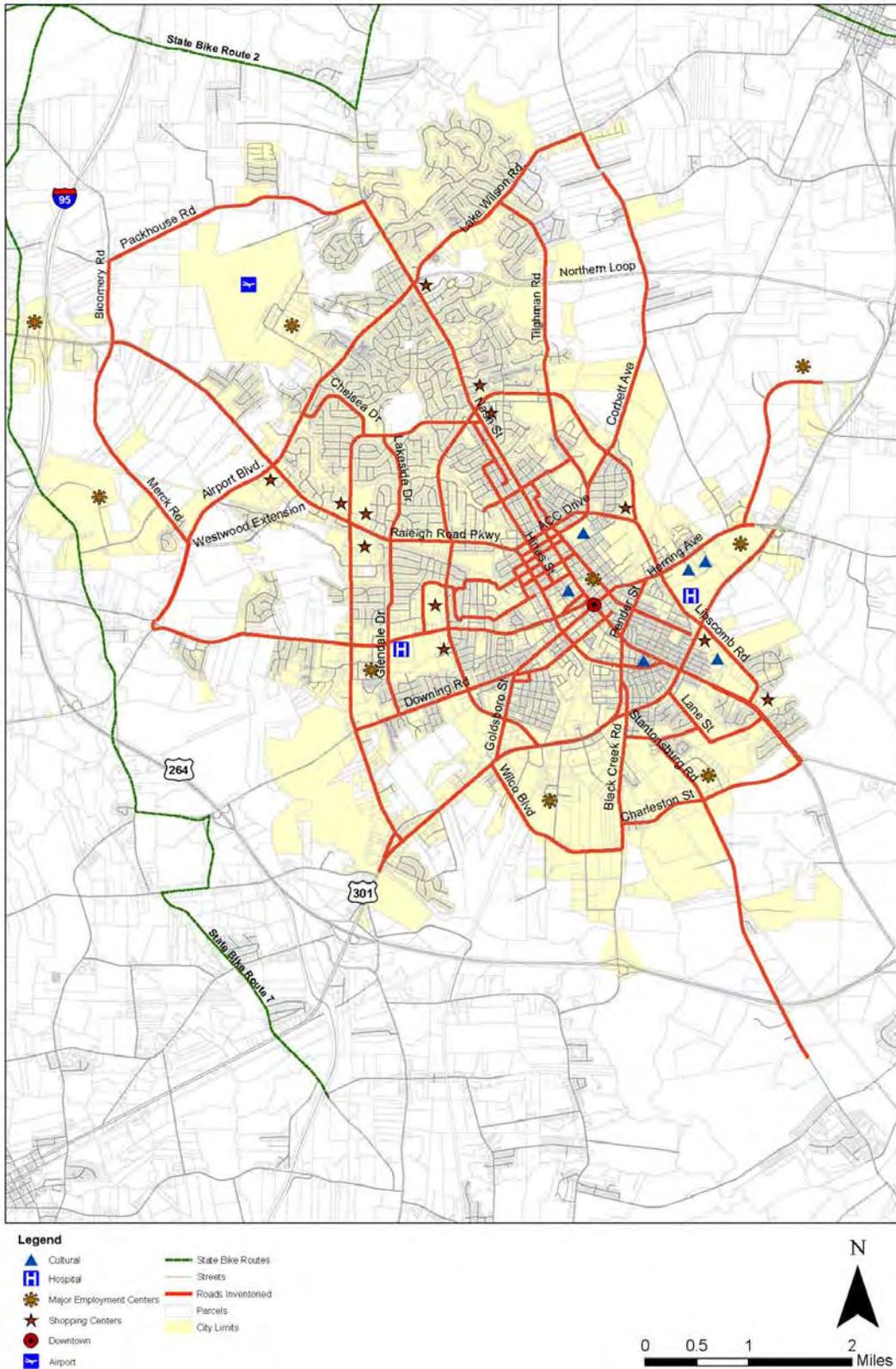


Figure 2-1. Map of major roads and destinations in Wilson

Residential Areas

It is important to note the location of major residential areas in the City in order to identify locations from which many bicycle trips will start and end. The roads in residential also often have low enough traffic speeds and volumes to be considered suitable for bicyclists of all skill levels and ages. Figure 2-2 shows the major subdivisions in Wilson.



**Connectivity Over Time**

*As one moves away from the center City (right) the street connectivity becomes lower in newer communities (figure at left). Walking and biking to destinations for transportation becomes more problematic in the less-connected areas of Wilson, increasing traffic and decreasing viable transportation options to the automobile.*

Generally, road patterns are well-connected in central Wilson and become less connected as one moves toward the edge of the City. Local, short trips are made more easily on a highly connected street pattern. The area north of the airport and Lake Wilson Road has several isolated subdivision developments that are modestly well-connected internally but have poor connectivity to the rest of the City.

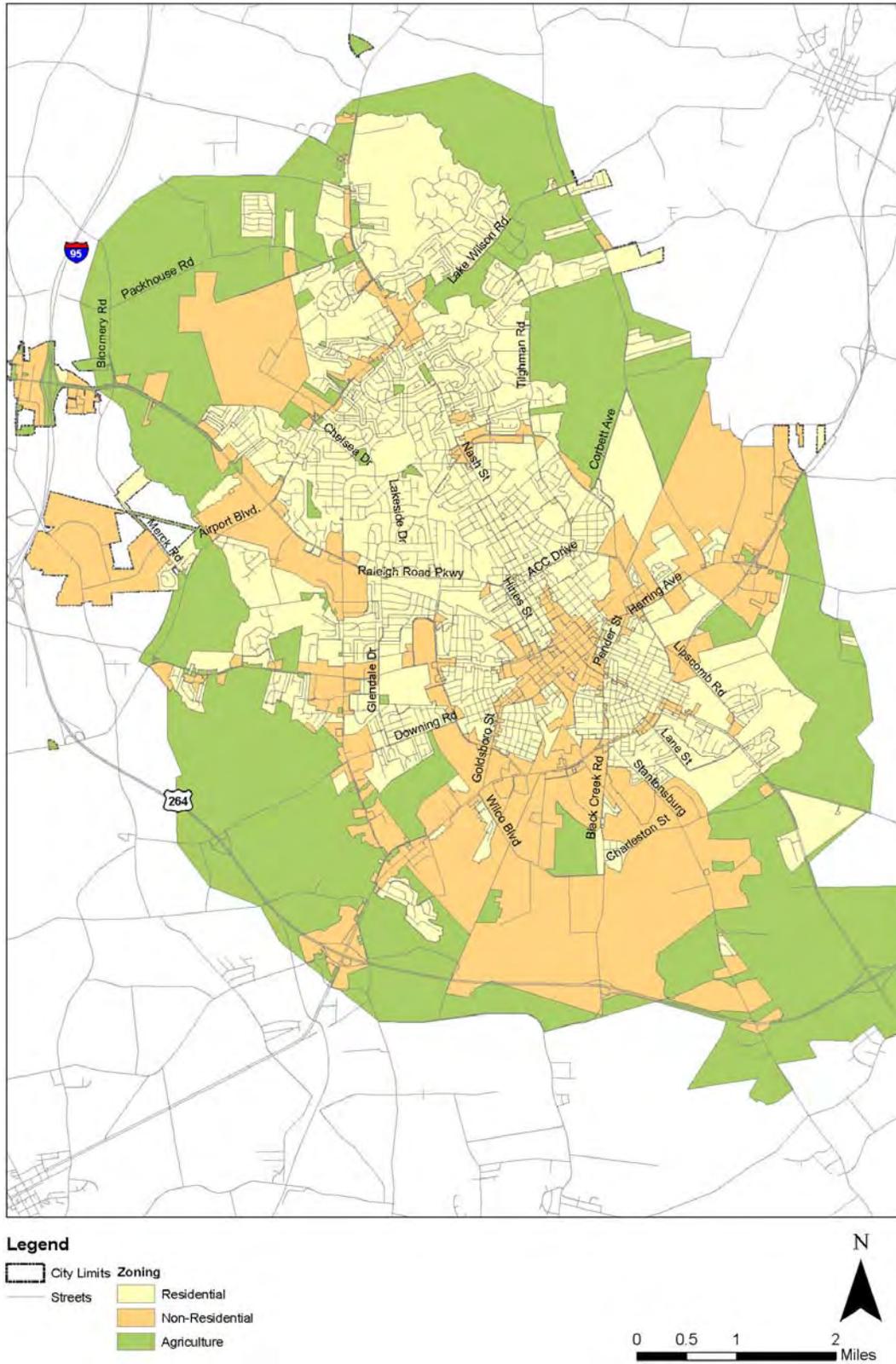


Figure 2-2. Subdivisions and residential zoning in Wilson

**Schools**

Schools are often in locations that can be the starting or ending point for many bicycle trips. It is important to assess the bicycling conditions around schools to ensure that they are suitable for cyclists.

The public schools in Wilson are part of the Wilson County Schools System. There are eight elementary schools, three middle school, and one high school in the City. Wilson is also home to several private schools and higher education institutions, including Barton College and Wilson Community College. Table 2-1 lists the public schools and major educational institutions in the City. Figure 2-3 shows the location of the schools, many of which are located in well-connected areas of the City and accessible by bicycling or walking.

**Table 2-1. List of schools in Wilson**

Elementary Schools	Middle School	Other Schools
Barnes Elementary School	Darden Middle School	Eastern NC School for the Deaf
Margaret Hearne Elementary School	Forest Hills Middle School	Barton College
John W. Jones Elementary School	Toisnot Middle School	Community Christian School
New Hope Elementary School		Summerville Academy
Vick Elementary School	High School	Daniels Learning Center
Vinson-Bynum Elementary School	Ralph L. Fike High School	Greenfield School
Wells Elementary School		Sallie B Hunt School for the Arts and Education
Winstead Elementary School		St. Therese Catholic School
		Wilson Community College
		Wilson Christian Academy





**Greenways**

*Greenways are separated from the roadway or built along abandoned railroads, rivers and streams, or open space.*

Parks and Greenways

Parks are popular destinations for both adult and children cyclists. The City of Wilson has an extensive park system, with numerous parks and recreation facilities. Figure 2-4 shows the locations of the parks and city-owned easements which may serve as potential greenway locations in the City of Wilson. Greenways are often equally as popular for cyclists as parks, especially because they can serve to link major destinations, such as schools, parks, and shopping centers, while providing a cycling environment that is free of motor vehicles. Because they are usually off-road and have few vehicle-bicycle interactions, child cyclists and cyclists with rudimentary skill levels are usually more comfortable riding on greenways.

There are currently no paved greenways in the City, although there is the potential that a network of greenways could be developed through existing utility and sewer easements, two of which have already been dedicated (but not constructed). The City owns a number of these narrow, linear properties throughout Wilson, many of which might be utilized for trail construction, adjacent to utility or water/sewer locations. *Section 5: Projects and Prioritization* identifies greenway trail alignments and visually identifies which easements each proposed trail may follow.

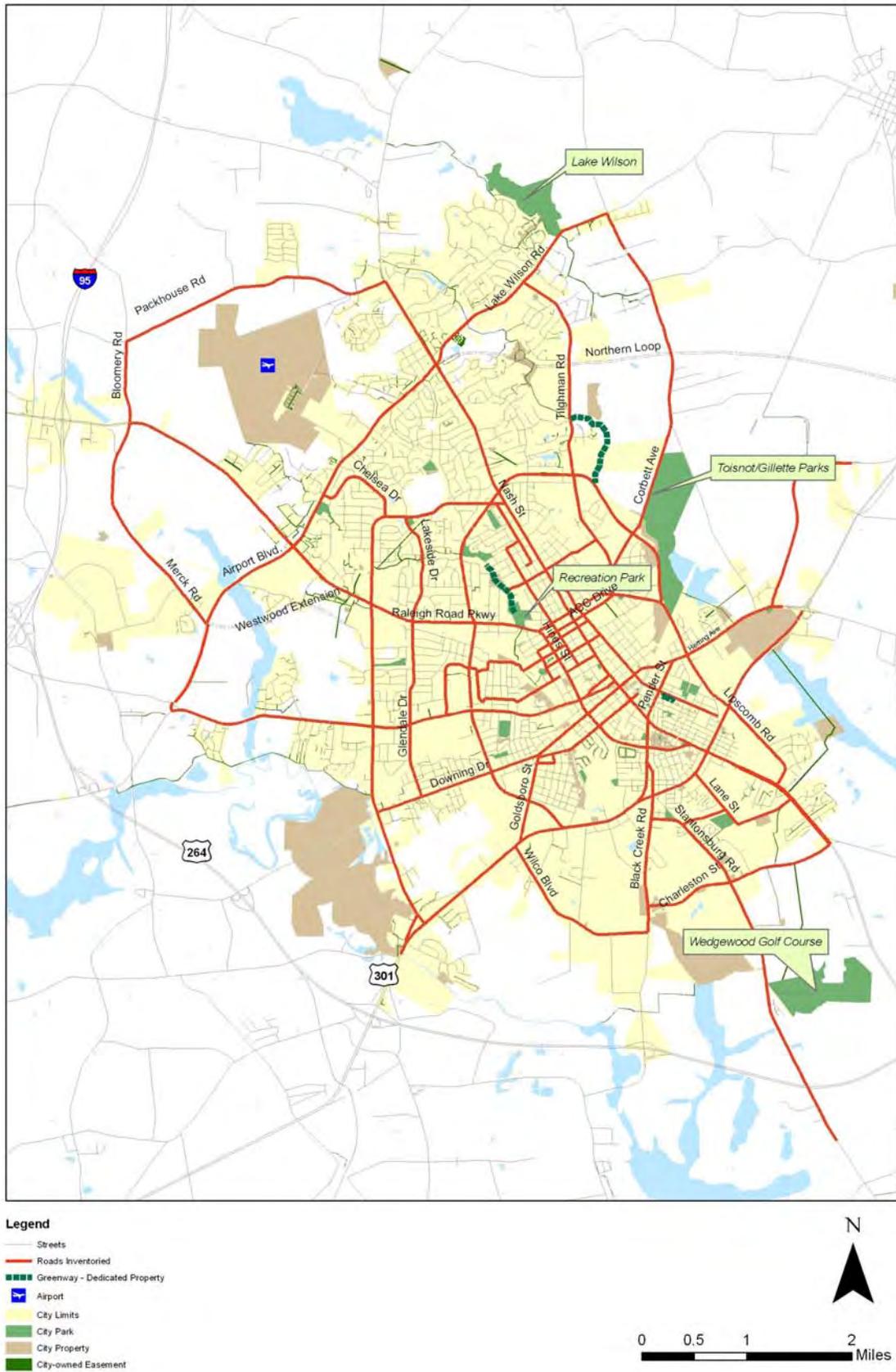


Figure 2-4. Map of Parks and Recreational Areas in Wilson

### Transit

The City of Wilson has a fairly extensive public transit system that provides year-round service to Wilson residents and visitors every Monday through Saturday, excepting holidays. The six Wilson bus routes serve most areas of the City and major destinations such as the Wilson Mall, Downtown, Barton College, Wilson Medical Center as well as a variety of residential developments, schools, shopping centers and public parks. On Saturdays, the bus service is more limited with only three of six routes active, but still covers a wide range of destinations throughout the City. In addition to these standard bus routes, Wilson provides paratransit service by appointment to disabled citizens in need of transportation. Rates for all transit services are reasonable and range from \$0.65 for students or disabled users to \$1.25 for standard fare.

The Wilson bus system is not currently equipped with bike racks, but as of August 2008, the City has received a grant to purchase one double-capacity bike rack for each bus and plans to install the "bike-on-bus" racks in the near future. The City should also consider stationary bike parking racks at the downtown Transportation Center, major bus stops and/or stations as a courtesy and convenience for local bicyclists.

In addition to local transit, Wilson is served by Amtrak passenger rail daily with two routes offering residents and visitors service from Miami, FL to New York City, NY. The specific trains serving Wilson are the Piedmont, Carolinian, and Silver Service/Palmetto routes. Bikes are allowed on Amtrak trains with proper packaging as cargo. The historic train station in downtown Wilson is beautiful and well-equipped, but lacks bicycle racks. The City of Wilson and/or other partners should consider installation of bike racks as a convenience to cyclists arriving at the station for Amtrak travel and/or to meet and greet visitors.

Figure 2-5 illustrates all standard Wilson City bus routes.

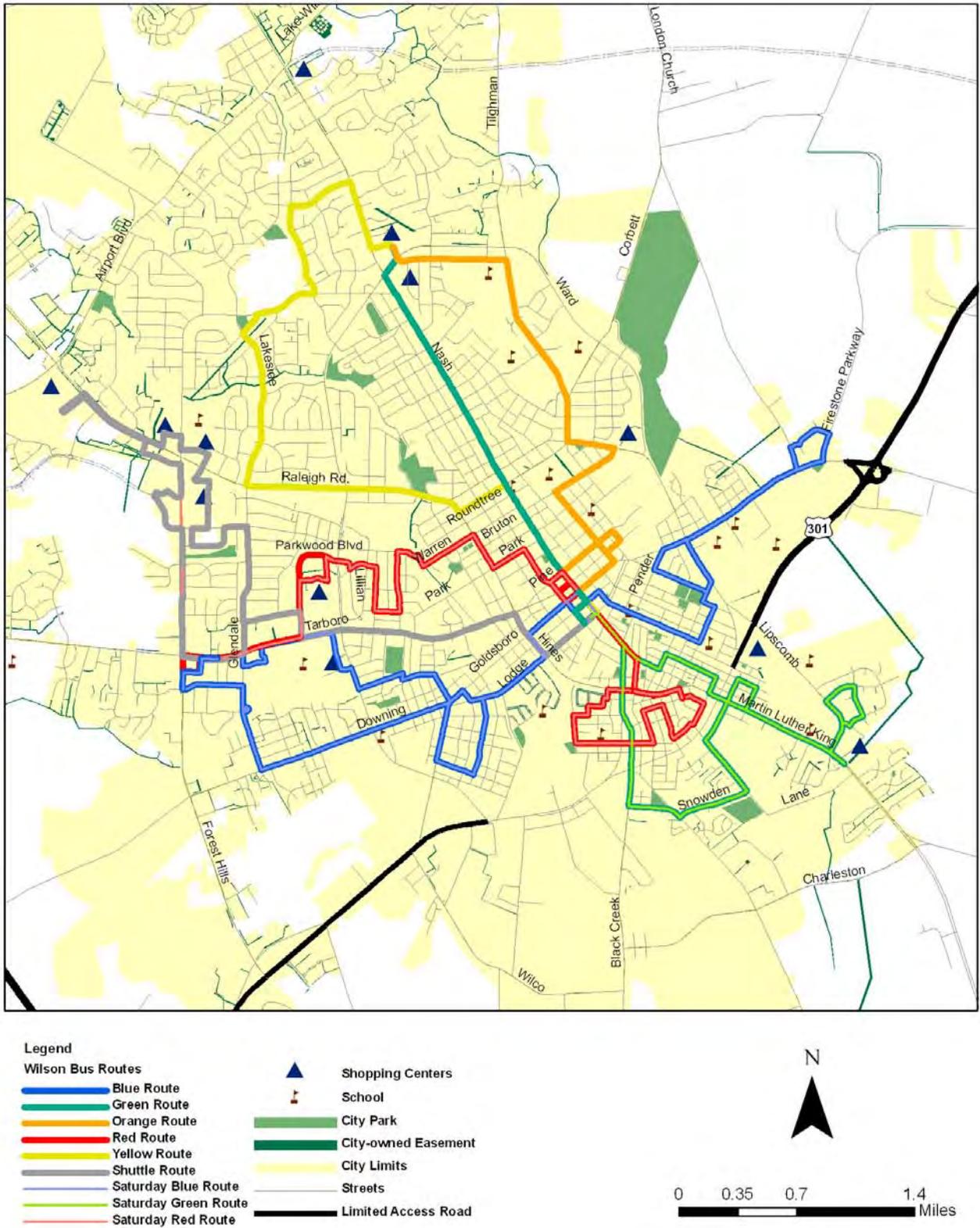


Figure 2-5. Map of Wilson Bus Routes

### 2.5 Bicycle Compatibility Analysis

As part of the existing conditions analysis, an inventory was conducted of the major roads in the City of Wilson. The inventory assessed the conditions of the following items on each of the inventoried roads:

- Number of Lanes
- Posted Speed Limit
- Curb Conditions
- Surface and Grate Conditions
- Traffic Lane Widths
- Traffic Volume

Appendix 4 shows the results of this inventory. The inventoried data was used to help identify key locations that will need to be improved for cyclists, and also to determine appropriate treatments for future projects.



#### BCI Examples

The street in the top picture would get a larger (worse) BCI score; the bottom picture would get a better (lower) score.

Following the major roads inventory, a bicycle compatibility analysis was conducted to determine the suitability of inventoried roads for adult cyclists with basic bicycle skill levels. A bicycle compatibility index (BCI) number was generated for each road in the inventory based on a modified version of the BCI formula created by the University of North Carolina Highway Safety Research Center (HSRC) for the Federal Highway Administration (FHWA). The FHWA’s BCI formula creates a single number to evaluate the various factors, such as traffic volume, road width, and travel speed that affect a cyclist’s ability to use a road and their perception of comfort on that road. The complete formula for the FHWA’s BCI is shown on the following page.<sup>1</sup>

Due to data limitations, the BCI values for the Wilson inventory are generated from a modified version of the HSRC’s BCI formula that uses speed, traffic volume, and roadway width – the three factors with the greatest weight in the HSRC’s BCI formula. The formula for the BCI for Wilson is as follows:

$$\text{Wilson BCI} = \text{Traffic Volume} + \text{Posted Speed} + \text{Roadway Width}$$

Speed, traffic volume, and roadway width on each inventoried road were given values based on the following assignments:

Variable			Variable			Variable		
Traffic Volume	H - High	5	Speed (mph)	55	5	Road Width	Narrow	4
	MH - Med. High	4		45	4		Varies	3
	M - Medium	3		35	3		Standard	2
	ML - Medium Low	2		25	2		Wide	1
	L - Low	1		20	1			

<sup>1</sup> Source: Development of the Bicycle Compatibility Index, [http://ntl.bts.gov/lib/1000/1500/1585/ch06/ch06\\_01.html](http://ntl.bts.gov/lib/1000/1500/1585/ch06/ch06_01.html). Last accessed January 22, 2008.

$BCI = 3.67 - 0.966BL - 0.410BLW - 0.498CLW + 0.002CLV + 0.0004OLV + 0.022SPD + 0.506PKG - 0.264AREA + AF$			
where:			
BL = presence of a bicycle lane or paved shoulder $\geq 0.9$ m no = 0 yes = 1	PKG = presence of a parking lane with more than 30 percent occupancy no = 0 yes = 1	BLW = bicycle lane (or paved shoulder) width m (to the nearest tenth)	AREA = type of roadside development residential = 1 other type = 0
CLW = curb lane width m (to the nearest tenth)	AF = $f_t + f_p + f_{rt}$	CLV = curb lane volume vph in one direction	where:
OLV = other lane(s) volume - same direction vph	$f_t$ = adjustment factor for truck volumes (see below)	SPD = 85th percentile speed of traffic km/h	$f_p$ = adjustment factor for parking turnover (see below)
	$f_{rt}$ = adjustment factor for right-turn volumes (see below)		
Adjustment Factors			
Hourly Curb Lane Large Truck Volume <sup>1</sup>	$f_t$	Parking Time Limit (min)	$f_p$
$\geq 120$	0.5	$\leq 15$	0.6
60 - 119	0.4	16 - 30	0.5
30-59	0.3	31 - 60	0.4
20-29	0.2	61 - 120	0.3
10-19	0.1	121 - 240	0.2
$< 10$	0.0	241 - 480	0.1
		$> 480$	0.0
Hourly Right-Turn Volume <sup>2</sup>	$f_{rt}$		
$\geq 270$	0.1		
$< 270$	0.0		



The Federal Highway Administration (FHWA) Bicycle Compatibility Index (BCI). Note that other factors like turning movements and truck volumes can contribute to a worse score.

<sup>1</sup> Large trucks are defined as all vehicles with six or more tires.  
<sup>2</sup> Includes total number of right turns into driveways or minor intersections along a roadway segment.

Based on the modified BCI formula, a BCI Index of 14 indicates a road that is the most unsuitable for cycling: it has traffic speeds of 55 MPH, narrow roadway widths, and high traffic volumes. A BCI index of 3 indicates a road that is the most suitable for cycling: it has traffic speeds of 20 MPH, wide roadway widths, and low traffic volumes.

None of the inventoried roads in Wilson rated a 14 on the modified BCI. A total of 84 miles were inventoried in the City. Approximately 51 miles (61 percent of the total inventory) rated between 8 and 11 on the index; these higher-scoring (i.e. less "bicycle-friendly") roads typically were multi-lane roads with heavy traffic – those that could be categorized as major thoroughfares. All of these roads were assessed for needed improvements and/or alternative parallel routes were identified in *Section 5: Projects and Prioritization*. Approximately 1.5 miles of road had a BCI rating below 5. Generally, the most "suitable" roads were smaller, mostly two-lane streets with low traffic speeds and volume. Figure 2-6 shows all the inventoried roads and their suitability ratings.

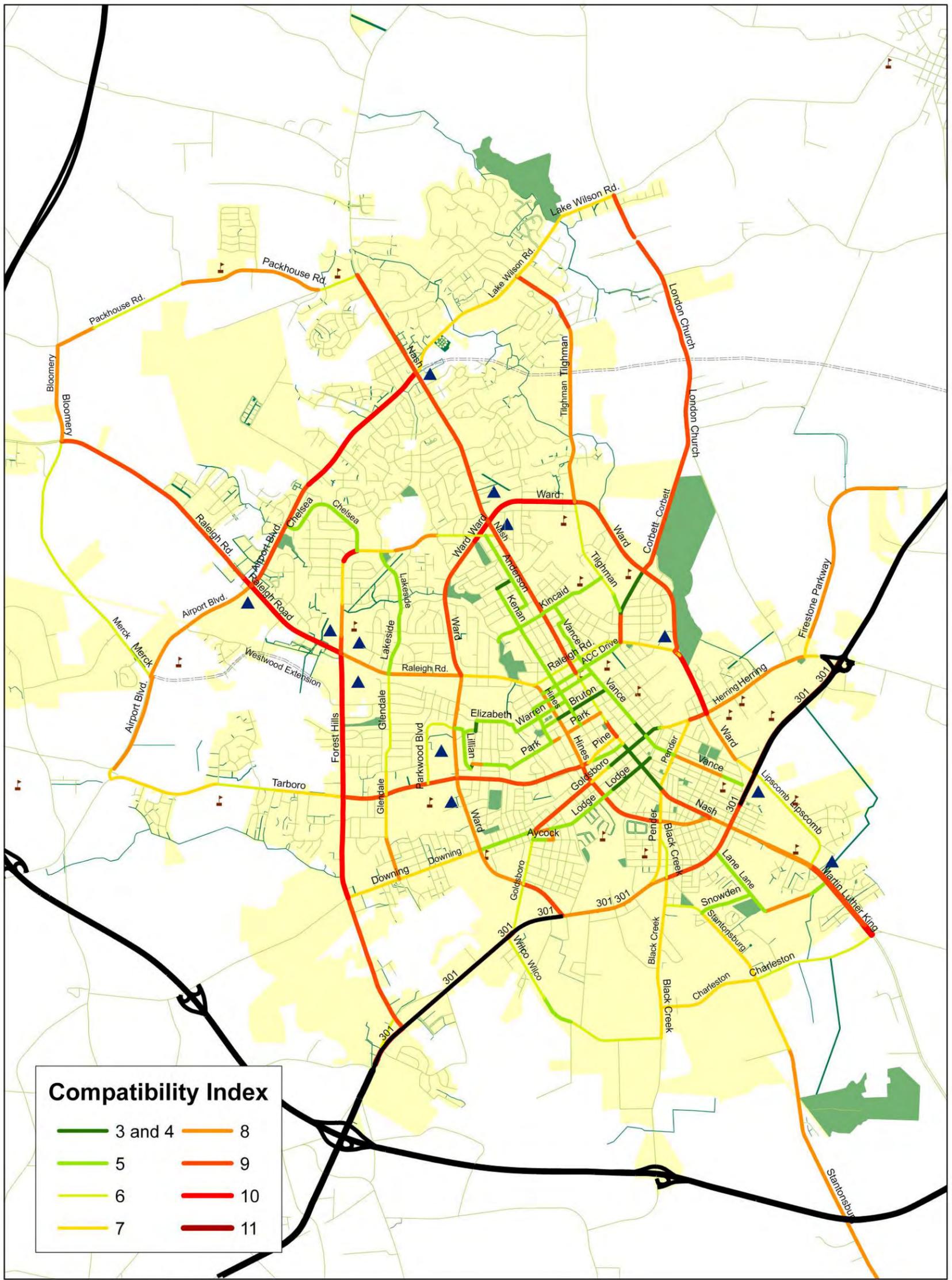


Figure 2-6. Map of the Wilson Bicycle Compatibility Index rating for the inventoried roads

*This page left intentionally blank.*

BCI results and proposed on-road projects

A list of projects was generated based on the results of the BCI Analysis and input from the Steering Committee and City staff. During a series of meetings, the Steering Committee members identified the roads which they used, or would like to use, for bicycling to various destinations in the City. Most of the routes that the Steering Committee identified provide access to many of Wilson's schools and parks. These routes also avoid many of the major roads that may be particularly difficult for cyclists with basic skill levels.

Projects were identified from those roads that received a suitability index of 8 or greater and were identified by the Steering Committee as part of key routes. This list of projects was refined through site visits and further public and staff input to create the list of proposed on-road projects which is presented in Section 5: *Projects and Prioritization*.

*This page left intentionally blank.*



## Section 3. Plan and Policy Review

### 3.1. Introduction

In addition to assessing the existing conditions in the City, it is also important to assess the existing plans and policies for the City. Plans and policies guide future development in the City. Project recommendations in the Bicycle Plan should be coordinated with recommendations in existing plans, or existing plans should be amended to accommodate the recommendations in the Plan. Policies should be supportive of bicycling in Wilson through the construction of bicycle facilities, the construction of development that is suitable for cycling, and other encouragement and education programs. The following plans and policies have been reviewed for the Bicycle Plan:

- 301 Task Force Action Plan: 2003
- City of Wilson Growth Plan: 1999 Update
- Capital Improvement Plan: 2007 – 2011
- City of Wilson Pedestrian Improvement Plan
- Thoroughfare Plan for the City of Wilson
- Parks and Recreation Master Plan
- City of Wilson J. Burt Gillette Athletic Complex Master Plan
- Wilson 20/20 Community Vision
- Code of Ordinances
- Zoning Ordinance
- Subdivision Ordinance

### 3.2. Plans and Reports

#### 301 Taskforce Action Plan

Appointed in 2001 by the Mayor as a grassroots effort to develop recommendations for improving the US 301 highway corridor through the City of Wilson, the 301 Taskforce completed its *301 Task Force Action Plan* in 2003. The *301 Task Force Action Plan* reflects a consensus effort among a broad spectrum of community participants to develop a productive plan of work for improvements to the US 301 highway corridor. This Plan of work included goals that ultimately resulted in a prioritized action plan for the corridor which addressed infrastructure, economic/business, aesthetics, safety and housing issues / needs, pedestrian-friendly access, as well as a revision to the zoning districts for greater land use compatibility.

Of particular relevance for the *City of Wilson Comprehensive Bicycle Plan* are the following recommendations in the US 301 highway corridor plan:

- Include the 301 Corridor in the City's DOT's TIP recommendations for the purpose of reconstructing the road to urban standards with a four-

lane, median-divided cross-section; walkways, underground drainage; street lighting; and landscaping.

- City Council request local discretionary construction funds from DOT Division 4 in order to improve the pedestrian connectivity along the corridor, especially near schools, businesses, and other major facilities.

Upon presentation to the City Council, the *301 Taskforce Action Plan* led to the formation of a Council appointed Advisory Committee to help foster improvements along the 301 highway corridor. This Committee continues to function for the purpose of recommending and guiding improvements for the US 301 corridor.

### **City of Wilson Growth Plan: 1999 Update**

In 1990 the City of Wilson and Wilson County, including all the small municipalities in the County participated in the development of the *Wilson Growth Plan* for the entire County. The *City of Wilson 1999 Growth Plan Update* represents the City's efforts to revise its portion of the 1990 *Wilson Growth Plan* to reflect trends and address conditions 10 years after the original growth plan was prepared. Like the 1990 plan the update relied on the use of planning policies to guide the growth of the community. Growth policies in the Plan address economic, industrial, commercial, office, residential, and central City development, as well as transportation, water and sewer, community appearance, recreation and open space, education, planning coordination, and environmental quality issues.

There are several policies of particular relevance for the *City of Wilson Comprehensive Bicycle Plan*:

- Policy 8.4 encourages the development of an open space/greenway network using natural corridors, transportation right-of-ways, and utility corridor easements, with coordination with and connectivity to schools, major public facilities, and other development.
- Policy 2.6 states that, "Pedestrian, bikeway and other similar facilities shall be encouraged as energy efficient and environmentally sound transportation alternatives".
- Policy 2.10 encourages residential street design that promotes interconnectivity, accommodates sidewalks, and provides safe environments for pedestrians and cyclists.
- Policy 12.2 encourages improvement initiatives in the central business area that include pedestrian-oriented open space systems.

As an adopted plan, the *Growth Plan: 1999 Update* serves as a guide for the various City boards as they weigh various development proposals and public improvements in light of the growth policies contained in the document.

## City of Wilson Pedestrian Improvement Plan

The *City of Wilson Pedestrian Improvement Plan*, completed in 2006, proposes a more “walkable” Wilson with improvements that will encourage pedestrian transportation throughout the community. Because the City has experienced more pedestrian injuries than any other similar size municipality in NC, the Plan focuses on creating safe walking environments for all ages and abilities that are interconnected and provide alternative means of transportation and recreational opportunities.

Demographic trends relevant for pedestrian planning purposes are included in the Plan. These trends are also relevant for bicycle planning and include:

- Daily work commute in Wilson for the majority of persons 16 years or older is less than 20 minutes across all modes of transportation with the majority of the working population in Wilson having an average commute time of five to nineteen minutes.
- More than 2,500 households in Wilson or nearly 15% of all Wilson households do not have a vehicle readily available when needed. This is twice as many households as the State overall (7.5%) and almost 5% higher than the Nation.
- Wilson’s poverty level is higher than North Carolina and the national levels. (Wilson reported an overall poverty level of 21.6% as of 1999 while the State reported 12.3% and the Nation 12.4%.)
- The estimated 2005 median household income in Wilson (\$36,406) is less than North Carolina and also the Nation.
- While Wilson has a lower level of educational attainment than the State and Nation, nearly a quarter of the population over the age of 25 has an associates degree or higher and almost a fifth of the population has some college education.
- Minorities constitute 52.8% of the overall population in Wilson, making it home to a very diverse community, especially when compared to minority population at the State (29.1%) and Nation (26.7%).
- With a median age of 36.7, the population of Wilson is slightly older than the median age of North Carolina (36.6) and the Nation (36.3). The portion of the population under the age of 15 is also marginally higher in Wilson (21.1%) than the State (20%) or the Nation (20.7%). This age group is typically the age group of children who walk or ride bicycles to school as well as for recreational activities. Wilson’s working age groups between the ages of 15 and 64 years are slightly lower than the State and Nation average.

The *City of Wilson Pedestrian Improvement Plan* includes the following goals or needs that relate to the *City Bicycle Plan*:

- educating pedestrians, motorist, and bicyclists about pedestrian safety

- creating interconnected links between pedestrian destinations and attractors, such as schools, parks or businesses, and pedestrian facilities, including bicycle facilities
- identifying top priority pedestrian projects for implementation
- establishing funding sources and yearly budgetary implementation efforts

In addition to repairing and installing missing links in the existing sidewalk network, the Plan identifies existing top priority corridors for sidewalk improvements along with their lengths and estimated costs. Included in the priority listing are Airport Boulevard, Downing Street, Elizabeth Street, Forest Hills Road, Glendale Drive, Goldsboro Street, Herring Avenue, Hines Street, Lake Wilson Road, Lakeside Drive, Lipscomb Road, London Church Road, Martin Luther King Boulevard, Nash Street, NC 42, NC 58, Raleigh Road, Tarboro Street, Tilghman Road, US 264, US 301, West Nash Street, Ward Boulevard, Westwood Avenue, and Wilco Boulevard. Also, top priority corridors for future sidewalk improvement considerations are identified. These identified pedestrian-priority corridors also offer opportunity for consideration of bicycle improvements.

In addition, the Plan illustrates various types of pedestrian standards applicable for the City and offers funding and implementation strategies. Some of these illustrations include consideration for on- and off-street bike route facilities.

Finding that both the *City of Wilson Zoning Ordinance* and *City of Wilson Subdivision Ordinance* were void of specific mention of pedestrian facilities requirements or improvement standards, the *City of Wilson Pedestrian Plan* also makes specific recommendations to promote pedestrian improvement requirements in existing plans, codes, and policies, including:

- definitions for pedestrian related terms
- improve the organization of the codes to include specific sections on pedestrian facilities and level of service requirements
- subdivision design and construction standards for sidewalks
- site plan and subdivision plat review criteria for sidewalks
- payment of fee in lieu of sidewalk construction
- address need for sidewalk and pedestrian overall connectivity in residential and commercial districts in the *City of Wilson Zoning Ordinance*
- insure that open space requirements include provision for trails
- develop pedestrian level of service standards in the *Zoning Ordinance* to insure an efficient pedestrian network
- include easement and connectivity considerations that specifically address pedestrian improvements

These recommendations are also applicable for bicycle facility and connectivity improvements.

If utilized to its fullest and implemented in an orderly fashion over time through public investment, policy, and coordination, the *City of Wilson Pedestrian Plan* offers a comprehensive and practical guide to ultimately remake the City of Wilson into a more “walkable” community and offers opportunities to address bicycle facility and related improvement options.

### **Thoroughfare Plan for the City of Wilson**

Adopted in 1996 by the City of Wilson, the *1995 Thoroughfare Plan* for the City of Wilson updated the *1983 Thoroughfare Plan*. The updated plan follows thoroughfare planning principles, including functional classification of streets, operational efficiency, and a hierarchical radial loop system of roads.

To arrive at specific road recommendations, the Plan employs an analysis of a traffic forecast model using 1989 as the base year and a design year of 2015 with other data collected to help predict future traffic patterns and road deficiencies. The *1995 Thoroughfare Plan* for the City of Wilson recommends specific improvements to address these deficiencies for efficient traffic movement in the 1989-2015 planning period. A Thoroughfare Plan Map in the Plan displays the recommended existing and proposed freeways, as well as major and minor thoroughfares for the City. Street design standards are also included for proposed new roads and widening of existing streets.

Upon adoption, implementation of the *1995 Thoroughfare Plan* for the City of Wilson is through joint City and State responsibilities, subdivision and zoning control, urban renewal, *Capital Improvement Plan*, and *State Transportation Improvement Plan (TIP)*, among other sources.

Although none of the cross-section designs for major thoroughfares include provision for bicycle lanes (even though they all include 5' wide sidewalks), and bicycle route planning and improvements are not addressed in the proposed *Thoroughfare Plan* for the City of Wilson, bicycle planning considerations are included, such as:

- In Chapter 8 reference is made to altering traffic demand and increasing vehicular capacity of existing streets through promoting the use of bicycle and transit modes
- Responses from the transportation survey conducted as part of the *1995 Thoroughfare Plan* for the City of Wilson show that when asked what the key transportation problems were in the community, 9% of the respondents in a mail out survey to all electrical customers and 6% of the respondents in the Chamber distributed survey cited the need for improved alternative means of transportation, such as bicycle and pedestrian facilities

### **Parks and Recreation Master Plan**

As part of the *1990 Wilson Growth Plan* effort, the *Wilson Parks and Recreation Master Plan* was completed in 1993. The plan included three major elements:

- An inventory and analysis of existing recreational assets, opportunities, and limitations recognized that Wilson was growing to the west, northwest, and north. The inventory also acknowledged a steadily growing aging population and those families with children were mostly located in the newer subdivisions, while older and younger adults were concentrated in the City's older neighborhoods. Existing City of Wilson park facilities were inventoried, and it was noted that although generally plentiful, they are relatively small in comparison with State and National standards. The inventory concluded that County parks were very limited, except for at school sites and Buckhorn Reservoir
- Identification of recreation goals, standards, and needs appropriate for the area resulted in development of ten principles for park and recreation improvements, including keeping existing facilities well maintained, continued cooperation and working together with the school system, Barton College, community associations, and other recreation service providers, actively seeking donation of land, developing a greenway system by utilizing stream ways and utility corridors, encouraging public/private cooperation in building and maintaining neighborhood parks, and planning park investments through the *Capital Improvement Plan*
- A clear plan of action over a five to fifteen year period with specific reference to improvements to existing parks, proposed parks, cost estimates, scheduling and alternatives, and Capital Improvement budgeting recommended actions in eight categories:
  - improvement to existing parks
  - one major county-wide park
  - two new community parks
  - two new neighborhood parks
  - new senior center
  - greenway system
  - regional park at Buckhorn Township Parks

The *Wilson Parks and Recreation Master Plan* also included a Greenway Potential Plan for the Wilson urban area that identified all recreation and school attractions as well as natural stream ways, utility corridors, and street connector sections important for overall greenway development to serve the entire community.

Of particular importance for the Bicycle Plan is the strategy for the proposed county-wide park that proposes greenway trails within the park and the Greenway Potential Plan that offered an urban area alternative transportation facility mostly utilizing natural areas and utility corridors. The development of greenways in both the county-wide park and urban area would provide significant opportunity for walking, as well as biking.

## City of Wilson J. Burt Gillette Athletic Complex Master Plan

Named for the Recreation Director who ran the City of Wilson Recreation Department for almost three decades, the J. Burt Gillette Athletic Complex was begun in mid-1990 with the purchase of 113 acres off Corbett Avenue adjacent to the existing Toisnot Community Park. This complex is the realization of a recreation plan of action recommendation in the *Wilson Parks and Recreation Master Plan*. In 2002 a master plan was prepared for the complex, and the first facilities on the site, completed in 2004, included water and sewer, six-tournament level soccer fields with restrooms/concession building, picnic area, and a walking trail. In 2006 an updated master plan was prepared. This plan recognized the full potential of the site, and a park development program was completed with the help of public input and the Recreation Commission. The development plan includes a recreation center, ball fields, tennis courts, and other play areas. Planned trails loop through the natural areas, linking all the athletic fields and center as well as establishing access to the existing, adjacent Toisnot Park.

The importance of the planned trail system for bicycle activities offers significant potential for a variety of biking needs and facilities. Also of importance is the opportunity to link this complex via greenways and bicycle trails using the adjacent natural stream basins to provide access to and from other areas of the community.

## Wilson 20/20 Community Vision

In 2006 the City of Wilson, Wilson County, Wilson Chamber of Commerce, Wilson County Public Schools, Wilson Economic Development Council, Wilson Medical Center, Wilson Community College, Barton College, Wilson Visitor's Bureau, Wilson Daily Times, and Wilson OIC, along with some of the community's most prominent employers sponsored the *Wilson 20/20 Community Vision*, a community-wide planning effort to involve a broad cross section of the entire county in identifying and reaching consensus on a realistic vision for the greater Wilson community. A 50-member steering committee composed of representatives from all the sponsors along with others directs this on-going effort and assembled the necessary funds to contract with the Institute of Government to provide consulting services for the program. Initial efforts included the identification of trends and patterns, community survey of 952 persons, development of a draft vision, and numerous community forums that helped the steering committee draft a vision statement. In April 2007 a community-wide visioning summit was assembled whereby agreement was reached regarding the vision. At this meeting, work teams compiled specific recommendations and strategies for an action plan to compliment the vision. Work continues on refining the action plan and implementing strategies to carry out the Plan.

The *Wilson 20/20 Community Vision* has note worthy implications for the bicycle planning effort. An overriding vision statement emphasizes the Wilson community as "dynamic and vibrant, with a diversified,

entrepreneurial economy and inclusive, compassionate culture, enriching all with an unparalleled quality of life". Other vision elements boost this statement, including one that directly reinforces the bicycle planning effort:

"We carefully manage commercial, industrial, and residential growth in ways that preserve open space and our history and encourage investments across all parts of the community. Our vital, historic downtowns are hubs of cultural and commercial activity. Sidewalks, bikeways, and greenways connect our beautiful neighborhoods."

The community scan in the *Wilson 20/20 Community Vision* offers a glimpse regarding the makeup of the community that may have relevance to the bicycle planning effort. For example:

- Hispanic and Native Americans have experienced the most population growth in the greater Wilson community.
- African Americans account for a large percentage (39%) of the population.
- Finance, professional and technical services, recreation, arts and entertainment and agriculture employment show the largest gains, some of which, like technical services, arts/recreation and finance/real estate are well above the State average.
- Top employment sectors are manufacturing, health care, retail trade, construction, and education.
- Over 6,600 workers commute from Wilson to adjacent counties and over 9,923 workers from adjacent counties commute into Wilson County.
- Wilson weekly wages in the major sectors are slightly above the five surrounding county averages but mostly below the State average.
- Although most households (approximate 54%) live on incomes above \$35,000, 46% live on incomes below \$35,000.
- Wilson's per capita income of \$26,277 is well below the national (\$33,050) and State (\$29,322), and in 2004, the County per capita income was in the middle compared to surrounding counties.
- With 16.3% of the population under the poverty level, the County is worse than the State poverty level.
- With approximately 8% unemployment Wilson County's unemployment rate is higher than the National or State rate.
- Wilson's home ownership of 61% is well below the State average and the City of Wilson's ownership of 51% is even lower.
- Although Wilson's high school graduation rate is higher than the State (32% compared to 28%), the percentage of persons without high school diplomas are higher than the State (31% compared to 22%).
- Higher education attainment is lower in Wilson County than the State.
- Crime rates for various crimes are mostly higher in the County than the Statewide averages, and violent crime rates are substantially reduced since the early 1990s but still slightly above the State.
- Property crime rates are down since the 1990s, but above the State average.

- Wilson County has a higher per capita assessed valuation than surrounding counties but is below the Statewide average.
- Property taxes and intergovernmental make up over 60% of the per capita revenues.
- Although the City of Wilson's per capita expenditure for parks and recreation is far higher than Wilson County or surrounding counties it is below the City of Rocky Mount.
- The City of Wilson's effective tax rate is lower than all surrounding counties including the City of Rocky Mount and Greenville.

In addition, the community survey results of the *Wilson 20/20 Community Vision* indicate interest in improvements that may relate to bicycle planning. For example, responses from the community survey suggest that residents see the need for improvements. When asked if they are satisfied with things as they are, 53% disagreed; and when asked if the place is good enough without starting new community improvement program 89% disagreed. In fact, 86% of the respondents desired new community improvement programs and 20% rated development of new recreational and cultural opportunities as critical. The lack of sidewalks and the lack of concern for bicycle riding were specific responses in open ended questions. Several open ended responses capture the interest in community improvements for a more livable community:

- "Wilson in the year 2020 should be seen not only as a neighboring City to Raleigh or Greenville, but a sustainable place, where people live, work and play, and not a home place for people who work and seek entertainment opportunities in other places."
- "I envision Wilson as a family-centered community, with walking and biking trails. I hope it will be a community where we embrace our diversity, celebrate the arts, and where we can encourage our children to live and work as they become adults."

The community summit produced goals and strategies that relate closely to the bicycle Plan. One action plan goal stresses the beautification of "connections between neighborhoods and roadways, sidewalks, bikeways, and greenways" and calls for a master plan for greenways and bikeways. The goal further suggests ordinance revisions to require greenways in new developments and encourage new "village" style developments with walking trails and safe traffic patterns. Another goal encourages "local government and civic decisions that support healthy lifestyles and a clean environment", and include action strategies whereby "numerous walking trails are established, promoted, and maintained county-wide", "bike trails exist to promote healthy activity", and "more natural walking trails and bicycle tracks are accessible for wheelchairs".

The *Wilson 20/20 Community Vision* was in its final stages nearly coterminous with the Bicycle Plan. Several important outcomes are cited in the *Wilson 20/20 Community Vision Report*, including the following:

- (Page 86): Within each jurisdictions comprehensive landuse plan, a chapter on bicycle and pedestrian facilities should be included to

determine the desires of each jurisdiction's residents. This is to be completed within 2 to 5 years of the *20/20 Plan*.

- (Page 86): Connect bikeways, greenways, and pedestrian paths to form a regional system. Again, this action was to be completed and implemented within 2 to 5 years of the *20/20 Plan*.
- (Page 23): These bicycle trails (and greenways, pedestrian paths, etc.) should be handicapped accessible.

The project's web site at <http://www.wilson2020vision.org> presents information that describes the planning process and offers documents that detail the results of the planning efforts.

### 3.3. City of Wilson Policies and Ordinances

#### Code of Ordinances

Chapter 22 in the *City of Wilson Code of Ordinances* addresses bicycles in detail from a traffic safety standpoint. The ordinance deems bicycles to be "vehicles and every rider of a bicycle upon a highway shall be subject to the provisions of this chapter applicable to the driver of a vehicle except those which by their nature can have no application". The Traffic Engineer is authorized to make surveys of traffic conditions, needs and problems in the City, make recommendations to the City Manager, and otherwise promote traffic safety.

Article VI in this chapter specifically addresses bicycles, requiring that:

- Bicycles have lights after dark.
- All operators of bicycles shall observe all traffic regulations and control signage as if in a vehicle.
- Riding passengers on the handlebars, frame, or other part of such bicycle is unlawful, except riding passengers is lawful provided a permanent seat, handholds, and footrests are provided for each passenger.
- Riding on the sidewalk in any business district is prohibited and may only cross such sidewalks by dismounting.
- Bicycle registration is required and operation of a bicycle without a registration is unlawful and all transfers or sells of bicycles shall be reported to the Chief of Police with registration of the bicycle by the new owner within five days of such activity.
- Dealers are required to provide a full report of a purchased bicycle to the Chief of Police within 48 hours after selling a bicycle.
- Notice of the bicycle requirements are required to be posted in bicycle dealers' premises.
- The month of May is declared to be "Bicycle Registration and Safety Awareness Month" and the City Council recommends that a City-wide public awareness campaign to be held promote the importance of bicycle registration as well as safe use and operation of bicycles.

Article VI further states that any bicycle operated by a person or by another person in custody of the bicycle who violates the provisions of the ordinance, may be taken into custody and impounded for up to 30 days. The violator is also subject to the general penalty imposed by the City Code Section 1-11(a) that states a violation is punishable by a fine not exceeding five hundred dollars (\$500.00) or by imprisonment not exceeding thirty (30) days, or both with each violation constituting a separate offense.

Chapter 34 addresses streets and sidewalks, but not bike routes or facilities. Sidewalks are addressed in Article V of the chapter in regards to requests for new sidewalk improvements which can only be considered in accordance with City specifications and 100% of the costs are assessed to the property owner. Appendix C (Subdivision Design Standards) requires minimum 4' sidewalks on both sides of the street for minor and collector streets in residential and office areas.

## Zoning Ordinance

The *City of Wilson Code of Ordinances* incorporates the *City of Wilson Zoning Ordinance* as Appendix A – Zoning. No specific mention of bicycle facilities is included in the *City of Wilson Zoning Ordinance*, except Section 3.31 in this ordinance provides standards for open space and recreation requirements, but only in group housing developments, mobile home parks and subdivisions, Planned Residential Development Districts, and Cluster Subdivisions. Also, the open space standards are mostly related to requirements for certain percentages of land to be set aside for common open space areas. Specific types of recreational facility requirements are not included, except in general terms, such as recreational areas must be suitable to serve children and or adults in the case of group housing, mobile home parks or subdivision, and a Planned Residential Development. For group housing developments only the City of Wilson Director of Parks and Recreation reviews the plans and makes recommendations appropriate to the intended clientele regarding proposed landscape and site amenity improvements. In regards to recreational facilities for group housing developments, the ordinance further states that “plans that do not include such improvements, or are deemed inadequate by the Technical Review Committee (TRC), are not placed on the Planning Board agenda until such improvements and/or facilities are shown on the development plan”. In addition, open space designated in Cluster Subdivisions and Planned Residential Developments must be useable, such as being able to support trails in natural areas for walking and similar activities. However, standards and specific requirements for such trail systems are not provided in the ordinance.

Except for the general requirements for open space designation in certain types of development, the *City of Wilson Zoning Ordinance* is void of any specific improvements requirements that relate to bicycle facilities. As such there is a need for specific recommendations in the *City of Wilson Comprehensive Bicycle Plan* to address standards for bicycle network and facility improvements for the *City of Wilson Zoning Ordinance* (refer to Section 6 for recommendations).

## Subdivision Ordinance

Bicycle facilities (or other types of pedestrian improvements) are not specifically addressed by the *City of Wilson Subdivision Ordinance*. Although there are extensive standards for street improvements as related to varying size streets to carry automobile and truck traffic depending upon the type of development and conformity with official plans, there are no specific ordinance requirements that address pedestrian or bicycle traffic in the *City of Wilson Subdivision Ordinance*. If a proposed park is shown on a land use plan in an area where a subdivision is planned, the proposed subdivision must show dedicated or reserved land for such purposes for the area. However, there are no standards provided for the park or related amenities.

Under the variance procedures for a subdivision, a “complete neighborhood” may be approved with consideration for variances from the subdivision regulations. Such complete neighborhood subdivisions must “provide adequate public spaces,” including provisions for efficient circulation, light, air, and other needs. Use of the complete neighborhood subdivision variance procedure by a developer would allow flexibility in subdivision design to include bicycle facility considerations with trade-offs in regards to variances from specific subdivision standards. For example, a proposed subdivision could include requests to vary from subdivision standards based upon a complete neighborhood design whereby bicycle facilities (and other pedestrian improvements) are planned as part of adequate public spaces and efficient circulation design for the neighborhood. However, these types of considerations are not mentioned as possibilities in complete neighborhood subdivision design. As with the *City of Wilson Zoning Ordinance*, there is a need for specific recommendations in the *City of Wilson Comprehensive Bicycle Plan* to address standards for bicycle network and facility improvements for the *City of Wilson Subdivision Ordinance* (refer to Section 6 for recommendations).

## Capital Improvement Plan 2008-2012

The *City of Wilson Capital Improvement Plan* includes a variety of desirable public improvements for infrastructure, facilities, and related operations that are budgeted over a five-year period. In order to be considered for the *Capital Improvement Plan*, each proposed major public improvement is one that is non-recurring (non-annual expenditures), consists of a one time project expenditure that exceeds \$25,000 in costs, and has a long-term life of 15 years or more.

Various proposed projects over the five year planning period are relevant in considering opportunities for incorporating bicycle facilities and/or developing route network connectivity, including multi-use trail creation with bike route improvements. Coordination of various major improvements projects proposed in the *Capital Improvement Plan* with pedestrian and bicycle-related facility considerations provides opportunities for the implementation of desired pedestrian-friendly improvements in various areas, including multi-use trail development and

bicycle infrastructure and facilities. These projects include the following shown in Table 3-1.

Although the *Capital Improvement Plan* represents only a budgetary guide for major public improvements, the various desired projects within its scope are individually prioritized and considered for funding in each annual City of Wilson budget cycle. As the following projects are considered in the annual budgetary process, their potential for facilitating bicycle facility improvements, as well as pedestrian and multi-use trail systems improvements including bicycle routes, should also be evaluated and considered for implementation as part of the projects.

Table 3-1. City of Wilson Capital Improvement Program listing

City of Wilson Capital Improvement Plan 2008–2012 Potential for Bicycle Facility Planning and Improvements		
Project	Description of Project	Potential for Bicycle Interests
<b>General Fund</b>		
Renovation/expansion of the Police Department	Police Department building expansion and renovation	Provide bicycle parking racks
New utility billing office	Provides facility in the downtown to improve customer services in billing functions	Provide bicycle parking racks for customers and employees
J. Burt Gillette Athletic Complex Phase II & III	Provide baseball fields, playgrounds, picnic facilities & recreation center	Provide bicycle racks, trails, and related activities
Wedgewood Golf Course	Renovate golf course	Consider bicycle trails
Lake Wilson Park	Facilities for multi-use recreation area	Provide bicycle trails and facilities
Toisnot Park ball fields	Renovate lighting and parking areas	Provide bicycle trails and facilities
Recreation Center renovations	Renovation two recreation centers	Consider additional bicycle facilities and trails
Five Points Park	Renovate park, provide walking track & shelter	Provide bicycle facilities
Buckhorn Park	Continue park development	Insure provision for bicycle facilities and trails
Wiggins Mill Park	Further development of facility	Insure provision for bicycle facilities and trails
Greenway system development	Provide greenway from Toisnot Park to Lake Wilson	Insure provision for bicycle trail and facilities
<b>Electrical</b>		
Transmission line distribution	New transmission line near and paralleling I-95	Consider suitability, facility improvements and connectivity enhancements for multi-use trail including bicycles
<b>Water Resources</b>		
Contentnea outfall sewer rehab	Rehab, clean, upsize outfall sewer line along entire western side of City from US 301 to Merck Road	Consider suitability, facility improvements and connectivity enhancements for multi-use trail including bicycles
US 301 water main replacement	Replace existing line with larger pipe from Forest Hills to Ward Boulevard	Consider suitability, facility improvements and connectivity enhancements for multi-use trail including bicycles
Nash Street water/sewer improvements	Replace existing lines along Nash Street from ACC Drive to Ward Boulevard	Consider suitability, facility improvements and connectivity enhancements for multi-use trail including bicycles
Ward Boulevard water line replacement	Replace old 16" line from US 301 to Tarboro along Ward Boulevard	Consider suitability, facility improvements and connectivity enhancements for multi-use trail including bicycles
Water re-use line extension	Extend water re-use line from Gillette Park to Lake Wilson Road and Country Club	Consider suitability, facility improvements and connectivity enhancements for multi-use trail including bicycles
Firestone sewer outfall	Rehabilitation of outfall line from Firestone Parkway to near Ward Boulevard	Consider suitability, facility improvements and connectivity enhancements for multi-use trail including bicycles
Airport Boulevard widening project	Move water and sewer lines for widening from Gloucester Drive to NC 40 (Tarboro)	Consider facility improvements and connectivity enhancements for multi-use trail including walking and bicycles
<b>Stormwater Management</b>		
Hominy Swamp drainage basin improvements	Make improvements in keeping with the Hominy Swamp Basin study	Consider suitability, facility improvements and connectivity enhancements for multi-use trail including bicycles

### 3.4. NCDOT Policies and Programs

#### NC Transportation Improvement Program 2009-2015

The latest *City of Wilson and County of Wilson TIP* was submitted in January 2009 to NC Department of Transportation and listed the City of Wilson and County transportation projects of importance. Priorities were identified for all the proposed projects, both for approved funded and approved unfunded ones. In addition, requested road and rail projects were included. Project priorities and recommended improvements that could impact bike planning are set forth in the following table (Table 3-2).

City of Wilson and Wilson County NC TIP 2009-2015			Recommended Improvements	Costs
Priority	TIP Project #	Roads		
<b>Approved Funded Projects</b>				
1	U-3823	Airport Boulevard, NC 42 to US 264	Multilane thoroughfare	\$14.9M
2	R-4737	Stantonsburg Interchange at US 264 By-Pass	New Interchange	\$4.9M
3	B-4326	Lamm Road over Bloomery Swamp	Bridge replacement with 4ft paved shoulders	N/A
4	B-4679	Downing Street over Contentnea Creek (Bridge No. 66)	Bridge replacement with 4ft shoulders (scheduled: FY2013)	N/A
5	B-5126	Downing Street over Contentnea Creek (Bridge No. 65)	Bridge replacement with 4ft shoulders (scheduled: FY2014)	N/A
<b>Approved Unfunded Projects</b>				
1	U-3470	Northern Loop (connect Airport Boulevard with US 301)	Multi-lane thoroughfare	\$35.4M
2	U-3471	Black Creek Road from US 301 to US 265 By-Pass	Widen to multi-lanes	\$11.1M
3	FS-0204E	Lamm Road (US 264 to Industrial Park)	Widen to multi-lanes	N/A
4	R-3102	NC 58 (Wilson to Global Transpark)	Construct freeway	\$297M
5	B-4678	US 301 over NC 42	Bridge replacement	N/A
<b>Requested Additional Projects</b>				
1	Downing Street (Forest Hills to US 264 By-Pass)		Widen to multi-lane	
2	US 301 (Wiggins Mill to NC 42)		Install curb, gutter, & drainage	
3	Westwood Ave Ext (Westwood to Airport Boulevard)		Connect Forest Hills to Airport Boulevard	
4	Lake Wilson Road		Complete multi-lane to London Church Road	
5	City-wide Loop Signal System		Create closed loop signal system	
6	Tilghman Road and Corbett Avenue		Complete multi-lane facilities	
7	Wilco Boulevard (US 301 to Black Creek)		Complete multi-lane with curb & gutter	
8	London Church Road (Lake Wilson to Herring)		Widen to multi-lane connector	
9	Packhouse Road and Bloomery Road		Widen to multi-lane facility	

Table 3-2. NC Department of Transportation Improvements

## North Carolina Department of Transportation Policies

The North Carolina Department of Transportation (NCDOT) has adopted a number of policies addressing routine accommodation for bicycles and pedestrians on state maintained roadways. These policies and guidelines should be applied when new construction or resurfacing projects impact the bicycling environment in Wilson and include the following:

- **Board of Transportation Resolution on Mainstreaming Non-motorized Transportation** – This policy reaffirms the importance of bicycle and pedestrian facilities as an integral part of the overall statewide transportation system, and states that “bicycling and walking accommodations shall be a routine part of the North Carolina Department of Transportation’s planning, design, construction, and operations activities.”  
([http://www.ncdot.org/transit/bicycle/laws/laws\\_resolution.html](http://www.ncdot.org/transit/bicycle/laws/laws_resolution.html)).
- **NCDOT Bike Policy** – This policy offers guidance for providing bike accommodations on state maintained roadways, and details standards for planning, design, construction, maintenance, and operations pertaining to bicycle facilities and accommodations.  
([http://www.ncdot.org/transit/bicycle/laws/laws\\_bikepolicy.html](http://www.ncdot.org/transit/bicycle/laws/laws_bikepolicy.html))
- **NCDOT Guidelines for Accommodating Greenways with Road Improvement Projects** – This policy addresses the intent of NCDOT to accommodate planned greenways, existing greenways, and greenway crossings in all highway planning and construction projects. The policy states that it “was incorporated so that critical corridors which have been adopted by localities for future greenways will not be severed by highway construction.”  
([http://www.ncdot.org/transit/bicycle/laws/laws\\_greenway\\_admin.html](http://www.ncdot.org/transit/bicycle/laws/laws_greenway_admin.html)).



## Section 4. Design Guidelines

### 4.1. Introduction

A set of design guidelines and criteria for bicycle facilities is not only a critical component of a bicycle plan but also an essential reference guide for future bike system development. It encourages citizens to try cycling by providing a consistent set of bicycle design treatments to help them gain familiarity with the system; it provides for maximum safety for those that are already using bicycles as a mode of transportation or recreation; and it enhances the visibility of cyclists to motorists and pedestrians. Additionally, it provides City officials, engineers, developers, and law enforcement officers with a set of standards by which the City of Wilson strives to adhere to as it implements the Bicycle Plan.

While there have been numerous research projects and associated standards developed by State and National entities such as NCDOT and AASHTO, the design accommodations for bicycle traffic within roadway and greenway projects is still an emerging science and an evolving practice. This section of the Wilson Bicycle Plan is based on the current State and National guidelines including the *North Carolina Bicycle Facilities Planning and Design Guidelines* (NCDOT Office of Bicycle and Pedestrian Transportation, January 1994) and the *AASHTO Guidelines for the Development of Bicycle Facilities* (AASHTO, 1999).

The Wilson design guidelines use these documents as a baseline for minimum conditions and are intended to provide design solutions for a wide range of bicycle facility types. It is recognized that on facilities maintained by NCDOT, the State's design guidelines will apply, and that Wilson has the potential to exceed these minimum guidelines where conditions warrant on facilities within their jurisdiction.

It is recommended that as these guidelines change and evolve and as Wilson begins the development of its own standards, that new practices are researched and reviewed with local system users to ensure that such treatments are providing the safest and most effective methods for bicycling safety.



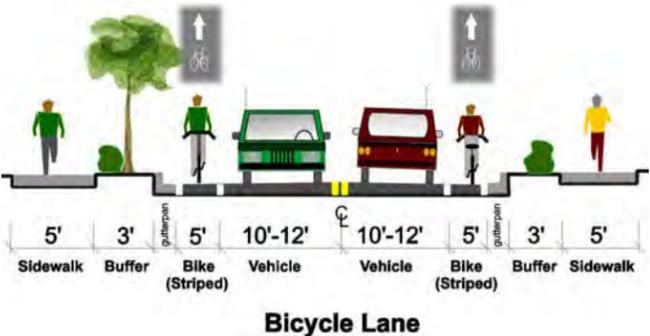
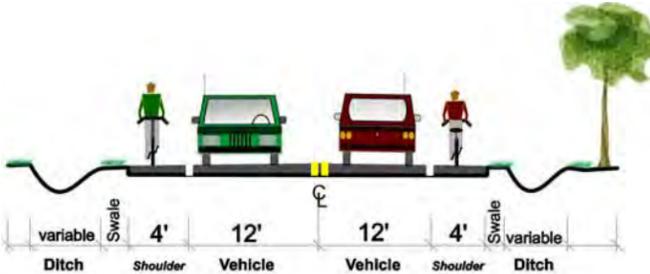
**Figure 4-1.** An example of "Share the Road" signage

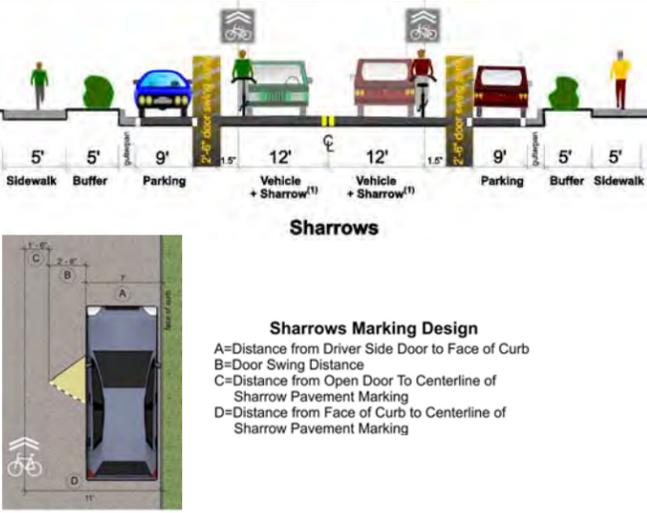
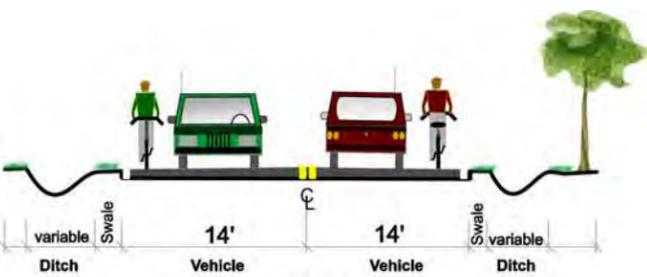
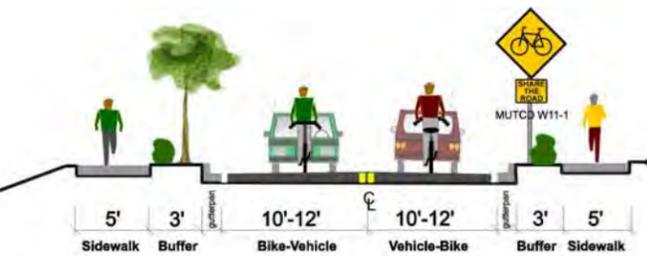
### 4.2. Bicycle Facility Types

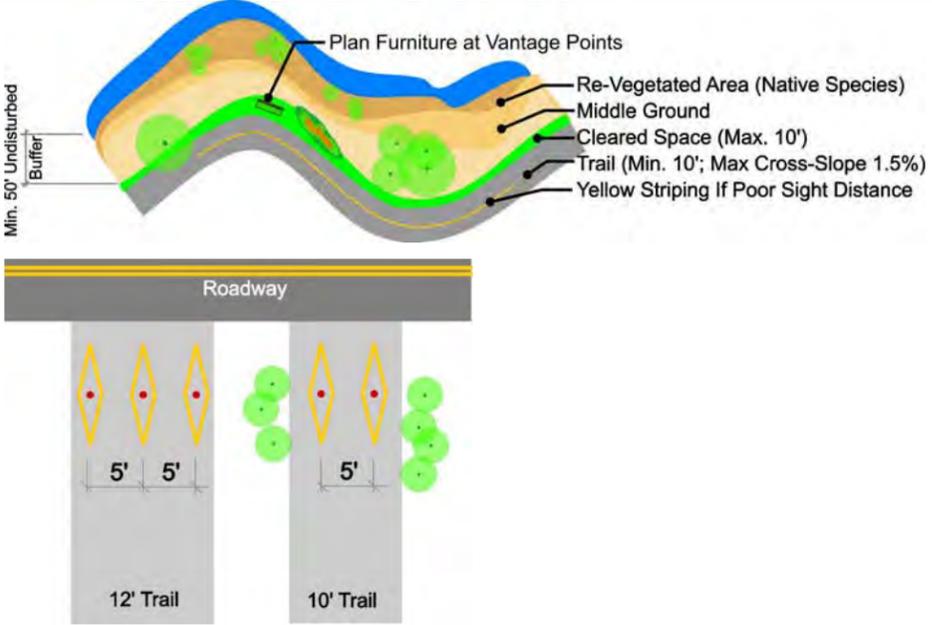
The Wilson Bicycle Plan proposes a variety of bicycle facilities for roadways within the City. The facilities range from typical and inexpensive treatments like "Share the Road" signage to more innovative practices such as sharrows and bicycle lanes. The proposed facilities and their common characteristics are summarized in Table 4-1, below. The images that follow show more examples of the bicycle facilities that are proposed in this Plan.

*This page intentionally left blank.*

Table 4-1. Bicycle Facility Types

Facility Type	Example Image	Category	Treatment	Function	Example Cross-section
Bike Lane		<p><b>On-street</b>  <b>Vehicle Speeds:</b> &lt;= 45 MPH  <b>Setting:</b> Urban  <b>Curb and Gutter:</b> Ok  <b>On-Street Parking:</b> Ok  <b>Pavement Marking:</b> Bicycle symbol</p>	<p>On-street striped and signed lane to NCDOT standards. Can be used on two or four lane roadways. Not recommended on roadways with center turn lane or frequent driveways.  <b>Width:</b> 4' – 6' striped lane with pavement markings  <b>Position:</b> Between gutter pan and travel lane, or parking lane and travel lane  <b>Surface:</b> Same as road</p>	<p>Specifically delineates space on the road for bicyclists from which motor vehicles are prohibited. May also be used at intersections to guide cyclists and motor vehicles about appropriate positions on the road. Frequently used on urban roadways.</p>	 <p style="text-align: center;"><b>Bicycle Lane</b></p>
Wide Paved Shoulder	<div style="display: flex; justify-content: space-around;"> <div data-bbox="313 818 708 1141"> <p>With a pavement symbol</p>  </div> <div data-bbox="714 818 1075 1141"> <p>Without a pavement symbol</p>  </div> </div> <div data-bbox="313 1145 708 1457">  </div>	<p><b>On-street</b>  <b>Vehicle Speeds:</b> &lt;= 45 MPH  <b>Setting:</b> Rural/countryside  <b>Curb and Gutter:</b> No  <b>On-Street Parking:</b> No  <b>Pavement Marking:</b> Not necessary</p>	<p>Dual use paved shoulders that are wide enough to safely accommodate bicycle traffic; do not typically include painted icons. Can be used on two or four lane roadways. Not recommended on roadways with center turn lane or frequent driveways.  <b>Width:</b> 4' striped lane  <b>Position:</b> Shoulder  <b>Surface:</b> Same as road</p>	<p>Provides space for bicyclists outside of travel lanes in areas without curb and gutter. Most frequently used on rural roadways.</p>	 <p style="text-align: center;"><b>Wide Paved Shoulder</b></p>

Facility Type	Example Image	Category	Treatment	Function	Example Cross-section
Sharrows		<p><b>On-street</b>  <b>Vehicle Speeds:</b>                      &lt;= 35 MPH  <b>Setting:</b>                      Urban or rural  <b>Curb and Gutter:</b>                      Ok  <b>On-Street Parking:</b> Ok  <b>Pavement Marking:</b>                      Sharrow</p>	<p>Painting of a “sharrow” or “shared lane marking” on outside lane. Lane should be minimum of 10’ wide with sharrow pavement marking approximately 1.5’ from outside line. Can be used on two or four lane roadways.   <b>Width:</b> NA  <b>Position:</b> In travel lane  <b>Surface:</b> Same as road</p>	<p>Provides notice to drivers to the presence of bicyclists and helps position bicyclists within the travel lane. Frequently used on urban roadways with limited right-of-way. Should be positioned 1.5’ outside of car door “swing” zone with stencil marking frequencies of not less than one per 500 linear feet, most commonly at 250’ intervals. Sharrows are commonly applied where on-street parking is present in order to pull the bicyclist out of the parked car door zone; the center of the sharrow should be placed 11’ from the curb face when on-street parallel parking is present.</p>	 <p><b>Sharrows</b></p> <p><b>Sharrows Marking Design</b>                      A=Distance from Driver Side Door to Face of Curb                      B=Door Swing Distance                      C=Distance from Open Door To Centerline of Sharrow Pavement Marking                      D=Distance from Face of Curb to Centerline of Sharrow Pavement Marking</p>
Wide Outside Lane		<p><b>On-street</b>  <b>Vehicle Speeds:</b>                      &lt;= 35 MPH  <b>Setting:</b>                      Urban or rural  <b>Curb and Gutter:</b>                      Ok  <b>On-Street Parking:</b> Ok  <b>Pavement Marking:</b>                      None</p>	<p>An unmarked roadway with wide (14’) outside lanes and “Share the Road” signage. Can be used on two or four lane roadways with or without median.   <b>Width:</b> Travel lane – 14’-16’  <b>Position:</b> Curb lane  <b>Surface:</b> Same as road</p>	<p>Typically used on roadways without adequate width for a bicycle lane but relatively low volume, in particular roads without striping. Roadway width constraints often necessitate the provision of wide outside lanes on 45 mph roadways.</p>	 <p><b>Wide Outside Lane</b></p>
Shared Lane		<p><b>On-street</b>  <b>Vehicle Speeds:</b>                      &lt;= 35 MPH  <b>Setting:</b>                      Usually urban but can be rural  <b>Curb and Gutter:</b>                      Ok  <b>On-Street Parking:</b> Ok  <b>Pavement Marking:</b>                      None</p>	<p>A striped or unstriped roadway with “Share the Road” signage. Traffic calming and other measures are recommended in conjunction to create a safe shared use environment.   <b>Width:</b> Travel lane – 10’-14’  <b>Position:</b> NA  <b>Surface:</b> Same as road</p>	<p>Used to notify motorists and other vehicles of the potential presence of bicyclists. Roadways may be striped or unstriped, two or four lane. May also indicate a route that cyclists are encouraged to take in comparison to other parallel routes. Guidance for traffic calming options on shared roadways is provided in Section 6 (pg. 81).</p>	 <p><b>Shared Lane</b></p>

Facility Type	Example Image	Category	Treatment	Function	Example Cross-section
Shared use path		<p><b>Off-street</b></p> <p><b>Vehicle Speeds:</b> NA</p> <p><b>Setting:</b> Urban or rural</p> <p><b>Curb and Gutter:</b> NA</p> <p><b>On-Street</b></p> <p><b>Parking:</b> NA</p> <p><b>Pavement</b></p> <p><b>Marking:</b> Sometimes centerline</p>	<p>Designed to NCDOT standards. Separated from roadway by planting strip or vertical curbing or built along railroads, rivers and streams, open space, or utility easements.</p> <p><b>Width:</b> 10' – 14'</p> <p><b>Position:</b> NA</p> <p><b>Surface:</b> Asphalt, concrete or other smooth surface</p>	<p>Provide off-street facilities for recreational cyclists, children, and others; can offer connectivity between the on-street facilities and destination points.</p>	

*This page left intentionally blank.*

The built environment poses many challenges for the optimal inclusion of bicycle facilities, particularly in areas that have already developed or have other geographical or topographical limitations. When new roadway facilities are designed it is often thought of as an “all or nothing” approach to the inclusion of bicycle facilities. However in some cases it may be in the best interest of Wilson to transition from one facility type to another within one roadway segment to provide the best fit solution. Thus, some roads in the Bicycle Plan have several different types of proposed treatments. In addition, many communities chose to modify treatments at intersections, such as transitioning from “sharrows” along the main section of a street to a striped bike lane at an intersection, or bike lanes along the main section of a street to signage only at intersections.

**Figure 4-2. Examples of Bicycle Facility Design Treatments**



Wide paved shoulder with bike stencil and arrow on NC 107, Cullowhee, NC.  
*Photo: D. Kostelec*



Separated off-street bicycle and pedestrian facilities in Seattle.  
*Photo: D. Kostelec*



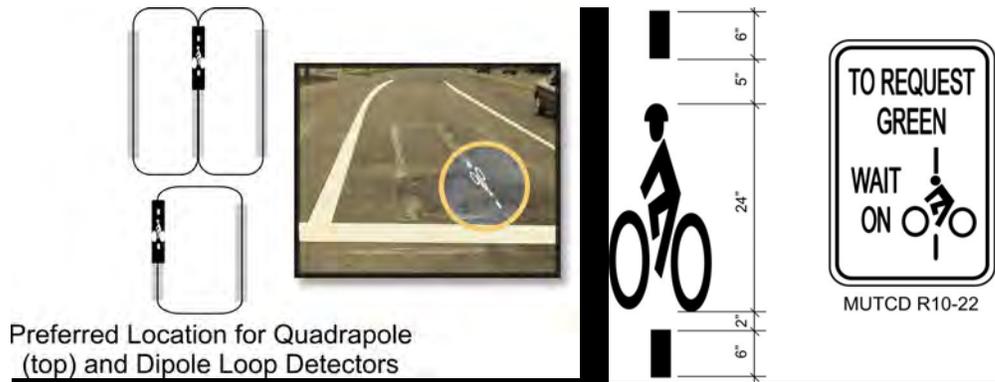
### Intersections with Right-turn lanes

Dedicated right-turning lanes or bays will potentially require cyclists to weave with motorists moving over from a through lane into the turning lane. The typical weave area for a bicyclist is often marked with a standard 4" - 6" white striped line to denote the presence of a bicycle lane (see 4-4). The bicycle lane can be applied at an intersection whether there is a bicycle lane prior to the intersection or not. Sometimes, bicycle lanes at intersections are applied on roadways that generally have only signage treatments or sharrows; additional design guidance is available in the AASHTO guide.

### Signalized intersections

Changing how intersections operate can help make them more "friendly" to bicyclists. In particular, many signalized intersections are not designed properly to function with bicyclists. The travel time for a green light may be too short to accommodate the amount of time bicyclists may need to pass safely through an intersection. Other signalized intersections are not designed to trigger when a bicyclist approaches, thus leaving cyclists stranded waiting for a green until a vehicle arrives.

To address these issues, bicycle-activated loop detectors can be installed within a roadway to allow the bicyclist to trigger a change in the traffic signal. This allows the bicyclists to stay within or to the right side of the lane of travel and avoid maneuvering to the side of the road to trigger a push button or a vehicle loop detector. The purpose of bicycle activated signals is to give extra green time to allow the cyclists to make it through the light. Bicycle loops detectors are best used at intersections where vehicles will not cross the bicycle loops while dwelling in traffic or making a right turn.



**Figure 4-5.** A diagram of loop detectors, pavement markings, and signage that can be installed to improve bicycle-friendliness at signalized intersections.

### Roundabouts

The increased implementation of roundabouts across the United States and in North Carolina has led to much discussion on the treatment of bicyclists through or around a roundabout. An experienced cyclist will generally use the roundabout as a vehicle would as the speeds within a roundabout are designed for 20 mph – a comfortable environment for a cyclist. However, less skilled bicyclists may want to avoid the roundabout and enter the pedestrian realm to navigate through the roundabout. Slip ramps are used to transition from a bike to the pedestrian facility around the roundabout (see Figure 4-6). Note that the pedestrian facilities in this situation should be of a width to accommodate the shared use (minimum of 10', the ADA-required width similar to a shared-use pathway).



**Figure 4-6.** A slip ramp for bicyclists at a roundabout in Asheville, NC.  
*Photo: D. Kostelec*

### Special treatments

Wilson may also wish to consider other treatments that can complement the concepts outlined in the Bicycle Facility Types table (Table 4-1). These additional “special” treatments should be implemented based on the user type, local preferences, and location-specific needs identified in the implementation of a project. Below is a summary of other types of treatments that can be incorporated into projects.

- **Colored bike lanes:** Some municipalities are experimenting with colored bike lanes to heighten visibility of these facilities. Their implementation has varied from coloring the full-length of a bike lane to selected coloring at major bicycle-vehicle conflict points such as turn lanes or freeway overpasses. Though NCDOT does not currently promote the coloring (non black/white) of pavement on State-maintained roads, this may be an option for local roadways or as a pilot project on a State-maintained road with special NCDOT approval.
- **Bicycle boulevards:** Low volume and low speed streets that have high volumes of bicycle traffic combined with limited or no use by vehicle traffic can be designated as bike boulevards to enhance the visibility of and usability by bicyclists. These can range from simple signage enhancement to street closure for bicycle use only. Typically implemented in downtown or neighborhood areas, bike boulevards generally give preference to bikes at intersections. (See Figure 4-7 for sample treatments)
- **Special or Wayfinding Signage:** In addition to standard MUTCD and State signage, Wilson should also consider developing signage specific to the City and its most popular destinations. Wayfinding signage could include themed directional signs intended to help students, residents, and visitors navigate the City and access the most popular destinations that are



*Colored bike lane treatment at right-turn crossover in Chicago. Photo: D. Kostelec*





accessible via bicycle. Wayfinding systems for bicycle facilities generally include bicycle-themed directional signage with mileage markers and distance information; NCDOT requires MUTCD approved wayfinding signage on State roadways (see pg. 60 for samples). Additional considerations would be regulatory signs such as those indicating “walk zones” or “dismount zones” in downtown or other areas, or other signs educating bicyclists on riding etiquette.

Campus signs from the University of Oregon for “Walk Zones”  
*Source: University of Oregon Bicycle Plan*

*This page left intentionally blank.*

Figure 4-7. Bicycle boulevards treatment options

PROJECT GOAL #4 <b>BOULEVARD SIGNAGE &amp; MARKINGS</b> Where am I? Where am I going? How much farther is it? Answer all these questions and more with bike boulevard signage and pavement markings. Smaller markings on the ground tell cyclists where to go while larger markings indicate to drivers that they are on a bike boulevard and should slow down. Signs tell cyclists where they are headed and how much further they have to go to reach their destination. The tools in this section offer a few examples of ways to show folks how to get from here to there.								
TOOLS	STREET TYPE PERMITTED ON	PHOTO	SPEED REDUCTION	LESS TRAFFIC	EMERGENCY DELAY	COST	DESCRIPTION	EXAMPLES IN PORTLAND, OR
BLUE BIKE LANES	Dangerous Bike/Car Intersection		No	No	No	Varies due to size, \$2.17/sq. ft.	Gives cyclists clear priority at high conflict areas	SE 7th and Morrison SE Hawthorne at MLK NE Broadway at east side bridgehead
SHARROWS	Bikeways where a bike lane is preferred but not possible due to ROW constraints		Maybe	No	No	\$150-\$300 each	"Share the Road" arrow. Indicates that cyclist can use the whole lane. Marking designed so if you ride down the center of the arrows, you will be outside the "dooring" zone	NW 18th and 19th
BIKE BOXES	Busy Streets		No	No	No	\$200 for striping	Brings cyclists to front of the line at traffic lights, priority crossing/turning, reduces right-hook conflict, fill in box with color paint to increase visibility	SE Clinton at 39th
DINNER PLATE BIKES	Bike Routes		No	No	No	\$100 each	Indicates that you are on a bikeway, follow arrows	Bikeways: NE Tillamook SE Clinton NW Johnson
WAYFINDINGS	All Streets		No	No	No	\$150 each	Indicates distance to certain districts, gives direction and travel time	Multiple locations
BIKE LOOPS	All Streets at Signalized Intersections		No	No	No	\$150-\$300	Cyclist can trigger traffic lights by placing tires over bike symbol. Used with Scramble Signal.	NE Skidmore at MLK NE 12th at Lloyd
ARTISTIC TOUCHES	All Streets		No	No	No	Varies, depending on artist and design	Experiment with art, street furniture and sculptures	SE 33rd and SE Yamhill

Source: Bicycle Transportation Alliance, [www.bta4bikes.org](http://www.bta4bikes.org)

*This page left intentionally blank.*

## 4.5. Additional Treatment Considerations

There are several other aspects of bicycle facilities that should be considered, including bicycle accommodations during construction, and bicycle accommodations on special facilities such as bridges or in tunnels. The following paragraphs briefly review these items and provide some guidance for design and construction.



**Figure 4-8.** Sample detour sign for bike and pedestrian routes.  
<http://www.trafficsignstore.com/M4-9a.jpg>



**Figure 4-9.** Advance warning for bicyclists during a special event in Mesa, AZ. Photo: D. Kostelec.

### Accommodation during construction

Guidelines published by MUTCD and AASHTO necessitate proper accommodation of all modes of transportation during construction of roadway facilities. Historical practices have been to limit roadway facilities to minimal number of lanes without consideration of bicycle traffic. Rough or uneven pavement, abrupt edges, and narrow lanes can place bicyclists in a perilous situation as they are then prone to flat tires, safety hazards, and traffic conflicts not often encountered during daily travel. Below are some common practices for bicycle traffic during road construction:

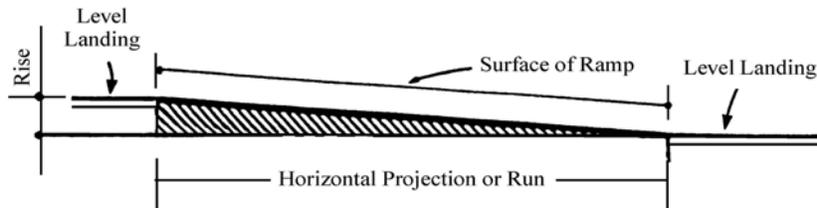
- *Accommodation:* In some instances, it may be possible to preserve the bike lane or a wide shoulder during construction of a project. If this is the case, the pavement along the facility should be as smooth as possible as bike tires cannot traverse uneven or rigid pavement as vehicle tires can.
- *Advance signage:* Bicyclists should be alerted to lane restrictions and closures in the same manner given to motorists. These are often signs such as “Bike Lane Closed Ahead” or “Bikes Seek Alternate Routes”.
- *Detour routes:* Routes that are considered major thoroughfares for bicyclists but cannot accommodate bike facilities during construction should have a designated bicycle detour route. Oftentimes the detour route for a bicycle will be different than for motorists as greenways and local streets can be used to provide a way around the construction.

### Bicycle Bridges and Tunnels

The North Carolina Department of Transportation has developed a policy that specifically supports on-road, non-separated bicycle facilities. In addition, this policy states that bridges, interchanges, viaducts, tunnels, and other such structures must accommodate cyclists according to FHWA policy for Federally-funded roadway projects. The reality of State-funded roadway projects is that, while cycling accommodations are now fairly established where rights-of-way are adequate, constrained projects or areas where minimizing pavement due to environmental concerns may necessitate significant additional funds to be appropriated for the roadway project.

North Carolina standards require a bicycle railing height of not less than 54” and railing spacing of not less than 8” (note that pedestrian railing minimum heights are slightly lower). NCDOT does not recommend attempting to transition a bike lane into the travel lanes of a roadway

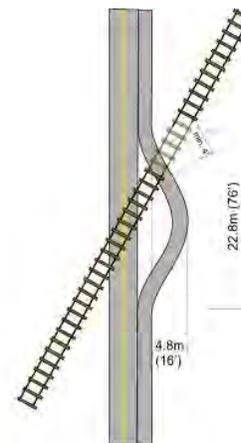
bridge, if possible. All bridge transitions should have rubberized expansion joints placed at not greater than 45 degrees to the angle of travel to ensure a smooth ride from the roadway or sidewalk/trail surface to the bridge surface. Also, in rare circumstances bikeway facilities may be marked on one side of a roadway bridge; if so, the on-bridge facility should connect to a bicycle facility at both ends; physical separation should be provided from motoring traffic; and interference from on/off ramps at either end must be safely addressed. Generally, two-directional, on-road bicycle facilities are not recommended.



**Figure 4-10. ADA design standard for level landing interval on sloped ramp.** Source: FHWA Trail Design for Access, <http://www.fhwa.dot.gov/environment/bikeped/09-chap4.pdf>.

### Bicycle crossings at railroad tracks

Design standards for railroad crossings and roadway bridges incorporating bicyclists (and pedestrians) are stated explicitly in the AASHTO Standard Specifications for Highway Bridges (esp. Figure 2.7.4A)<sup>1</sup>. Bicycle- and pedestrian-specific bridges will follow design standards in the *AASHTO Guide for the Development of Bicycle Facilities* and *North Carolina Bicycle Facilities Planning and Design Guidelines*. All bicycle/pedestrian bridges (or tunnels) should adhere to basic trail design principles with a minimum (usable) width of 10' and recommended width of 14'. Bridge height must ensure clearance of 23' from the bottom of the bridge to the railroad tracks. All bridges should maintain a 12:1 grade in the sidewalk or trail approach to the bridge, and level platforms of at least 5' in width should be provided every 30 linear feet, as required by the Americans with Disabilities Act (ADA) and Access Board guidance. This standard may require "switchback" ramps for steep, short-distance approaches. Turning radii for switchbacks should be wide enough to accommodate bicycle riders unless the bridge is designed as a bicycle dismount zone. The width of intermittent platforms may be increased to 10' to better accommodate bicyclists.



**Bicycle Path Crossing RR at Acute Angle (>45°)**  
Source: AASHTO Guide for the Development of Bicycle Facilities (Figure 27)

**Figure 4-11.** AASHTO guidance for safe bicycle crossings at rail lines.

<sup>1</sup> Standard Specifications for Highway Bridges, American Association of State Highway and Transportation Officials, 2002. pp. 11-15.

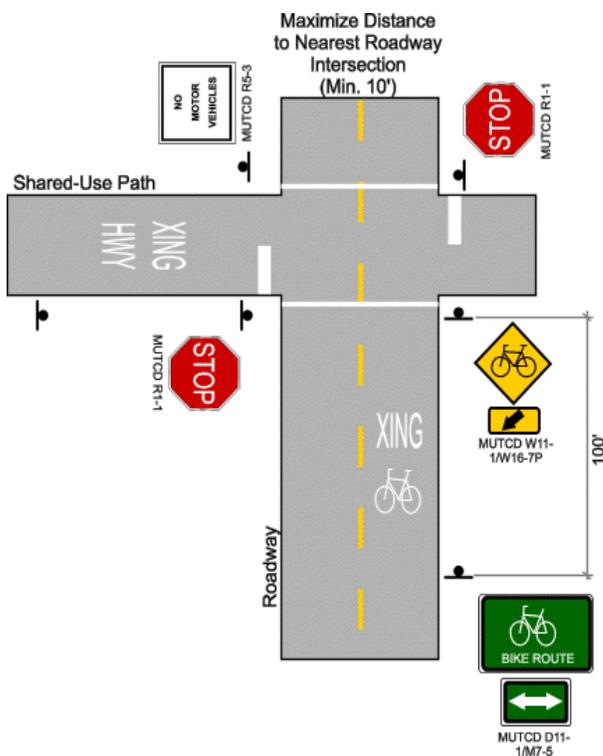
### Bicycle-Friendly Drainage Grates

Another consideration for bicyclists is the presence of obstacles or hazards in the roadway. Drainage grates are often in the line of travel for bicyclists, especially in bicycle lanes or wide outside lanes, where bicyclists are traveling within 3-4 feet of the curb line. Drainage grates that have “dropped” during years of resurfacing without milling can cause a serious safety hazard for cyclists, as can grates with large slotted openings that parallel to the curb line that can catch bicycle tires. The field inventory for the Wilson Bicycle Plan noted many such drainage grates. Dropped drainage grates should be addressed at minimum with a painted warning stripe and preferably by raising the grate to surface level. Drainage grates with slotted openings parallel to the curb line should be replaced and/or “fixed” with retrofitted perpendicular bars to close gaps and eliminate danger to cyclists. All future road resurfacings should include bicycle-friendly drainage grates and mill out pavement around grates, gutter aprons and other such features to create a smooth, level surface.

## 4.6. Off-road Bicycle Facility Design

Sometimes the best option for a cyclist is a pathway that does not follow along or on a roadway. Greenway trails, multi-use trails, and bicycle paths are some of the names for these types of facilities. Design considerations for off-road bicycle paths include the following:

- Placing a multi-use pathway next to an adjacent roadway poses operational problems at intersections and driveways, and is generally not recommended unless it is necessary to do so for short distances.
- The minimum recommended width of an off-road bicycle path is 10'. Lesser widths are not recommended since they will not accommodate two-way bicycle traffic and a single pedestrian moving side-by-side. 14' is the recommended standard.
- Horizontal clearances should be maintained for at least 2' – 3' from the edge of pavement of the bicycle path to ensure good visibility and minimize the potential harm from obstructions. If a minimum 2' horizontal and 8' vertical clearance cannot be maintained, then warning signs should be posted in advance. Note: in underground passages or tunnels, the vertical clearance should be increased to 10'.
- Separating a walking path (min. 5') from a bicycle path by a white strip (6") or with a grassy swale or berm (min. 3') is excellent practice. However, the bicycle path should still be a minimum of 10' wide to ensure safe, two-way bicycle traffic.



**Figure 4-12.** Stop controls and warning signs at an intersection of a roadway with a multi-use path.

One of the key design elements for multi-use paths is to safely integrate connections between off-road facilities and on-street bikeways. This includes crossings and access features for roadways, with design features both for vehicles and trail users. Signage types, locations, and other criteria are identified in the Manual for Uniform Traffic Control Devices (MUTCD; available online at: <http://mutcd.fhwa.dot.gov/kno-2003r1.htm>). Warning signage and other notices, such as wayfinding signage, should be installed when a trail crosses a road or crosses another trail. Adequate warning distance is based on vehicle speeds and line of sight. Signage should be highly visible to alert motorists that trail users are present. Supplemental devices such as signals, flashing beacons, ramps, refuge islands, enhanced roadway striping or changes in pavement texture may also be required. Signage for trail users also includes standard stop or yield signs and pavement markings, interpretive trailheads and wayfinding signage, combined with bollards or other access controls.



**Bicycle Sidepath Crossing Intersection\***

Sources: (1) AASHTO Guide for the Development of Bicycle Facilities (Figure 22) and (2) MUTCD 2003 Ed. (Figure 9B-7)

Figure 4-13. Typical sidepath crossing at an intersection.

### Slip ramps for transitions

There may be situations where the roadway environment requires a bicyclist to transition from on-street riding to off-street riding. The interface of the street and curb ramps at most intersections requires the bicyclist to make an almost 90-degree turn, which is difficult for even the most experienced bicyclist. The installation of a slip ramp – a curb ramp type design specifically for bicyclists to enter the pedestrian or shared use realm – can accommodate this transition more safely and effectively. Slip ramps are needed where an off-street greenway connects to or across a roadway or where it is preferred or required that a cyclists exit an on-street facility.

### Off-road facilities at intersections with roads

Multi-use paths and off-road facilities may sometimes intersect with roadways. These intersections should be kept to a minimum and special treatments should be used to notify both motorists and bicyclists of the intersection. Figure 4-12 on page 55 shows an appropriate design for an intersection of a multi-use path with a roadway. As can be seen, signs should be placed in all directions to notify both motorists and bicyclists of the upcoming intersection. Pavement markings should also be used on both the multi-use path and the roadway. Additionally, these path-roadway intersections should be a sufficient distance from existing intersections or be brought up to an existing intersection to utilize it as a crossing point, and crossing should try to achieve a 90 degree crossing angle to the extent possible. Prominent zebra crossing crosswalk should be used to mark the cyclist's path across the roadway and to indicate to the motorists the exact location of the crossing.

## 4.7. Bicycle Parking Guidelines

### Bicycle Parking

*The general parking minimums are one bike parking space (remember: one inverted "U" rack equals two spaces) per 15 residences; or one space per 5,000 square feet of non-residential use. Even more important is a visible and accessible location located at least 6' from walls and other obstructions. Refer to Section 6.0 for additional guidelines and suggested ordinance language.*

Bicycle parking should be a standard in the development policies of all multi-family residential, recreation, schools, institutional, commercial, and office establishments, just as it is for motorized vehicle parking. It is recommended that bicycle parking in Wilson follow the guidelines set forth by the Association of Pedestrian and Bicycle Professionals (APBP) "Bicycle Parking Guidelines", which has become common practice throughout the nation. The document can be accessed at: <http://www.apbp.org/pdfsanddocs/Resources/Bicycle%20Parking%20Guidelines.pdf>.

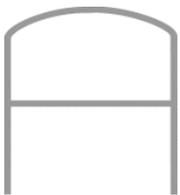
Bicycle parking racks should be located near the front of commercial and office buildings for the convenience of the cyclist as well as to advertise and encourage biking as a form of transportation in Wilson. When locating a bicycle rack, it is important to visualize the rack in use, with bicycles already in place extending at least 3' – 4' beyond the rack. Bicycle racks with bicycles in them should not interfere with pedestrian movement, car doors opening, or obstruct other users as they place their bicycles in the rack. Racks should also be in clear view - cyclists like being able to see their bicycles through windows.



**Figure 4-14.** An example of wave rack bicycle parking in Wilson, NC. *Photo: S. Lane.*

Bicycle parking rack styles, colors, and ground-mounting can vary greatly, but the most common are the vertical rack types, exemplified by the popular "wave"-style rack (Figure 4-14). Some cyclists feel that wave racks can be difficult to use, but ensuring that each "wave" is separated by 11" of clearance and the bike rack is accessible from both sides will increase the capacity of the rack. Comb racks share the same problems as wave racks, with the added difficulty that they are often not as secure from theft.

Another, better design is shown in Figure 4-15. In this design, the tubular steel rack is anchored to a concrete base as with the wave rack, but the cyclist is expected to lock his or her bike parallel to the rack, not "through" it. The horizontal bar in the middle of the rack helps cue the cyclist as to the correct way of placing the bike in the rack.



**Figure 4-15.** A drawing of a tubular steel rack, or "U" rack.

The number of spaces which are provided at a location should accommodate additional users that, when they see the bikes parked, will want to use their bicycles for the next trip. One space per 15 residential units, or one space per 5,000 square feet of non-residential space, is suggested as a starting point. Several communities in North Carolina have developed bicycle parking ordinances, including the Towns of Cary and Wake Forest. If the City of Wilson chooses to institute an ordinance, it should allow some vehicular parking to be removed as a result of installing a bicycle rack, typically one vehicle space for one rack.

## 4.8. School Zone Guidelines

North Carolina's existing bicycle policies assume that cyclists will be accommodated near school facilities during the planning and design of schools and roadways. Bicycling education programs are also encouraged and supported by NCDOT. Many safety programs with children begin at public schools. Some physical safety features that should be included at all schools are:

- Placing bicycle parking away from loading/unloading areas
- Providing a clear space for bicycle parking and quality rack equipment
- Placing clear and obvious "Share the Road" signage on all school routes
- Equipping school roads with striped shoulders, bike lanes, and off-road facilities



### Project Terms

Short-Term: 0-5 Years  
 Mid-Term: 6-10 Years  
 Long-Term: 10+ years

## Section 5. Projects and Prioritization

This section presents the prioritized project recommendations for the Wilson Bicycle Plan. Projects are physical improvements to make the City more bicycle-friendly. It is important to identify a wide range of projects, from on-road projects such as adding bike lanes to off-road projects such as greenways and small neighborhood connections. Projects should also address trail and road crossings to make it easier for cyclists to go through intersections or cross major roads. All of these improvements will help to create an interconnected bicycle network in Wilson.

In this section, recommendations are categorized into on-road projects, off-road projects, and crossing improvements. In addition, a set of existing routes are developed to provide cyclists with a current suitability map for bicycling in Wilson - these routes are also presented and mapped in this section.

On-road projects are also organized by priority. Prioritization takes into account community needs along with project costs and constructability (ease with which they can be designed and constructed), which can range greatly. High priority projects are identified as “short-term”, or those projects that Wilson should begin work on as soon as the Plan is adopted. Many of the short term projects may be completed within the first five years of the Plan’s adoption. Mid-term projects are those projects that should begin within six to ten years of the Plan’s adoption. Long-term projects are those projects that are highly expensive or may take a long time to construct and should therefore not begin until 10 or more years after the Plan’s adoption. Should unforeseen opportunities arise, mid and long term projects could be completed at an earlier time such as through roadway widening or other construction projects.

### 5.1. Signed Routes

Most of the roads in Wilson are already suitable for cyclists of all ages, but many of these roads are disconnected from each other, or intersected by roads that are highly unsuitable for cycling. Many residents of the City are unaware of the roads and routes that are already safe for cycling. To help raise awareness about the already bicycle-friendly nature of many of the roads in the City, and to help cyclists plot their future travelways, a series of bike routes were identified on existing roads in the City. These routes are located on roads that require little to no additional improvements to be considered suitable for bicyclists and provide access to many of the major destinations in Wilson. In fact, many of these routes have been identified as parallel alternative routes to those roadways categorized as “only suitable for experts” per their respectively high Bicycle Compatibility Index scores.

The City should sign the identified routes with informative, yet stylish, wayfinding signage. Maps of the routes should be generated and distributed. The wayfinding signage and maps can help residents and visitors alike to determine the appropriate routes they would like to take

their bicycle from one place to another and to encourage more bicycling in the City in general.

Figure 5-1 presents a map of the proposed signed routes in the City. The following paragraphs provide a description of the routes.

**Airport Boulevard Parallel Route:** This route provides a parallel route to Airport Boulevard from Chelsea Drive to Buckingham Road, and a northern link between the Lakeside-Glendale Route and the West Nash Street Parallel Route. Eventually the route should have a crossing at Nash Street so that it can connect to the East Nash Street Parallel Route. The route should also be expanded westward through construction of future greenways or an extended, interconnected road network as shown by the proposed greenway in Figure 5-4. (Total length: 10,740 feet)

**Lakeside-Glendale North-South Route:** This route provides access from Airport Boulevard and northwestern Wilson south paralleling Forest Hills Road to the Wilson Medical Center and Downing Street in southwestern Wilson. Connections are also made with the Forest Hills-Toisnot Middle Schools East-West Route and the Westwood-Toisnot East-West Route. Lakeside Drive and Glendale Drive vary between two, three, and four-lane cross-sections, and as a result some improvements should be made to make them more bicycle-friendly (see Section 5.2: *On-road Projects*). Since this route is still suitable for commuter and experienced cyclists, and has the greatest potential to provide immediate bicycle access to a major employment hub (the Medical Center) from several residential areas, it should be signed as a suitable route even before the improvements are made. Some intersections will also need to be improved, including the crossing at Forest Hills Road and Lakeside Drive, where there is not a signal to stop traffic. There is also a potential future connection with the proposed greenway. (Total length: 21,506 feet)

**West Nash Street Parallel Route:** This route uses residential, low-volume traffic roads such as Canal Drive and Kenan Street to provide a north-south connection from neighborhoods in north Wilson into downtown on parallel roads west of Nash Street. The route has direct linkages to the Airport Boulevard Parallel Route, Forest Hills-Toisnot Middle Schools East-West Route, Westwood-Toisnot East-West Route, and the Lodge Street East-West Connector Route. (Total length: 21,436 feet)

**East Nash Street Parallel Route:** This route provides a parallel north-south route to Nash Street in the neighborhoods to the east of Nash Street using roads such as Brentwood Drive and Vance Street. Major destinations along the route include several shopping centers, Barton College and Wells, and Vick Elementary Schools. Connections are made with the Forest Hills-Toisnot Middle Schools East-West Route and Westwood-Toisnot East-West Route. Improvements are necessary at the intersection of Carolina Street with Ward Boulevard to provide a bicycle-friendly crossing of Ward Boulevard. A future connection with the Airport Boulevard Parallel Route is possible if improvements are made at the intersections of Fieldstream Drive or another nearby road with Nash Street. Future



**Bike Route Signage.**  
State (bottom) and local routes.

connections could also be made to Barnes Elementary School through a new greenway or similar off-road connection. (Total length: 32,859 feet)

**Forest Hills-Toisnot Middle Schools East-West Route:** Provides east-west access through Wilson primarily on Kincaid Avenue and Peachtree Road. There is a signal at the intersection of Nash Street with Kincaid Avenue for easier crossing of Nash Street. Major destinations include Forest Hills Middle School, Toisnot Middle School, Wells School, Recreation Park Community Center, and Williams Day Camp. In the future, connections are possible with the construction of a north-south greenway. Improvements are needed at the intersection of Peachtree Road and Ward Boulevard to make the road more suitable for a bicycle crossing. This route has direct linkages to the Lakeside-Glendale, West Nash, and East Nash routes, and connects to the Westwood-Toisnot East-West Route at Toisnot Middle School. (Total length: 14,791 feet)

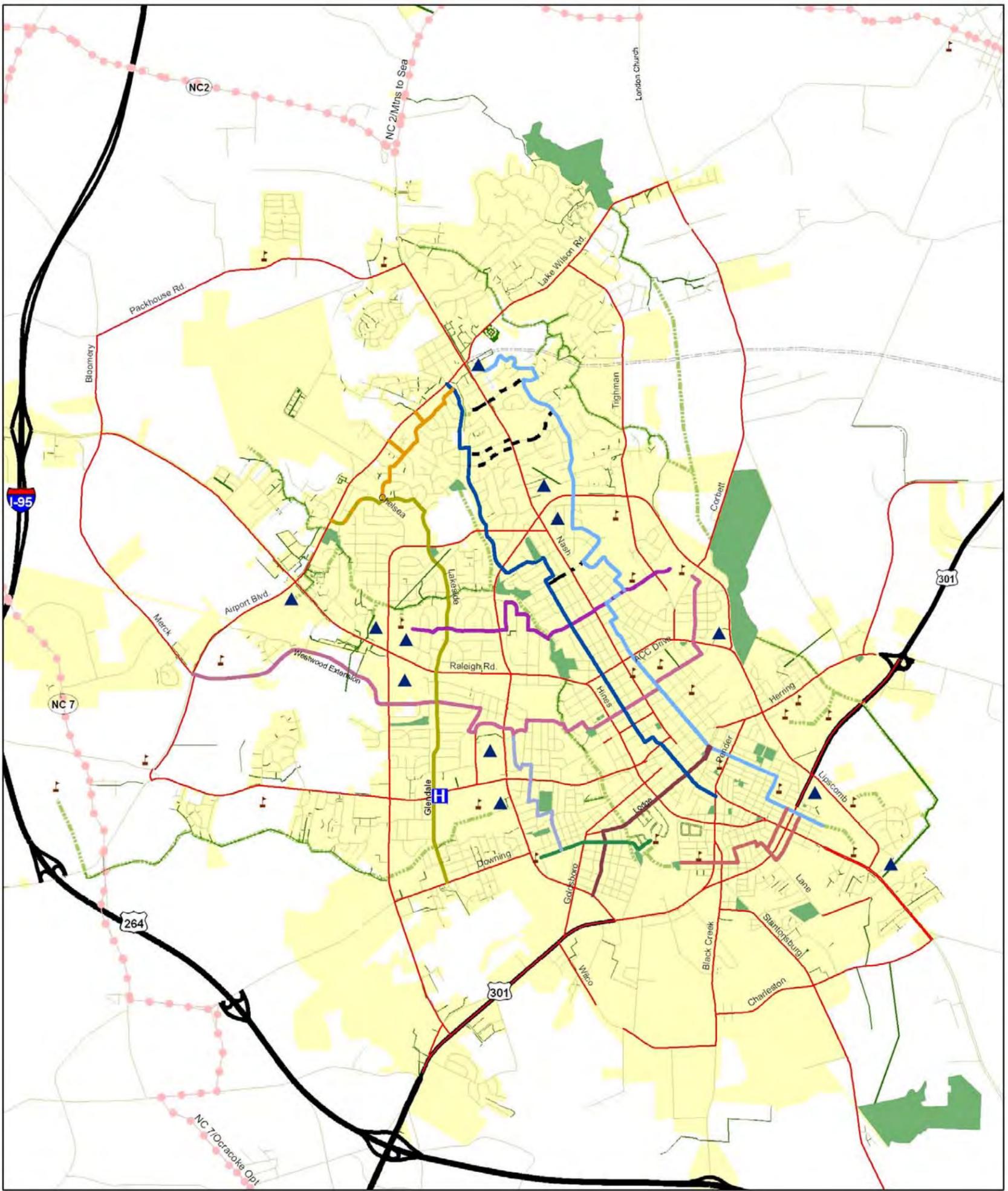
**Westwood-Toisnot East-West Route:** Provides east-west connection from Toisnot Middle School in east Wilson to the neighborhoods along Westwood Avenue in west Wilson. Major destinations along the route include shopping centers such as Parkwood Mall, Barton College and Toisnot Middle School. Bicycle facilities should be provided on Westwood Extension during future construction for connections to the Wilson Christian School and Airport Boulevard-Merck Road intersection. There is also the potential for a connection to the proposed greenway. Crossing improvements are needed at the intersection of Hines Street with Bruton Street, Nash Street with Bruton Street, and Rountree Street with Raleigh Road Parkway. This route has direct linkages to Lakeside-Glendale, West Nash, East Nash, and Denby Field routes, and connects to the Westwood-Toisnot East-West Route at Toisnot Middle School. (Total length: 31,009 feet)

**Lodge Street East-West Connector:** Provides access from Vance Street in southeastern Wilson to Ward Boulevard and the neighborhoods along Woodrow Street in southwestern Wilson. The route primarily serves as a connection to the Elvie Street East-West Connector 1 for access to Winstead Elementary School and Adams Pre-School. The route also links with both East and West Nash Street Parallel Routes. A future connection is possible with the proposed greenway. (Total length: 9,165 feet)

**Elvie Street East-West Connectors 1 and 2:** The Elvie Street Connectors provide bicycle access through the southern residential neighborhoods in Wilson. In the future, the two routes should be connected through a greenway or some similar direct linkage. Elvie Street Connector 1 provides an east-west connection between Winstead Elementary School and Adams Pre-School and Norris Park. Crossing improvements are needed at the intersection of Goldsboro Street with Aycok Street. The route also links with the Denby Field North-South Connector and the Lodge Street East-West Connector. Elvie Street Connector 2 provides access to Elvie Street Park, Daniels Learning Center, and the East Nash Street Parallel Route. (Total length Connector 1: 5,181 feet; Total length Connector 2: 9,613)

**Denby Field North-South Connector:** Links Elvie Street Connector 1 and the Five Points area to the Westwood-Toisnot East-West Route and Parkwood Mall. Also provides access to Denby Field/Fleming Stadium and Five Points Park. Crossing improvements are needed at the intersection of Garner Street and Tarboro Road. (Total length: 7,417 feet)

It should be noted that these routes may be altered in the future as additional bike facilities are constructed and additional local streets become more suitable for bicycle travel.



**Legend**

**Proposed Signed Routes**

- Potential Connector
- Airport Blvd Parallel Route
- West Nash Street Parallel Route
- East Nash Street Parallel Route
- Forest Hills-Toisnot Middle Schools East-West Route
- Westwood-Toisnot East-West Route
- Lakeside-Glendale North-South Route
- Lodge Street East-West Connector
- Elvie Street East-West Connector 1
- Elvie Street East-West Connector 2
- Denby Field North-South Connector
- May only be suitable for experts
- Preliminary Proposed Greenways
- Limited Access Road (no bicycles)
- Street may be suitable for all skill levels
- NC State Bike Routes
- City Limits
- City Park
- City-owned Easement
- ▲ Shopping Centers
- Ⓜ School
- Ⓜ Hospital



Figure 5-1. Map of proposed signed routes in Wilson

*This page left intentionally blank.*

## **5.2. On-Road Projects**

On-road projects are defined as those improvements to existing or planned roads in Wilson that incorporate bicycle facilities such as bike lanes, sharrows, and wide outside lanes to make a roadway more conducive to bicycling. On-road projects often form the backbone of a City's bicycle network because they are built on pre-existing roads that already provide access to many of the most important destinations in a City.

It is important that Wilson begin to implement the on-road projects quickly, because they are sometimes the easiest, most cost-effective measures to improving the bicycle-friendliness of a City. Frequently, on-road projects require little more than additional painting and signage on a road. Other times, on-road projects can be constructed as incidental to other roadway improvements (such as resurfacing or widening), which can save on mobilization and construction costs. In addition, bicycle-related improvements to roads can often make roadways safer for vehicles and improve maintenance conditions by providing additional shoulder width.

Project development and prioritization for on-road projects was a multi-step process which included the identification of locations for potential projects, determining the appropriate treatments for projects, and prioritizing those projects. The following paragraphs describe the project development and prioritization process, and then present the final prioritized list of projects.

### **Project Development**

The initial list of potential on-road project locations was developed based on input from the Steering Committee, City staff, and the results of the road inventory and bicycle suitability analysis. The list was further refined based on the results of a site visit conducted on February 15, 2008, an analysis of existing conditions on the roads, additional input from the Steering Committee, and survey and Open House results. Figure 5-2 and Appendix 5 shows the final, refined list of projects with recommended actions that must be taken in order for the roads to be designed appropriately for the suggested treatments. Treatments were determined based on National guidelines described in Section 4: *Design Guidelines*. Appendix 5 also presents project characteristics such as limits, lengths, key conditions on the road, calculated suitability index that guided the determination of the proposed actions, and treatments for each road. Figure 5-2 shows the project locations and proposed treatments relative to current suitable routes for cycling in Wilson.

### **Project Prioritization**

Following project development, projects were then prioritized. The proposed on-road bicycle projects are extensive – they cover over 44 miles of roadway in Wilson on 24 named roads. Even if Wilson plans to expand their budget for bicycle projects, it will still take a long time for all of these projects to be constructed. In addition, most of the projects are on roadways that serve as important links to many of the destinations in

Wilson. To help the City determine which projects to construct first, an analysis was performed to prioritize projects and create a recommended schedule of short-term, mid-term, and long-term projects for construction.

## Factors

Prioritization and scheduling was based on the following factors:

- **Public input:** Comments from the Steering Committee and participants in the Open Houses, survey, and other public forums
- **Project characteristics:** In the third Steering Committee meeting, Committee members were asked to identify their priority projects regardless of cost. Members then discussed the key factors that contributed to projects receiving top priority. From this discussion, the following characteristics were identified as important project characteristics to making a project a priority:
  - **Accessibility:** Proximity to schools, parks, residential areas, commercial areas, and major places of employment
  - **Safety:** Number of nearby accidents or perceived safety needed near the project
  - **Centrality:** Project's position as a key to creating a network of connected projects (for example, by creating a major north-south or east-west spine)
  - **Connectivity:** Project's potential to complete a critical connection from one location to another – for example, in a localized situation such as from a neighborhood to a school
- **Constructability and Cost:** Ease of constructing the project, including preliminary design analysis and engineering preparation, right-of-way purchase as well as actual construction.

## Process

Project prioritization and scheduling was a layered process which incorporated all of the above factors in the following steps:

1. **Rate projects on key characteristics.** Projects were rated on accessibility, safety, centrality, and connectivity. A project received one point for any of the following characteristics:
  - **Accessibility: Schools.** Is a school located within the project limits?  
(Yes = 1 point, No = 0 points)
  - **Accessibility: Parks.** Is a park located within the project limits?  
(Yes = 1 point, No = 0 points)
  - **Accessibility: Residential Areas.** Is a major residential neighborhood located within the project limits?  
(Yes = 1 point, No = 0 points)
  - **Accessibility: Places of employment.** Is a major employment center located within the project limits?  
(Yes = 1 point, No = 0 points)
  - **Safety.** Does the project serve a safety need or perceived safety need?

(Yes = 1 point, No = 0 points)

- o **Centrality.** Does the project serve as a major connection to several other projects?

(Yes = 1 point, No = 0 points)

- o **Connectivity.** Does the project link one destination to another?

(Yes = 1 point, No = 0 points)

The maximum rating a project could receive was 7 points, which meant that it served all four major destinations (parks, schools, residential areas, and work places), it met a safety need, was a key central project to the City's bicycle network, and was a critical connection between two major destinations. Appendix 6 contains tables which show the project rating analysis listed in both alphabetical order by road name and rating.

2. **Assess cost estimates and constructability.** Next, projects were assessed for constructability and general cost based on proposed treatments and existing conditions. Cost assumptions for treatments were as follows:

- o High Cost:

- *Constructing a greenway.* Greenway construction requires a high level of preparation – purchasing property, engineering design, and coordination with many stakeholders. In addition, construction and material costs are often much higher since they are frequently constructed independently of any other project. Cost for a new greenway trail is approximately \$133 per linear foot or \$700,000 per mile.

- *Redesign to accommodate a bike lane.* Many roads in Wilson are currently not suitable for bike lanes or similar facilities at this time due to the number of lanes and high traffic volumes or speeds. If the City wishes to make these roads safer and more comfortable for cyclists, a total redesign may be necessary to reduce the number of lanes, implement traffic calming measures, or widen the road sufficiently to provide adequate width to separate bicyclists from vehicle traffic. Redesigning the road will require a high level of preparation, including engineering analysis, design, and public involvement. Construction costs could be high, especially if traffic control expenses are necessary to keep a road operative during construction. General construction cost is approximately \$300,000 per mile. In order to meet NCDOT standards, additional treatments may be necessary, such as installing a median or controlling driveway access.

- o Moderate Cost:

- *Widening shoulder an additional three to four feet of pavement on either side of the road to provide a*

*wide striped shoulder.* This may require some design. In addition, costs may increase if it is determined there is a need for drainage improvements prior to widening. Sometimes these projects can be conducted as part of routine resurfacing. Cost can be as high as \$300,000 per mile.

- *Restriping to narrow lanes to add a bike lane or wide striped shoulder.* This may require some design. In addition, construction material costs should be lower than those for shoulder widening or road diets. Similar to shoulder widening, sometimes re-striping can be conducted as part of routine resurfacing of a street. Cost without milling is approximately \$14,000 per mile; cost is closer to \$48,000 if milling of existing markings is necessary.
- Low Cost:
  - *Painting a sharrow or bike lane on a road with sufficient width.* Some design may be necessary, but should be minimal (e.g., less than \$10,000 per linear mile for thermoplastic striping). Construction costs are much less than those for shoulder widening. May be included as part of a routine resurfacing.
- Lowest Cost:
  - *Installing signage.* Costs will include some design to determine signage locations, installation, and sign costs. Most signs are approximately \$150 and installation costs approximately \$100, for a total of \$250 per sign.

Appendix 7 contains a table with project cost analysis based on proposed treatments and existing conditions.

3. **Place projects into schedule.** The project cost analysis was then compared to the list of projects organized by rating to determine the appropriate scheduling of construction for the on-road projects. Projects which were estimated to be low cost and also received high ratings were placed in the short-term project category, whereas projects with high cost and low ratings were placed in the long-term project category. Mid-term projects included those projects with low costs and low ratings, and those with high cost but high ratings. By organizing projects in a short-term, mid-term, and long-term fashion, the City has a list of projects that it can implement quickly in order to take immediate steps towards making Wilson more bicycle-friendly in the interim before more intensive, long-term projects can be constructed. Table 5-1 and Figure 5-3 shows projects organized by short-, mid-, and long-term priority.

Table 5-1. On-road projects by short-term, mid-term, and long-term recommendation

Road Name	Limit	Limit	Length (miles)	Action	Cost	Rating
<i>Short Term</i>						
ACC Drive	Corbett Street	Nash Street	0.45	- Restripe to accommodate bike lane (one way)	Low Cost	7
Airport Boulevard	Chelsea Drive	Buckingham Street	1.45	- Sign parallel route in neighborhood & shared lane/signage treatment on route	Lowest Cost	6
Black Creek Road	Pender Street	Ward Boulevard	0.39	- Shared lane/signage treatment	Moderate Cost	6
Corbett Street	Tilghman Road	ACC Drive	0.24	- Paint sharrows	Low Cost	7
Corbett Street	Ward Boulevard	Toisnot Park	0.40	- Redesign to accommodate bike lanes per NCDOT standards	High Cost	6
Glendale Road	Katherine Street	Raleigh Road Parkway	0.81	- Paint sharrows	Low Cost	6
Glendale Road	Downing Street	Katherine Street	0.89	- Redesign to accommodate bike lanes per NCDOT standards	High Cost	6
Goldsboro Street	Downing Street	Ward Boulevard	0.45	- Shared lane/signage treatment (may be unnecessary)	Lowest Cost	5
Lake Wilson Road	Nash Street	Lake Wilson Park	1.77	- Redesign to accommodate bike lanes per NCDOT standards	High Cost	4
Lane Street	Tuskegee Road	MLK Boulevard	1.09	- Shared lane/signage treatment	Lowest Cost	3
Lodge Road	Green Street	Goldsboro Road	1.16	- Shared lane/signage treatment (may be unnecessary)	Lowest Cost	6
Nash Street	Pender Street	Packhouse Road	4.91	- Sign parallel route in neighborhood & shared lane/signage treatment on route	Lowest Cost	6
Packhouse Road	Bloomery Road	Nash Street	2.66	- Widen shoulder (both sides) for 4' wide paved shoulder	Moderate Cost	5
Pender Street	Herring Avenue	Black Creek Road	1.04	- Paint sharrows or shared lane/signage treatment	Low Cost	7
Raleigh Road Parkway	Corbett Street	Hines Street	0.81	- Restripe to accommodate bike lane (one way)	Low Cost	7
<i>Mid-Term</i>						
Black Creek Road	Ward Boulevard	Wilco Boulevard	1.32	- Widen shoulder (both sides) for 4' wide paved shoulder	Moderate Cost	4
Charleston Street	Black Creek Road	MLK Road	1.88	- Widen shoulder (both sides) for 4' wide paved shoulder	Moderate Cost	4
Corbett Street	London Church Road	Toisnot Park	3.26	- Widen shoulder (both sides) for 4' wide paved shoulder	Moderate Cost	2
Downing Street	Ward Boulevard	Goldsboro Street	0.48	- Paint sharrows or restripe for bike lanes (bike lanes shown in Figure 5-2)	Low Cost	6
Goldsboro Street	Ward Boulevard	US 301	0.41	- Paint sharrows	Low Cost	4
Herring Avenue	Ward Boulevard	Firestone Parkway	0.94	- Redesign to accommodate bike lanes per NCDOT standards	Moderate Cost	4
Herring Avenue	Pender Street	Ward Boulevard	0.14	- Paint sharrows	Low Cost	3
Lake Wilson Road	Lake Wilson Park	London Church Road	0.52	- Redesign to accommodate bike lanes per NCDOT standards	High Cost	4
Lakeside Road	Forest Hills Road	Raleigh Road	1.08	- Shared lane/signage treatment	Lowest Cost	2
Lipscomb Road	US 301	MLK Boulevard	0.98	- Redesign to accommodate bike lanes per NCDOT standards	High Cost	4
Lipscomb Road	Ward Boulevard	US 301	0.15	- Redesign to accommodate bike lanes per NCDOT standards	High Cost	4
Nash Street	Pender Street	Ward Boulevard	2.63	- Paint sharrows	Low Cost	6
Nash Street	Ward Boulevard	Packhouse Road	2.32	- Redesign to accommodate bike lanes per NCDOT standards (this longer-term recommendation is not shown in Figure 5-2)	High Cost	6
Stantonsburg Road	Black Creek Road	Charleston Street	1.04	- Widen shoulder (both sides) for 4' wide paved shoulder	Moderate Cost	3
Tilghman Road	Lake Wilson Road	Corbett Street	3.00	- Restripe to accommodate bike lanes per NCDOT standards	High Cost	5
Wilco Boulevard	US 301	Black Creek Road	1.68	- Widen shoulder (both sides) for 4' wide paved shoulder	Moderate Cost	3
<i>Long-Term</i>						
Airport Boulevard	Buckingham Road	Nash Street	0.22	- Redesign to accommodate bike lanes per NCDOT standards	High Cost	6
Airport Boulevard	Chelsea Drive	Buckingham Road	1.45	- Redesign to accommodate bike lanes per NCDOT standards (this longer-term recommendation is not shown in Figure 5-2)	High Cost	6
Airport Boulevard	Merck Road	Raleigh Road Parkway	1.15	- Redesign to accommodate bike lanes per NCDOT standards	High Cost	3
Airport Boulevard	Raleigh Road Parkway	Chelsea Drive	0.57	- Construct shared path adjacent to road and bike lanes as appropriate	High Cost	3
Bloomery Road	Raleigh Road Parkway	Packhouse Road	0.78	- Widen shoulder (both sides) for 4' wide paved shoulder	Moderate Cost	2
Downing Street	Glendale Road	Ward Boulevard	0.71	- Redesign to accommodate bike lanes per NCDOT standards	High Cost	4
Lane Street	Lane Street Park	Water Easement	0.5	- Widen to meet existing curb line at cemetery; install shared lane/signage treatment	Moderate Cost	3
London Church Road	Lake Wilson Road	Corbett Street	2.14	- Widen shoulder (both sides) for 4' wide paved shoulder	Moderate Cost	3
Merck Road	Airport Boulevard	Bloomery Road	2.28	- Redesign to accommodate bike lanes per NCDOT standards	High Cost	2
Raleigh Road Parkway	Hines Street	Lakeside Road	1.18	- Redesign to accommodate bike lanes per NCDOT standards; provision of sharrows may be a shorter-term alternative (not shown in Figure 5-2).	High Cost	6

*This page left intentionally blank.*

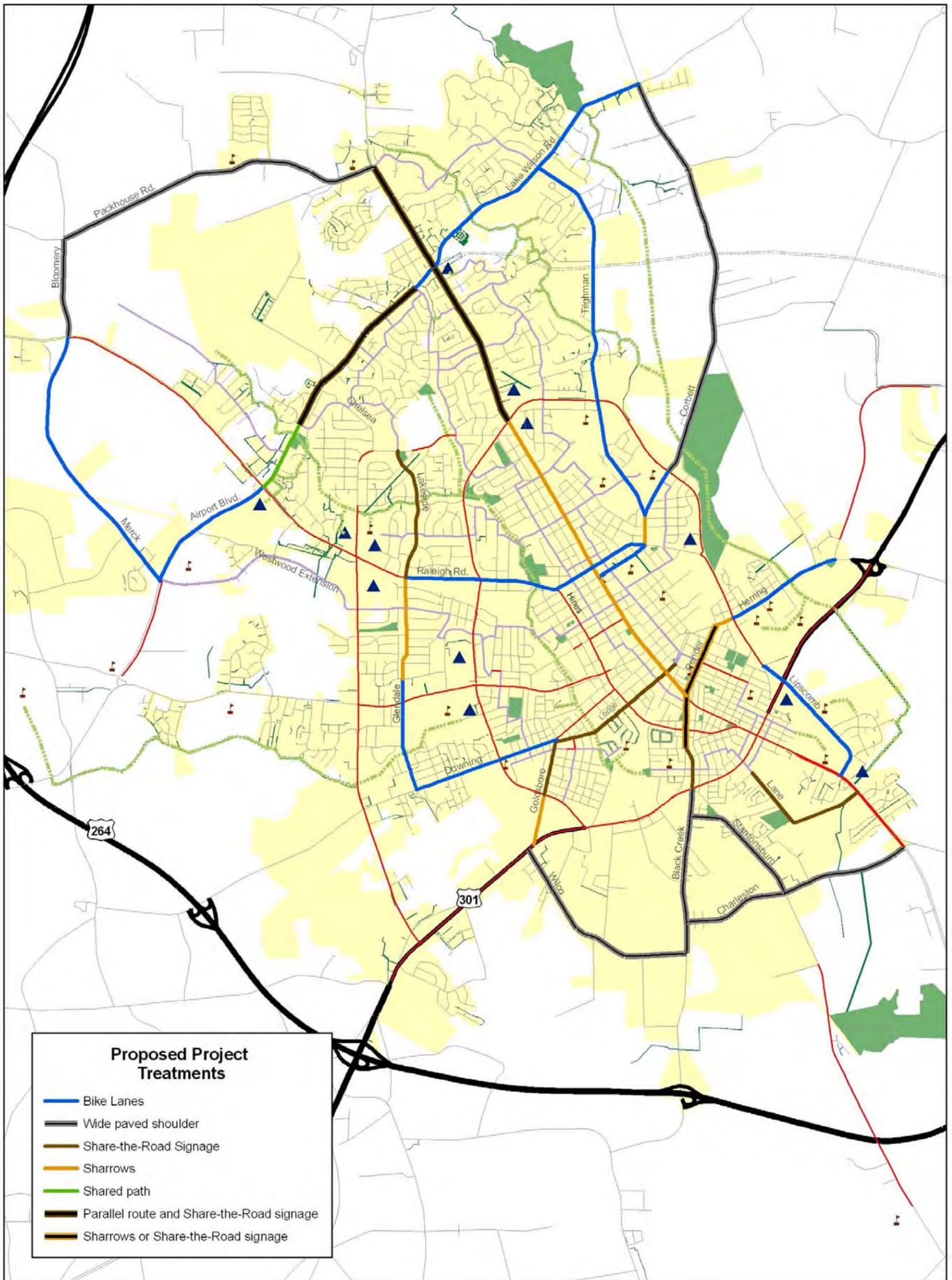
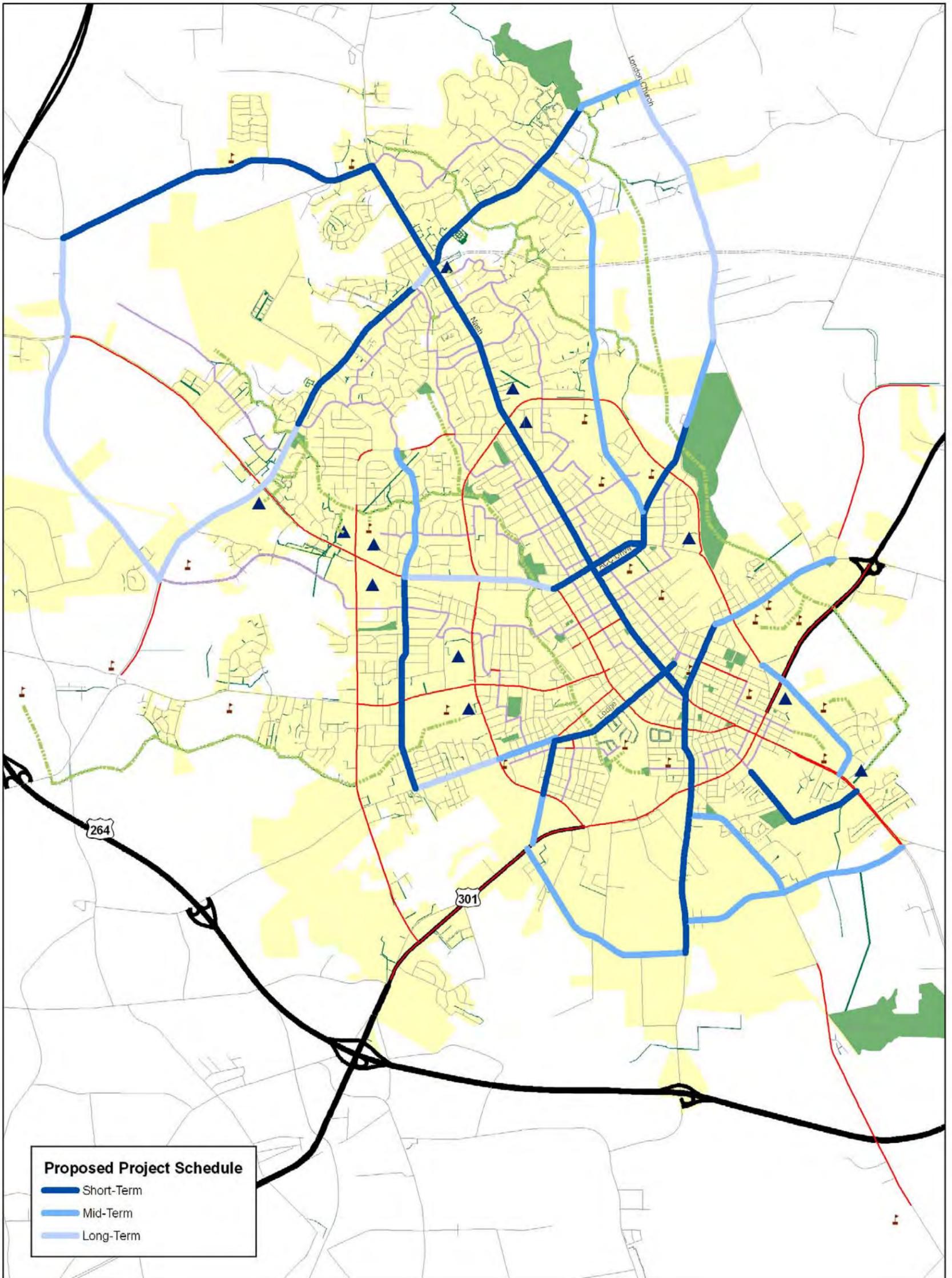


Figure 5-2. Map of proposed on-road projects in Wilson by treatment

*This page left intentionally blank.*



**Legend**

- Proposed Signed Route
- Route may be suitable for experts only
- Preliminary Proposed Greenways
- Limited Access Road
- Shopping Centers
- School
- City Park
- City-owned Easement
- City Limits



Figure 5-3. On-road proposed project schedule for the City of Wilson

*This page left intentionally blank.*

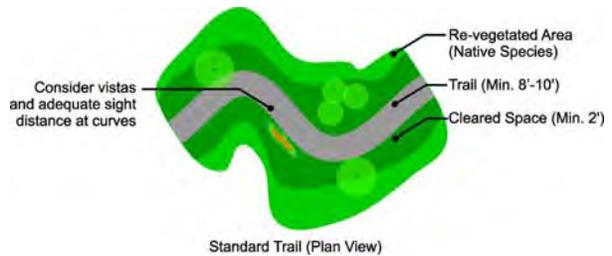
### 5.3. Off-road projects

Shared-use paths, greenways and trails are among the terms used to describe off-road facilities for pedestrians, bicyclists, skaters and other non-motorized users. Such facilities are often along linear parks, stream buffers or green space corridors, and are favored by recreational and beginner cyclists for their scenic qualities. Shared-use paths can provide important links to on-road bicycle facilities and complete a network that is more convenient and accessible for bicycle transportation. These paths can also be useful for child and senior cyclists, as well as important recreation routes for exercise.

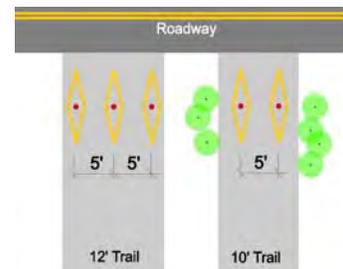
Several shared-use paths are recommended in the Wilson Bicycle Plan. Though it may take years for the City to acquire contiguous easements for trail construction through future development and right-of-way purchase, these facilities can be a worthwhile investment and valuable asset for any community. In addition to providing transportation and recreational options for residents, shared-use paths can be an economic development tool to attract tourists and newcomers, and have also been known to raise property values for adjacent landowners. The City of Wilson should consider policy changes and new ordinance language that requires dedication of trail easements for future construction and/or construction of connector trails to proposed and existing greenways during all new development.

Minimum easements for a shared-use path include width for a 10-14 foot trail surface, in addition to a minimum 4 foot buffer (2 feet on each side) with a recommended 10-20 foot buffer, depending on the nature of the corridor. Typically, a wider buffer provides a more scenic greenway. The City should consider inclusion of the recommended greenway trails into any future Open Space and Trails or Parks and Recreation Plans, and may also consider educating

development review staff and developers on any new requirements for trail easements to ensure appropriate right-of-way dedication. Additionally, the City might work with the proposed Bicycle and Pedestrian Advisory Committee on



*The greenway cross-section provides two-way bicycle and pedestrian traffic. Bollards and markings (below) help ensure that only pedestrians and cyclists use the trail; the bollards can be of the lock-down variety to help emergency vehicles to gain access to the trail.*



concept development for the proposed greenway trails and related amenities.

Many of the major greenway corridors proposed in the Wilson Bicycle follow existing publicly-owned easements. Other, smaller greenways are proposed as connectors between on-road routes and major destinations. Greenways have not been prioritized in this Plan, but it is recommended that the City prioritize proposed trails in a future Greenway Plan. Figure 5-4 shows all proposed greenway locations.



**Legend**

- Proposed Project
- - - Proposed signed route (on new location)
- Proposed signed route
- - - Preliminary Proposed Greenways
- Limited Access Road (no bicycles)
- May only be suitable for experts
- Street may be suitable for all skill levels
- ▲ Shopping Centers
- ▲ School
- City Limits
- City Park
- City-owned Easement
- City Property

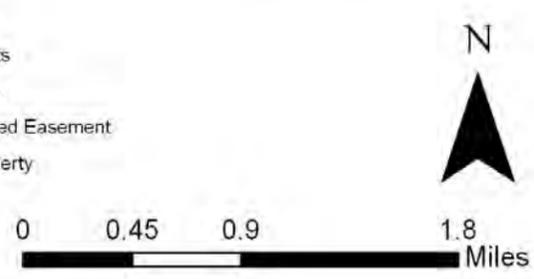


Figure 5-4. Map of proposed greenway locations in Wilson

*This page left intentionally blank.*

### 5.4. Crossing Improvements

Crossing improvements are a critical step in creating a safe and convenient bicycle network. Crossings are necessary to provide access across major roads and through key intersections that could potentially otherwise be major barriers to cycling in Wilson. Primarily, crossing improvements should involve adjusting signals to allow for adequate travel time for cyclists to cross at a large intersection and installing signals that are sensitive to the presence of cyclists. At intersections that are unsignalized, signage should be provided to alert motorists of the potential presence of cyclists and, at intersections with major roads, a signal should be installed when necessary and appropriate to allow safe passage for cyclists. For a more thorough discussion of crossing improvements, see Section 4: *Design Guidelines*.

All intersections along designated signed routes and future proposed

**Table 5-2. Priority crossing improvements for Wilson Bicycle Plan**

Map ID	Intersection Location	Signal Presence?	Route the intersection serves
1	Forest Hills Road and Lakeside Drive	No signal	Lakeside-Glendale North-South Route
2	Ward Boulevard and Carolina Street	No signal	East Nash Street Parallel Route
3	Fieldstream Drive and Nash Street	No signal	East Nash Street Parallel Route Airport Boulevard Parallel Route West Nash Street Parallel Route
4	Peachtree Road and Ward Boulevard	No signal	Forest Hills-Toisnot Middle Schools East-West Route
5	Hines Street and Bruton Street	No signal	Westwood-Toisnot East-West Route
6	Bruton Street and Nash Street	No Signal	Westwood-Toisnot East-West Route
7	Rountree Street and Raleigh Road Parkway	No signal	Westwood-Toisnot East-West Route
8	Garner Street and Tarboro Road	No signal	Denby Field North-South Connector

*This page left intentionally blank.*



**Legend**

- 1, 1
- Proposed Project
- Proposed signed route (on new location)
- Proposed signed route
- May only be suitable for experts
- Street may be suitable for all skill levels
- Preliminary Proposed Greenways
- Limited Access Road (no bicycles)
- Shopping Centers
- School
- City Park
- City-owned Easement
- City Limits

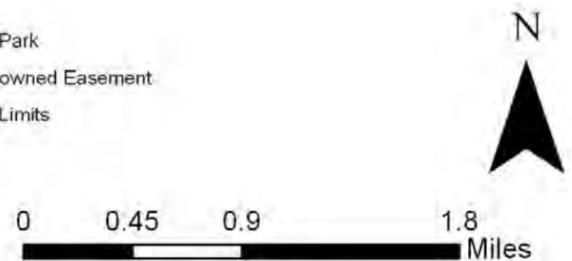


Figure 5-5. Map of proposed priority crossing improvements in Wilson

*This page left intentionally blank.*



## Section 6. Policy and Program Recommendations

Bicycle-friendly communities consist of more than just bicycle lanes and “Share the Road” signs. Comprehensive policies and programs that promote bicycle transportation are essential to successfully integrating bicycles into Wilson’s transportation network. During the Plan’s development several different bicycle-friendly policy and program recommendations specific to Wilson were identified and discussed. These policies and programs cover the five E’s of bicycle-friendliness: engineering, encouragement, enforcement, education, and evaluation. The following sections discuss these recommendations and identify their key components. City departments, boards, and entities responsible for carrying out the recommendations are identified.

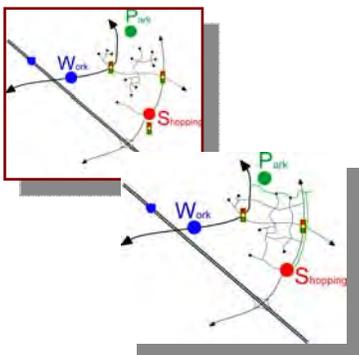


### 6.1. Policy Recommendations

To make Wilson a truly bicycle-friendly community, new and enhanced policies should be established to create better future bicycling conditions in the City. Policies can affect the City’s budget, the construction of public facilities, and private and public development requirements. Many policy changes may be internal, requiring only education of City staff members and partners. Other policies would require updates to existing ordinances or new ordinances all-together, and would involve education of staff, City Council members and developers. Such amendments would be established through the normal policy development and hearing procedures already in place in Wilson. The following policy recommendations address a number of improvement areas; all policies involving ordinance changes are denoted by an asterisk in the list below.



#### TARGET E’S: ENGINEERING



**Connected streets systems** (bottom image) allow for easier and less costly connections for greenways, sidewalks, and other public infrastructure.

- **Funding Opportunities** – The City of Wilson should commit to identifying and pursuing funding opportunities for bicycle facilities at every opportunity. There are many funding sources that Wilson can consider. These are discussed in the Implementation Section of this Plan. Wilson should also consider advancing bicycle projects as opportunities develop through local and State-funded capital projects or private development. *Responsible Parties: Wilson Planning & Development Services, Wilson Engineering, Wilson Parks & Recreation, civic groups.*
- **Road Construction and Maintenance** – Bicycle facilities such as bike lanes, sharrows, bicycle parking, bicycle-friendly drainage grates and signage should be considered on all new streets and all transportation maintenance projects. Wilson should require other entities responsible for construction to consider bicycle facilities. *Responsible Parties: Wilson Engineering, Wilson Planning & Development Services, NCDOT, Wilson development community.*
- **Interconnected Streets\*** – The amount of dollars available from traditional federal, state and local (public) revenue sources to

finance major new roadway capacity projects continues to shrink. The status of North Carolina as a “Dillon’s Rule” state translates into fewer opportunities for adding new public revenue sources by local governments. And, although the NC legislature has recently modified a statute that now allows counties to construct and maintain roadways (long the purview of the State and, much less frequently, municipalities), there has been no accompanying divestiture of state funding to accomplish county-level roadway construction. Therefore, the need to interconnect streets has become more important to the mobility and economic development of every community. Often, this is accomplished through a combination of site ordinances that require connections to the edge of property lines; development and adherence to a collector street plan; and longer-term planning that speaks to both capacities of public transportation infrastructure and the allowable types and traffic generation characteristics of future land development. Each of these should be undertaken to ensure that the street system becomes more connected, and monitored using a simple statistic that compares the number of street intersections to the number of street segments to provide a target and performance benchmark. Any new ordinance and practice should be developed with the input of private sector developers to fashion a fair but meaningful standard. *Responsible Parties: Wilson Planning & Development Services, Wilson development community.*

- **Private Construction and Maintenance\*** – Wilson should require developers to include bicycle facilities in new development and require their impacts to be included in Traffic Impact Analyses. This will send a strong message to the development community on the City’s multimodal focus and encourage more bicycle considerations in the future. *Responsible Parties: Wilson Planning & Development Services, Wilson development community.*
- **Bicycle Parking Requirements\*** – Bicycle parking should be required for all new developments and expansions of existing developments according to the schedule at right.<sup>1,2</sup> Shopping centers, multi-family developments, and offices are obvious choices for bicycle parking associated with new/expanded private developments, but even industrial uses such as warehousing, manufacturing, and distribution centers are important to consider since many of these workers have low rates of access to reliable, private cars. Schools, libraries, recreation centers, City offices, and healthcare facilities are a few examples of public facilities that will benefit from bicycle parking. The City should also develop a retrofit plan for existing facilities. These policies will continue to open the wider community to bicycles. *Responsible Parties: Wilson City Administration, Wilson County Schools, Wilson County, Wilson Medical Center.*

**Bicycle Parking**

Use	Spaces
School	10% Students + 3% FTEs
College	6% students + 3% FTEs
Shopping Center	5% of auto
Office	10% of auto
Government	10% of auto
Movie/Restaurant	8% of auto
Industrial	4% of auto
Apartments	1 per 2 units
All Other (excluding single-family residences and duplexes)	5%-10% of auto

**Ordinance Elements**

General: *Bicycle parking required for any new building or reconstruction that requires more auto parking*  
 Number / Type of Spaces: *According to bicycle parking schedule (10% covered for college and shopping centers)*  
 Location: *Well-lit, proximate to main entrance, not impeding pedestrian or automobile circulation, 6’ min. separation from walls or other obstructions*  
 Conversion: *Allow maximum of 5% of car parking or 15 bike spaces (whichever is greater) to convert to bike parking*

**Summary of 145 Bike Parking Ordinances:**

[www.massbike.org/bikelaw/parkcomp1.htm](http://www.massbike.org/bikelaw/parkcomp1.htm)

<sup>1</sup> Adapted from City of Wilson from: Michael Davidson and Fay Dolnick, eds., “Parking Standards.” American Planning Association, PAS Report No. 510/511. November, 2002.

<sup>2</sup> Bicycling.Info.Org, Bicycle Parking ([www.bicyclinginfo.org/engineering/parking.cfm](http://www.bicyclinginfo.org/engineering/parking.cfm)) accessed on May 17, 2008.

- **School Zone Establishment\*** – Wilson should establish an ordinance to create school zones around existing elementary, middle, and high schools. Inside the established school zones, roads should be designed and retrofitted to be more bicycle-friendly. Additional warning and wayfinding signs, reduced speed limits, and construction of bicycle lanes, sharrows, bicycle parking as well as bicycle-responsive signals, and increased access to shared use paths are all elements that can greatly increase the safety for bicyclists around schools. *Responsible Parties: Wilson Engineering, Wilson Planning & Development Services, Wilson Parks & Recreation, Wilson County Schools, Wilson development community.*
- **Bicycle Circulation Study** – Wilson could request developers to include a bicycle circulation study as part of the development review process. Similar to traffic impact analysis, this study would provide information on internal-to-the-site bicycle travel, connections to the external bicycle transportation network, and also require developers to consider the future bicycle use of a location as it becomes more developed or new types of development are constructed. *Responsible Parties: Wilson Engineering, Wilson Planning & Development Services, Wilson development community.*
- **Bicycle Plan Design Section Guidance** – All roads designed below a freeway level of service (LOS) should accommodate bicycling. Wilson should adopt and use the guidelines contained in the Bicycle Plan to determine appropriate bicycle facilities for any road in the City. The design guidelines section of this Plan should be consulted to determine the appropriate bicycle facilities to be included with new construction and during maintenance projects. Other guidance documents such as the *North Carolina Bicycle Facilities Planning and Design Guidelines (1994)* and the *Guide for the Development of Bicycle Facilities (1999)* from the American Association of State Highway and Transportation Officials (AASHTO) are excellent supplemental sources of guidance for unique situations not specifically addressed in this Plan. *Responsible Parties: Wilson Engineering, Wilson Planning & Development Services, Wilson development community.*
- **Traffic Calming Policy Improvements** – Wilson should consider expanding the existing speed hump or traffic calming policy to include measures that reduce truck traffic, motor vehicle speeds, and “cut-through” traffic. The purpose of these measures is to reinforce the hierarchy of the street system and maintain a balance between mobility and accessibility on the street system. Designing and implementing the appropriate traffic calming measure is key. A poorly designed speed hump, diverter, or bulb-out could force bicyclists to react with unsafe behaviors when a driver’s attention is focused on negotiating the traffic calming device rather than the cyclist. While there is no single traffic calming solution that can be used in all situations, there are several traffic calming measures that have proven effective in

creating transportation facilities that are bicycle-friendly and safer for all users. The Institute of Transportation Engineers has developed guidance on traffic calming policies and treatments ([www.ite.org/traffic/tcstate.htm](http://www.ite.org/traffic/tcstate.htm)).

Other traffic calming resources available to City staff include:

- o [www.trafficcalming.org/index.html](http://www.trafficcalming.org/index.html)
- o [www.vtapi.org/tdm/tdm4.htm](http://www.vtapi.org/tdm/tdm4.htm)
- o [www.pps.org/info/placemakingtools/casesforplaces/livememtraffic](http://www.pps.org/info/placemakingtools/casesforplaces/livememtraffic)

*Responsible Parties: Wilson Engineering, Wilson Planning & Development Services, NCDOT, Wilson development community.*

- **Mixed Use and Compatible Development\*** – Development and population pressure from the Research Triangle region, significant economic development efforts by the City, Wilson County, and the Wilson business community, as well as Wilson’s close-knit community have contributed to the growth of Wilson over the last several years. As Wilson continues to transition from a small eastern North Carolina town into a dynamic urban community, the City should encourage and support mixed use and compatible land uses. By taking advantage of an established and well connected street network and many adjacent land use types that have grown into a great community fabric, Wilson can continue to create a more bicycle-friendly community. Areas identified in this Plan such as the historic districts near downtown should be protected from design recommendations that will increase automobile mobility to the detriment of the bicycling community. Wilson can also encourage fast-track reviews of mixed-use development proposals that incorporate higher design standards and work with community planning efforts such as the Wilson 20/20 Community Vision to ensure mixed use, smart growth and bicycle considerations are included. *Responsible Parties: Wilson Planning & Development Services, Wilson City Council, Wilson development community, community groups.*
- **Greenway Development\*** – Wilson’s Parks and Recreation Master Plan developed in 1993 includes a Greenway Potential Plan that identified natural corridors, utility corridors, and street connectors that were suitable for greenway development. Shared use paths and trails can serve not only a recreation purpose but also a valuable link in the bicycling network.
  - o Wilson should develop requirements for greenway space reservation and multi-use path facility construction in new developments as identified in the Wilson Parks and Recreation Master Plan.
  - o New development should also be required to identify existing or proposed greenways and construct connections to them in the same way connections to the road network are required.
  - o New development should encourage short greenway/trail connections between cul-de-sacs and/or from cul-de-sacs to adjacent community centers, parks, schools, commercial areas and other attractors to create more

bikeable distances in typical suburban or cul-de-sac developments.

- Staff should also be able to identify the acceptable locations for greenway easements to ensure successful construction and long-term maintenance of the greenway facilities. Wetlands that are dedicated as greenway space or some other form of open space may not be compatible with shared-use path requirements due to groundwater and other environmental issues.
- Wilson should establish an ongoing greenway maintenance policy and budget to fund preservation of the greenway system.
- The City should build upon greenway recommendations in the 1993 Parks and Recreation Master Plan and the Wilson Bicycle Plan via development of a formal Greenway Plan, whereby trail corridors are formalized and prioritized.

*Responsible Parties: Wilson Parks & Recreation, Wilson Planning & Development Services, Wilson Engineering, Wilson development community, neighborhood groups.*

- **Neighborhood Subdivision Variances for Bicycle Facilities\*** – As discussed in *Section 3: Plan and Policy Review*, the City of Wilson’s subdivision ordinance allows for variances from typical subdivision regulations for “complete neighborhood” developments that provide adequate public spaces. Though bicycle facilities are not cited specifically in this ordinance, the inclusion of greenway trails, bicycle parking racks, on-road bike facilities and other bike-friendly design elements should be considered as allowances under this provision. This ordinance should be updated to included language on bicycle-related allowances. Development review staff and developers should be made aware of the consideration of bicycling facilities as part of this process.
- **Consistent Bicycle Facility Maintenance** - Proper maintenance of any public facility is important to ensure continued use by the public. A bicycle facility maintenance program should be established by the City that includes four key components:
  - On-Road Facilities – Activities such as restriping and repaving as necessary (typically every 5-10 years depending on traffic volume and truck percentages) and regular sweeping and clearing of bike lanes and sharrows every six months, at a minimum.
  - Off-Road Facilities – Resurfacing as necessary and regular sweeping and clearing of shared-use paths, trails, and greenways.
  - Ancillary Facilities – Bicycle parking, signage, and transit bicycle racks maintenance as necessary.

*Responsible Parties: Wilson Engineering, Wilson Planning & Development Services, Wilson development community, various property owners, NCDOT.*

TARGET E'S: ENCOURAGEMENT



- **Annual Bicycle Projects Budget** – Bicycle improvement projects are presently implemented as ancillary construction to larger projects, such as a road widening or multi-use path as part of a new parks and recreation project. Wilson’s bicycle needs cannot be met with ancillary projects alone. The major roadblock to increased bicycle projects is financing. Wilson should create an annual budget for dedicated bicycle projects as a way to accelerate the process of improving bicycle friendliness in Wilson. While construction projects will remain the “big ticket” items funded under this policy, other projects that increase awareness of bicycling as a viable alternative to the automobile and implementation of many of the recommendations of this Plan should be considered. *Responsible Parties: Wilson City Council, Wilson Administration, NCDOT.*
- **City Employee Bicycle Use** – The City should support and promote bicycling by City and other government employees. Wilson should establish policies that encourage bicycling, including flexible commuting times and habits that may be needed by cycling commuters. Wilson should consider establishing an emergency ride home policy for bicycling commuters. All City facilities should have safe, secure, and adequate bicycling facilities such as bicycling parking, showers, and dressing areas for workers who cycle to work. These policies should be advertised and distributed to existing City employees and be included in new employee information packets. *Responsible Parties: City Administration.*
- **Community Bicycling Coordination** – Wilson should serve as the lead coordinating agency for bicycling activities in the community. These efforts should include coordination with nearby communities, recreation and bicycle advocacy groups, and other levels of governments to establish new bicycle facilities, develop and promote local and regional bicycle events, and create promotional programs and material. *Responsible Parties: Wilson Planning & Development Services, Wilson Community Development, Wilson Parks & Recreation, Wilson Chamber of Commerce, local and regional community groups.*
- **Bikes on Buses** – Wilson’s transit system has a long history of providing quality public transportation to the community and should build on this success by developing bicycle-friendly policies, including installation of bicycle racks on all buses and shuttles. Providing bike parking racks at major transit stops and transfer points as well as transit system interconnectivity will also encourage increased utility ridership. Additionally, bike parking racks should be installed at Wilson’s historic train station for Amtrak passengers. *Responsible Parties: Wilson Engineering, Wilson Transportation Services, Wilson Planning & Development Services, Wilson Chamber of Commerce.*



#### TARGET E'S: ENFORCEMENT

- **Bicycle Police Patrols** – Wilson should consider expanding the Wilson Police Department’s bicycle unit. Stepped up patrols along popular cycling routes and at major destinations and events will ensure safe and orderly activities. Officers can also serve as a very visible and active resource for providing the community with information on bicycling laws and other “rules of the road”. Police patrols in conjunction with community patrol groups and neighborhood watch groups can also serve as a tip wire for maintenance issues and safety concerns in the cycling community. *Responsible Parties: Wilson Police Department, neighborhood watch groups.*
- **Development Review Process Compliance** – Wilson should treat construction projects that do not comply with required bicycle improvements in a manner consistent with official actions taken in response to other unapproved deviations from adopted development plans. Stopping further site inspections and approvals and ultimately delaying the issuance of certificates of occupancy could be used to ensure compliance with bicycle-related requirements in new and upgraded developments. *Responsible Parties: Wilson Planning & Development Services, Wilson Engineering, Wilson development community.*



#### TARGET E'S: EVALUATION

- **Comprehensive Bicycle Plan Updates** – The City should consider a regular update cycle for the Comprehensive Bicycle Plan. This Plan is not designed to remain static but rather it should evolve as the greater Wilson community grows and evolves. Periodic reviews of bicycle-related policies and programs should take place to ensure continued effectiveness. This review and any recommended changes for City Council could be accomplished by a Bicycle Advisory Committee with staff support provided by a Bicycle Coordinator and other City staff as needed (see recommendations for staff/committee positions on pg. 85). *Responsible Parties: Wilson Bicycle Coordinator, Wilson Bicycle Advisory Committee, Wilson Administration, Wilson City Council.*
- **Capital Improvement Program Updates** – Wilson should strive to keep the bicycle CIP up to date through an annual review and update process. Removal of completed projects and addition of new bicycle needs is an important and ongoing process. By keeping the CIP updated the City can ensure an efficient implementation of bicycling related capital projects. *Responsible Parties: Wilson Bicycle Coordinator, Wilson Bicycle Advisory Committee, Wilson Administration, Wilson City Council.*

### **6.2. Program Recommendations**

Bicycle-friendly programs are specific actions completed on a continuing basis that can be used to address the five “E’s”; engineering, encouragement, enforcement, evaluation and planning, and education.

The following are bicycle related program recommendations that Wilson can implement to greatly enhance the cycling environment.

TARGET E'S: ENGINEERING



- **Wilson Bike Route System** – By formalizing the bicycle routes throughout Wilson, the City will be able to preserve accessible routes for cyclists of all skill levels. The system would consist of signed routes throughout Wilson along with wayfinding signage, such as route distance markers and intersecting route signage that provides cyclists with connectivity information. These routes would then be recognized by the City, NCDOT, and developers and preserved during public or private development actions that affect the cross-section of the street. As road improvements take place, the bicycle-friendly nature of the road must be preserved. Maps that include the designated routes, major destinations, bicycle amenities, suggested rides and other pertinent bicycling information could be included. *Responsible Parties: Wilson Planning & Development Services, Wilson Engineering, Wilson Public Works.*
- **Bicycle Parking Program** – Wilson should identify and provide bicycle parking at major public and private destinations throughout the City, such as at parks, recreational centers, schools and shopping centers. The City should identify key locations for these racks (such as those listed in the City's 2008-2012 CIP on pg. 35 of this Plan). Parking racks encourage bicycle riding by providing a secure location for cyclists to leave their bikes when riding to destinations such as parks, schools, shopping centers, downtown, places of worship, and other public places. The City could provide incentives such as property tax deductions for the cost of bicycle parking improvements to existing development or free installation services in existing developments. New bicycle racks on City property will need to be monitored for abandoned bikes. To address this issue, the City should consider an ordinance change to allow local police to confiscate bikes that are left at short-term parking racks for more than one week. Designated long-term parking options (e.g. bike lockers) should be considered for some locations, such as at train or transit stops. *Responsible Parties: Wilson Planning & Development Services, Wilson Public Works, Wilson development community, various property owners.*

TARGET E'S: ENCOURAGEMENT



- **Bicycle Advisory Committee** – The Wilson Comprehensive Bicycle Plan Steering Committee has served as an excellent source of information and sounding board for ideas on advancing bicycling in Wilson during the development of the Plan. Wilson should create a standing bicycle advisory committee to oversee the implementation of the Plan and coordinate City bicycle policies and actions. The Committee could also coordinate annual bicycling events, review development plans for bicycle friendliness, and create other education and encouragement material and programs specific to Wilson. *Responsible Parties:*

*Wilson City Council, Wilson Planning & Development Services, Wilson Bicycle Coordinator, community volunteers.*

- **Bicycle Coordinator** – The City of Wilson should establish a Bicycle Coordinator position on the City staff. This position would serve as the City’s main point of contact on all bicycling-related issues and projects. The Bicycle Coordinator would serve as staff to the Bicycle Advisory Committee and work to promote and implement the Wilson Comprehensive Bicycle Plan. This position could also coordinate annual bicycling events, review development plans for bicycle friendliness, and create other education and encouragement material and programs specific to Wilson. *Responsible Parties: Wilson City Council, Wilson Planning & Development Services, Wilson Bicycle Coordinator.*
  
- **Annual Bicycling Events** – Wilson should develop bicycling events that take place throughout the year. These events could be stand alone events or tied to other special happenings in the community and could be weekly, monthly, yearly or periodic events that are designed to promote cycling in Wilson.
  - *Bike to Work Week* - Wilson should encourage City employees and community employers to develop a local Bike to Work Week program. This would consist of a Citywide program with contests, incentives, and prizes for employers and their employees that participate in Bike to Work Week activities. Prizes could include gift certificates to area or online businesses that encourage bicycling such as Don’s Bicycle Sales and Service. This week-long series of events could be part of Wilson’s current Bicycle Registration and Safety Awareness Month in May of each year. More information on national “Bike Month” events are available at <http://www.bikeleague.org/programs/bikemonth/>.
  - *Take the Road Events* – Wilson could further encourage cycling in the community by sponsoring a periodic community bike ride. Many cities throughout the country have developed similar programs where a major thoroughfare is closed to automobiles and bicyclists are given the roadway. Portions of Ward Boulevard or Nash Street are good examples of streets that could be used for such an event. In addition to promoting cycling, these events often serve as an economic draw to the host community with benefits for local shops and restaurants. The City of Chicago ([www.bikethedrive.org](http://www.bikethedrive.org)) is one such community using these events successfully.
  - *Tour of Wilson* – The City of Wilson could partner with Wilson County and other Wilson County communities to develop a cycling road race. This type of event not only promotes bicycling but can also provide a major economic benefit to the region as cycling enthusiasts and spectators descend on the City to experience the race and the communities of Wilson County.

*Responsible Parties: Wilson Bicycle Advisory Committee, Wilson Bicycle Coordinator, Wilson County, other Wilson County communities, Wilson bicycling groups.*

- **Bicycle-Friendly Community Designation** – The City of Wilson should consider pursuing official designation as a Bicycle-Friendly Community. Levels of bicycle friendliness ranging from Bronze to Platinum can be obtained by a community in the five “E’s” of bicycle friendliness and an ongoing determination process ensures communities continue to work towards a more bicycle-friendly environment. The League of American Bicyclist established this national program to not only recognize improvements communities make that benefit bicyclist but also to educate communities on the needs and advantages of providing a safe and ample bicycle network for the community. The application process is a learning one that can lead to continued improvements for cycling in Wilson. More information is available online at <http://www.bikeleague.org/programs/communities/index.php>.  
*Responsible Parties: Wilson Bicycle Advisory Committee, Wilson Bicycle Coordinator, various City departments and community groups.*

#### TARGET E’S: EDUCATION



- **Safe Routes to School Program** – By establishing a Safe Routes to School Program the City of Wilson can begin to encourage the next generation of citizens to use cycling as a viable transportation mode. Several activities can be established to create a safer bicycling climate. These activities might include establishing bicycle school buses. A bicycle school bus is a group of students that ride to and from school under the supervision of teachers and parents. This group riding approach provides a safe and supportive environment for young cyclists. Other activities that could be successful in Wilson include bicycling audits in school zones to identify improvements and the establishment of a Bike to School day/week/month. More information and resources are available at <http://ncdot.org/transit/bicycle/saferoutes/SafeRoutes.html>, as well as on the national SRTS web clearinghouse at [http://www.saferoutesinfo.org/guide/encouragement/walking\\_school\\_bus\\_or\\_bicycle\\_train.cfm](http://www.saferoutesinfo.org/guide/encouragement/walking_school_bus_or_bicycle_train.cfm).  
*Responsible Parties: NCDOT (Safe Routes to School Program), Wilson Engineering, Wilson Planning & Development Services, Wilson Parks & Recreation, Wilson County Schools, Wilson development community, Wilson neighborhood watch groups.*
- **Educational / Promotional Material** - An easy way to spread information about safe bicycling behavior and cycling-related happenings is to create promotional and educational materials for distribution at various locations throughout Wilson. City staff should design and distribute educational and promotional materials to City employees, major employers, and future residents, as well as for display at City offices and other public locations (for example: library, major shopping centers, bus stops, and parks and

recreational facilities). Development of a bicycle facilities map that includes safe cycling instructions is one example. The purpose of these materials would be to educate Wilson's citizens and visitors about safe cycling behaviors, safe driving behaviors around bicyclists, the proper use of bicycle facilities, and the benefits of cycling on health and the environment. The educational materials can be distributed to community groups, sporting goods vendors, and schools. City events, kiosks, or Parks and Recreation activities are also good avenues for distribution. In addition, materials could be created for distribution to developers which would educate them about bicycle-friendly design and construction. Free or low-cost materials are currently available online through NCDOT at [http://ncdot.org/transit/bicycle/safety/safety\\_materials.html](http://ncdot.org/transit/bicycle/safety/safety_materials.html) and through the Pedestrian and Bicycle Information Center at <http://www.bicyclinginfo.org/education/>. *Responsible Parties: Wilson Bicycle Advisory Committee, Wilson Bicycle Coordinator, community groups.*

- Bike Rodeo Program Expansion**– The City has held bike rodeos in the past, both as stand-alone events and in conjunction with other activities such as the Whirligig Festival. Several activities including an obstacle course that mimics typical cycling situations. Trained rodeo “Emcees”, such as a League of American Bicyclists Instructor or a trained police officer, teach participants proper cycling safety techniques and common cycling behavior. After completion of the program, participants receive diplomas and a “bike rider’s license”. Many bike rodeo programs offer prizes ranging from reflective gear to bicycle helmets. NCDOT has established a free bicycle helmet program for safety events like bike rodeos that Wilson could take part in. *Responsible Parties: Wilson Police Department, Wilson Parks & Recreation, Wilson County Schools, Wilson Bicycle Advisory Committee, area special events organizers.*



TARGET E'S: ENFORCEMENT

- Police Bicycle Sting Operations** - A police bicycle sting can be used to improve safety at locations by enforcing the laws that create safe bicycle and motorist behavior. Bicycling sting operations should be used with caution and only at locations which are particularly troublesome. Frequently, stings are used to enforce laws at locations where no other engineering or preventative measure can be taken to improve safety. Stings also require coordination between police and other City staff to identify those trouble locations. Sting operations can be targeted at both bicyclists and motorists. Similar to police stings in locations with high incidents of speeding, a pedestrian sting occurs when a police officer waits in an inconspicuous location near to where there have been frequent bicycle-vehicle incidents and then takes the appropriate action when an incident occurs. A more aggressive form of a bicycle stings can occur when a plain-clothed police officer attempts to ride a bicycle in the area while another uniformed officer waits nearby to apprehend motorists

that fail to adhere to applicable traffic laws. Similarly, officers can monitor areas where bicyclists have been reportedly in violation of traffic laws. Rather than ticketing first-time offenders, officers could provide educational material about bicycling safety and the existing laws protecting bicyclists. *Responsible Party: Wilson Police, Wilson County Sheriff, NC Highway Patrol, Wilson Planning & Development Services, Wilson Engineering.*

- **School Zone Monitors/Crossing Guards** – Through Wilson’s school zone policy and developing a Safe Routes to School Program, schools in Wilson should establish school zone monitors and crossing guards to assist students as they bike to school. Crossing guards are trained individuals hired for school drop-off and pick-up hours to control traffic flow and direct children when and where to safely cross the street. They are usually placed at intersections or mid-block crossings near a school which are used by a high number of students. School zone monitors are usually police or other sworn law enforcement officials who are stationed at a school during drop-off and pick-up hours to monitor the school zone and make sure all policies, such as reduced speeds and yielding to dismounted cyclists in crosswalks, are enforced. Unlike crossing guards, school zone monitors are the “teeth” of the enforcement in school zones because they are sworn officers who are empowered to write tickets and arrest others. Although some of the schools in Wilson already have a school crossing guard, crossing guards and monitors should be placed at all of Wilson’s schools. School zone monitors can also act as mentors for students at Wilson’s schools by providing periodic educational activities for classes and getting to know the student population. The presence of school crossing guards and school zone monitors can have several benefits, including increasing child safety when bicycling to and from school, raising parents’ level of comfort about allowing their children bike to and from school, and also improving traffic flow during school drop-offs and pick-ups. The presence of a crossing guard or school zone monitor also indicates to others that the City has a commitment to making it safer for children to bike to all schools. More information on State-funded crossing guard training is available at [http://ncdot.org/transit/bicycle/safety/programs\\_initiatives/crossing.html](http://ncdot.org/transit/bicycle/safety/programs_initiatives/crossing.html). *Responsible Parties: Wilson Planning & Development Services, Wilson Police, Wilson County Schools.*
- **Bicycle Helmet Program** – Wilson should create a bicycle helmet program that encourages proper helmet use by cyclists in the community. Police patrol units could be supplied with free bicycle helmets or helmet coupons. If a non-helmeted cyclist is located, police would stop the cyclist, explain helmet laws, and provide the cyclist with a helmet or free helmet coupon (note that the state helmet law only applies to minors the age of 16 years or younger). Police could also establish a helmet trade-in program. This will allow cyclists with broken or defective helmets to obtain a properly fitted and fully functioning helmet. The City of Jacksonville, NC Police Department operates a similar program that is

environmentally sustainable as well. All trade-in helmets are recycled and used to create new bicycle helmets. Other police bicycle helmet programs also provide free blinking lights or reflective material that make cyclists more visible at night. In addition to making cyclist safer, these programs have added benefits that include identification of a repeat offender, and allowing police to get to know the cycling community. *Responsible Parties: Wilson Police, Wilson Planning & Development Services, Wilson cycling groups.*

- Cyclist / Driver Education Pamphlets** – Wilson should develop and distribute educational material that clearly explains the rights and responsibilities of motorists and cyclists alike. A good example of one such pamphlet has been developed by NCDOT. This “Bicycle Laws of NC” provides concise information for road users. These pamphlets should be provided to police as well as the public to ensure those enforcing the laws are educated on the State’s bicycling laws and the bicycle/vehicle relationship. These pamphlets might serve as a good substitute or be provided in addition to a first time offender’s citation. Schools can also serve as an excellent dissemination method for this information. Driver education program providers in Wilson could also be provided with copies of the pamphlets and encouraged to review the material with student drivers. This could be of particular benefit during driving lessons by providing real-world examples that reinforce correct behavior and illustrate wrong behavior that should not be copied. Bicycle-related laws are available online at [http://www.ncdot.org/transit/bicycle/laws/laws\\_bikelaws.html](http://www.ncdot.org/transit/bicycle/laws/laws_bikelaws.html). The full bicycle/pedestrian law guidebook is available at <http://www.ncdot.org/transit/bicycle/laws/resources/BikePedLawsGuidebook-Full.pdf>. *Responsible Parties: Wilson Police, Wilson County Sheriff, Wilson County Schools, area driver education providers.*



TARGET E’S: EVALUATION

- Bicycle Network Monitoring** – Periodic inventory and evaluation of bicycling routes throughout Wilson that connect the places people are coming from and those that they are cycling to is an important step in the continued evolution of bicycling improvements. The City will be able to preserve accessible routes for cyclists of all skill levels and add additional routes and bicycling amenities only through constant evaluation of growing needs in the cycling community. Much of this monitoring can be done through the development review process and requiring developers to work with City staff to update GIS layers with changes to the system. Additional field work may be necessary from time-to-time to ensure accuracy. *Responsible Parties: Wilson Bicycle Coordinator, Wilson Planning & Development Services, Wilson Engineering, Wilson Public Works.*
- Bicycle Program Review** – Wilson should monitor and make necessary improvements to the bicycle-friendly programs that are implemented as a result of this planning process. Development of

this Plan is only the first step in becoming a more bicycle-friendly community. A Bicycle Advisory Committee, with staff support led by a Bicycle Coordinator, should evaluate the effectiveness of the various bicycle-related programs and make recommendations to staff and City Council for modifications and improvements as necessary to ensure continued bicycle friendliness in Wilson. *Responsible Parties: Wilson City Council, Wilson Bicycle Advisory Committee, and the Wilson Bicycle Coordinator.*



## Section 7. Implementation

### 7.1 Recommendations

The implementation of recommendations contained in Sections 5 and 6 of the Bicycle Plan will require a coordinated effort amongst City officials, leaders, and citizen volunteers. The following tables summarize the project, policy, and program recommendations in order of short-term, mid-term, and long-term time frames.

Section 5 and Appendix 5 provide more detailed information on projects identified in the Plan, while Section 6 offers much guidance on the implementation of programs and policy recommendations. The engineering-related policy recommendations in Section 6 offer guidance for constructing on and off road projects, completing ordinance revisions, and instituting maintenance schedules, which can all greatly improve the bicycling environment in Wilson. Encouragement-related program recommendations in Section 6 call for the creation of a Bicycle Advisory Committee and a Bicycle Coordinator who might be responsible for ensuring that the Plan is implemented. Finally, Section 6 also lists the responsible parties for implementation, which will be helpful when deciding how to pursue each recommendation and who will need to allocate time toward the implementation of that recommendation.

**Table 7-1. Short-term project, policy, and program recommendations (0 - 5 years)**

Project Recommendations			
Road Name	Limit	Limit	Action
ACC	Corbett	Nash	- Restripe to accommodate bike lane (one way)
Airport	Chelsea	Buckingham	- Sign parallel route in neighborhood and shared lane/signage treatment on route
Black Creek	Pender	Ward	- Shared lane/signage treatment
Corbett	Tilghman	ACC	- Paint sharrows
Corbett	Ward	Toisnot Park	- Redesign to accommodate bike lanes per NCDOT standards
Glendale	Katherine	Raleigh	- Paint sharrows
Glendale	Downing	Katherine	- Redesign to accommodate bike lanes per NCDOT standards
Goldsboro	Downing	Ward	- Shared lane/signage treatment (may be unnecessary)
Lake Wilson	Nash	Lake Wilson Park	- Redesign to accommodate bike lanes per NCDOT standards
Lane	Tuskegee	MLK	- Shared lane/signage treatment
Lodge	Green	Goldsboro	- Shared lane/signage treatment (may be unnecessary)
Nash	Pender	Packhouse	- Sign parallel route in neighborhood and shared lane/signage treatment on route
Packhouse	Bloomery	Nash	- Widen shoulder (both sides) additional 3' for wide paved shoulder
Pender	Herring	Black Creek	- Paint sharrows or shared lane/signage treatment
Raleigh	Corbett	Hines	- Restripe to accommodate bike lane (one way)

**Table 7-1 (continued). Short-term project, policy, and program recommendations (0 - 5 years)**

Policy Recommendations	Program Recommendations
Pursue funding opportunities	Wilson Bike Route System
Road construction and maintenance	Bicycle Parking Program
Private construction and maintenance	Annual Bicycling Events
Public facility bicycle parking	Safe Routes to School Program
School zone establishment	Promotional/Educational Material
Bicycle circulation study	School Zone Monitors/Crossing Guards
Bicycle Plan design section guidance	Bicycle Helmet Program
Annual bicycle projects budget	Driver/Cyclist Education Pamphlets
City employee bicycle use	Bikes-on-Buses (Bicycle Rack Installation)
Adopt interconnected street policy	

**Table 7-2. Mid-Term project, policy, and program recommendations (6 - 10 years)**

Project Recommendations			
Road Name	Limit	Limit	Action
Black Creek	Ward	Wilco	- Widen shoulder (both sides) additional 3' for wide paved shoulder
Charleston	Black Creek	MLK	- Widen shoulder (both sides) additional 3' for wide paved shoulder
Corbett	London Church	Toisnot Park	- Widen shoulder (both sides) additional 3' for wide paved shoulder
Downing	Ward	Goldsboro	- Paint sharrows or restripe for bike lanes
Goldsboro	Ward	US 301	- Paint sharrows
Herring	Ward	Firestone Parkway	- Redesign to accommodate bike lanes per NCDOT standards
Herring	Pender	Ward	- Paint sharrows
Lake Wilson	Lake Wilson Park	London Church	- Redesign to accommodate bike lanes per NCDOT standards
Lakeside	Forest Hills	Raleigh	- Shared lane/signage treatment
Lipscomb	US 301	MLK	- Redesign to accommodate bike lanes per NCDOT standards
Lipscomb	Ward	US 301	- Redesign to accommodate bike lanes per NCDOT standards
Nash	Pender	Ward	- Paint sharrows
Nash	Ward	Packhouse	- Redesign to accommodate bike lanes per NCDOT standards
Stantonsburg	Black Creek	Charleston	- Widen shoulder (both sides) additional 3' for wide paved shoulder
Tilghman	Lake Wilson	Corbett	- Restripe to accommodate bike lanes per NCDOT standards
Wilco	US 301	Black Creek	- Widen shoulder (both sides) additional 3' for wide paved shoulder
Policy Recommendations			
Program Recommendations			
Traffic calming policy improvements		Bicycle Advisory Committee	
Mixed use and compatible development		Bicycle Coordinator	
Greenway development		Bicycle Community Designation	
Consistent bicycle facility maintenance		Bike Rodeo Program Expansion	
Community bicycle coordination			
Bicycle police patrols			
Development review process compliance			

Table 7-3. Long-term project, policy, and program recommendations

Project Recommendations			
Road Name	Limit	Limit	Action
Airport	Buckingham	Nash	- Redesign to accommodate bike lanes per NCDOT standards
Airport	Chelsea	Buckingham	- Redesign to accommodate bike lanes per NCDOT standards
Airport	Merck	Raleigh	- Redesign to accommodate bike lanes per NCDOT standards
Airport	Raleigh	Chelsea	- Construct shared path adjacent to road
Bloomery	Raleigh	Packhouse	- Widen shoulder (both sides) additional 3' for wide paved shoulder
Downing	Glendale	Ward	- Redesign to accommodate bike lanes per NCDOT standards
Lane	Lane Park	Street Water Easement	- Widen to curb
London Church	Lake Wilson	Corbett	- Widen shoulder (both sides) additional 3' for wide paved shoulder
Merck	Airport	Bloomery	- Redesign to accommodate bike lanes per NCDOT standards
Raleigh	Hines	Lakeside	- Redesign to accommodate bike lanes per NCDOT standards
Policy Recommendations		Program Recommendations	
Comprehensive Bicycle Plan update		Police Bicycle Sting Operations	
Capital Improvement Program updates		Bicycle Network Monitoring	
		Bicycle Program Review	

In addition to these items, it is recommended that the City of Wilson pursue further greenway planning and evaluation of the proposed corridors in Section 5 for ultimate development. All intersection improvements identified as priorities in the Plan (see below) should be addressed as soon as possible for bicycle safety. Many of these crossing improvements may occur as part of another road improvement project using local or state funds. NCDOT's Division 4 Office and the Division of Bicycle and Pedestrian Transportation should be contacted regarding crossing improvement opportunities on established bike routes.

Map ID	Intersection Location	Signal Present?	Route the intersection serves
1	Forest Hills Road and Lakeside Drive	No signal	Lakeside-Glendale North-South Route
2	Ward Boulevard and Carolina Street	No signal	East Nash Street Parallel Route
3	Fieldstream Drive and Nash Street	No signal	East Nash Street Parallel Route Airport Boulevard Parallel Route West Nash Street Parallel Route
4	Peachtree Road and Ward Boulevard	No signal	Forest Hills-Toisnot Middle Schools East-West Route
5	Hines Street and Bruton Street	No signal	Westwood-Toisnot East-West Route
6	Bruton Street and Nash Street	No Signal	Westwood-Toisnot East-West Route
7	Rountree Street and Raleigh Road Parkway	No signal	Westwood-Toisnot East-West Route
8	Garner Street and Tarboro Road	No signal	Denby Field North-South Connector

## 7.2 Financing

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 appendix 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, pedestrian, or trail systems in place prior to making an application for funding.

### NCDOT Financing Opportunities: The State Transportation Improvement Program (TIP)

In North Carolina, the Department of Transportation, Division of Bicycle and Pedestrian Transportation (DBPT, or "Division") 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.

The Division has an annual budget of \$6 million. Eighty percent of these funds are from STP-Enhancement funds<sup>1</sup>, while the State Highway Trust Fund provides the remaining 20 percent of the funding. Each year, the DBPT regularly sets aside a total of \$200,000 of TIP funding for NCDOT 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 the construction of paved shoulders, among other facilities. Prospective applicants are encouraged to contact the DBPT regarding funding assistance for bicycle and pedestrian projects. For a detailed description of the TIP project selection process, visit:

[http://www.ncdot.org/transit/bicycle/funding/funding\\_TIP.html](http://www.ncdot.org/transit/bicycle/funding/funding_TIP.html). Another \$500,000 of the Division's funding is available for miscellaneous projects.

- *Incidental Projects* – Bicycle and pedestrian accommodations such as bike lanes, widened paved shoulders, sidewalks and bicycle-safe

<sup>1</sup> 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.

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.

- *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 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/](http://www.ncdot.org/programs/ghsp/).
- *Enhancement Funding.* 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 NC 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 2009. For more information, visit: [www.ncdot.org/financial/fiscal/Enhancement](http://www.ncdot.org/financial/fiscal/Enhancement).

- *Safe Routes to School Program, managed by NCDOT, DBPT.* The NCDOT Safe Routes to School Program 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. 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 two miles of an elementary or middle school. The State requires the completion of a competitive application for possible funding. For more information, visit [www.ncdot.org/programs/safeRoutes](http://www.ncdot.org/programs/safeRoutes) or contact the DBPT / NCDOT at (919) 807-0774.

## Other State Financing Opportunities

Several other North Carolina-sponsored opportunities for acquiring planning, design, or / and construction monies are available through State-level institutions that are not associated with the Department of Transportation. These opportunities are described briefly below.

- *The North Carolina Conservation Tax Credit (managed by NCDENR).* This program, managed by the NC 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/](http://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 grant 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 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 DENR. Since 1965, the LWCF program has built a permanent park legacy for present and future generations. In NC 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, 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 percent 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 NC Division of Parks and Recreation. The grant application and instruction handbook are 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. PARTF funds are allocated through the North Carolina Trails Program to help fund beach accesses, State trail systems, and local trail construction efforts. 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 City of Wilson would need to apply for the grant (although joint

applications – for example, with the Wilson County Schools System – are permissible, one agency must serve as the lead sponsor), which is a one-to-one match on local funds. Only about 30 percent of the PARTF program goes to fund local trail programs, and the selection process is therefore highly competitive. Selection is based on numerous factors including geographic equity, population size, and scoring criteria that notably incorporate the following: presence of planning documents that support the project; public outreach that shows support; site suitability; size/impact of project; and commitment to operating and maintaining the project upon completion. As with most grant programs, the sponsor should be prepared to adhere closely to the rules governing the grant program, including the preparation of detailed expenditure reports and requests for reimbursement ([www.ncparks.gov/About/grants/partf\\_main.php](http://www.ncparks.gov/About/grants/partf_main.php)). For information on how to apply, visit: [www.partf.net/learn.html](http://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](http://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 NC and more information about this fund and applications, visit [www.cwmtf.net/](http://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 DENR, 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.ncnhf.org/](http://www.ncnhf.org/).

- *North Carolina Conservation Tax Credit Program.* North Carolina has a unique incentive program to assist land-owners in protecting 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/](http://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](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 NCDENR. For more information, visit [www.nceep.net/pages/partners.html](http://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 - 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 NC 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](http://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 (BMPs) that benefit water quality. The program covers as much as 75 percent of the costs to implement BMPs. The NC Division of Soil and Water Conservation within the NC DENR administers this program through local Soil and Water Conservation Districts (SWCD). For more information, visit [www.enr.state.nc.us/DSWC/pages/agcostshareprogram.html](http://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](http://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](http://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 three 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 NC (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 NC 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:

- o physical activity in the community, schools, and workplaces
- o healthy eating in the community, schools, and workplaces
- o tobacco use prevention efforts in schools
- o 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:
  - o 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)
  - o 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)
  - o 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](http://www.FitTogetherNC.org/FitCommunity.aspx).
- *The North Carolina Division of Forest Resources.* Urban and Community Forestry Grants 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. For more information, refer to the following website: [http://www.dfr.state.nc.us/urban/urban\\_ideas.htm](http://www.dfr.state.nc.us/urban/urban_ideas.htm).

### Federal Financing Opportunities

- *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 US 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/](http://www.hud.gov/offices/cpd/communitydevelopment/programs/) or call 404.562.3175 ext. 522.
- *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 and 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](http://www.nps.gov/ncrc/programs/rtca) or call 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 Financing Opportunities

Municipalities often plan for the funding of pedestrian facilities or improvements through development of Capital Improvement Programs (CIP). In Raleigh, for example, the greenway 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. CIPs 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 is 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 increases the property's value, which increases tax revenues to the local government(s). 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. North Carolina was the 49<sup>th</sup> state to pass TIF legislation, and the collective experience with TIF in our State is very limited. Caution and guidance should be sought prior to embarking on a TIF project.
- *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 NC, 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.
- o *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.
  - o *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.
  - o *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:
    - o *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 include 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.
    - o *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.

- o *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.
- *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 pedestrian and greenway 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 (SRFs) 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).
- *Facility Maintenance Districts.* Facility Maintenance Districts (FMDs) 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, municipal 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.

### Financing Opportunities Through 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 from 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 NC 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 NC 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.

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/>. 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.

- o Conservation Transactions: TPL helps structure, negotiate, and complete land transactions that create parks, playgrounds, and protected natural areas.
- o Research and Education: TPL acquires and shares knowledge of conservation issues and techniques to improve the practice of conservation and promote its public benefits.
- *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](http://www.zsr.org).
- *North Carolina Community Foundation*. The NC 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, NC, the foundation also manages a number of community affiliates throughout NC that make grants in the areas of human services, education, health, arts, religion, civic affairs, and the conservation and reservation 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 Society 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 US for land acquisition, constituency building campaigns, and traditional trail work projects. Awards range from \$500 to \$10,000 per project. The American Hiking Society will consider project types such as securing trail lands, including:
  - o acquisition of trails and trail corridors and the costs associated with acquiring conservation easements
  - o building and maintaining trails which will result in visible and substantial ease of access, improved hiker safety, or/and avoidance of environmental damage
  - o constituency building surrounding specific trail projects - including volunteer recruitment and support

For more information on the National Trails fund, consult: [www.americanhiking.org/alliance/fund.html](http://www.americanhiking.org/alliance/fund.html).

*This page left intentionally blank.*

## Appendix 1: Public Input Materials

*This page left intentionally blank.*



# City of Wilson Bicycle Plan Open House

**What:** The City of Wilson is working on a Bicycle Plan and needs your input. The Plan is a guide to help Wilson in becoming a more bicycle-friendly community. **Please drop-in to either open house any time between 4-7 pm to speak with City representatives about the project.** There are two locations – stop by the one that is most convenient for you!

**Where:**

**Reid Street Recreation Center**

(901 N Reid St)

- or -

**Recreation Park Community Center**

(500 Sunset Rd)

**When: Wednesday, March 19**

**Drop in from 4:00 – 7:00 pm**

**Wilson  
Bicycle  
2008 Plan**

**Take our  
Survey!**

Surveys will be  
available at the Open  
House or online at:

[www.wilsonnc.org](http://www.wilsonnc.org)

**Why: To make sure your voice is heard!**

For more information contact:

Denise Boswell

City of Wilson Senior Planner

252-399-2214 (t) | [dboswell@wilsonnc.org](mailto:dboswell@wilsonnc.org)

**Thank you for your  
time and  
participation!**





# ¡Acérquese!

## Casa abierta para el Plan de ciclismo de la ciudad de Wilson

**Qué:** La ciudad de Wilson ha preparado un plan preliminar del circuito para viajar en bicicleta, ahora necesitamos su opinión. El Plan es una guía para ayudar a la ciudad de Wilson a transformarse en una comunidad más amigable al ciclismo. **Acérquese a nuestra casa abierta en cualquier momento entre las 4 y las 7 PM para hablar con representantes de la ciudad a respecto del plan, sus recomendaciones y prioridades.** Hay dos lugares para participar – ¡Acérquese al que más le convenga!

### Dónde:

- **Centro de diversiones en Reid Street**  
(901 N Reid St)
- **Centro de comunidad en Recreation Park**  
(500 Sunset Rd)

**Cuándo: Miércoles 19 de Marzo**  
**4:00 – 7:00 pm**

**Por qué: Para asegurarse**  
**que su voz es escuchada!**

**Wilson  
Bicycle  
2008 Plan**

**Tome una  
encuesta!**

Las encuestas también  
estarán disponibles en  
Internet:

[www.wilsonnc.org](http://www.wilsonnc.org)

Para más información, contacte a  
Denise Boswell  
Planeador para la ciudad de Wilson  
252-399-2214 (t) | [dboswell@wilsonnc.org](mailto:dboswell@wilsonnc.org)

**¡Gracias por su tiempo  
y participación!**



# Wilson Bicycle 2008 Plan

The City of Wilson is preparing a Comprehensive Bicycle Plan, funded by the City and a grant from the North Carolina Department of Transportation. The Plan is intended to improve access and safety for cyclists of all ages. This survey is intended to obtain general information about you as a cyclist, the biking conditions of your neighborhood, and recommendations that you may have to improve the bicycle conditions in the City. If you have children, this would be a good exercise for the family as well. Thank you for your participation!

## Bicyclist Information

1. Have you ridden a bicycle in the last six months?

- Yes     No

1a. If no, why not? *(check all that apply)*

- Don't know how     Unsafe  
 Don't own a bike     Unable  
 Distances to destinations are too far  
 Too busy, no time  
 Lack of interest

**(if you answered no, skip to question 10)**

2. What do you ride your bike for? *(check all that apply)*

- Shopping     Family event  
 Work     Recreation  
 Exercise     School  
 Other: \_\_\_\_\_

3. When do you usually bike? *(check all that apply)*

- Weekdays     Weekends

4. Do you ride regardless of weather?

- Yes, any conditions.  
 No, only when it's not raining.  
 No, only when it's warm and sunny out.

5. How often during the week do you ride (round trip)?

- Infrequently (a couple times a month)  
 1-2 times     3-4 times  
 More than 5 times

6. When you bike, where do you typically go? *(check all that apply)*

- Library     School  
 In neighborhood     Store  
 To or in a park     Into town  
 Recreational center     Work  
 All of the above  
 Other: \_\_\_\_\_

7. When you bike, do you wear a helmet?

- Yes     No

7a. If no, why not?

- Don't own one     Looks silly  
 Uncomfortable     Unnecessary  
 Other: \_\_\_\_\_

8. Would you like to be able to ride your bike more?

- Yes     No

Name **(optional)**:

\_\_\_\_\_

Zip Code: \_\_\_\_\_

Address: \_\_\_\_\_

Email: \_\_\_\_\_

Are you:     Male     Female

What is your age?

- 19 and under     50 - 69  
 20 - 29     70 and over  
 30 - 49

Would you like to receive newsletters and project notices?

- Yes     No

9. Would you ride your bike more if: *(check all that apply)*

- You knew how to ride a bicycle.  
 You owned a bike.  
 You felt more confident on your bike.  
 You felt safer.  
 Drivers drove slower.  
 There were more clearly marked trails.  
 You had better places to ride to.  
 You felt motorists respected cyclists and better understood cyclists rights and responsibilities.  
 There were better roadway conditions, such as smoother pavement, less debris.  
 There were wider roads to ride on.  
 Only if you couldn't drive.  
 Other: \_\_\_\_\_

10. Please check the destinations where you would like to ride your bike but currently do not or cannot: *(check all that apply)*

- To or in a park     Into town  
 In my neighborhood     School  
 Recreational center     Work  
 Library     Bus stop  
 Store     Train station  
 All of the above  
 Other: \_\_\_\_\_

**Continued on back...**





La ciudad de Wilson está preparando un plan comprensivo para la circulación en bicicleta, fondado por la ciudad y un subsidio del departamento de transporte del estado de North Carolina. El plan intenta mejorar el acceso y la seguridad para los ciclistas de todas las edades. Esta encuesta trata de obtener información general de usted como ciclista, las condiciones para circular en bicicleta de su vecindario, y las recomendaciones que usted podría sugerir para mejorar las condiciones del ciclismo en la ciudad. Si usted tiene niños, este puede ser un buen ejercicio para toda la familia. Gracias por su participación!

## Información del ciclista

1. Ha montado en bicicleta en los últimos 6 meses?

- Sí  No

1a. Si la respuesta anterior fue No, por qué?

- No sabe como  
 Inseguro  
 No posee una bicicleta  
 Incapaz  
 La distancia a su destino es muy larga  
 Demasiado ocupado, no tiene tiempo  
 No le interesa

*(Si su respuesta fue NO, salte a la pregunta 10)*

2. Por qué monta bicicleta? *(marque todo los que apliquen)*

- Compras  Evento familiar  
 Trabajo  Recreación/diversion  
 Ejercicio  Colegio  
 Otros: \_\_\_\_\_

3. Cuándo monta en bicicleta? *(marque todo los que apliquen)*

- Durante la semana  
 Fin de semana

4. Monta en bicicleta sin interesarle el clima?

- Sí, en cualquier condición.  
 No, solamente si no llueve.  
 No, solamente cuando está calido y soleado.

5. Cuántas veces por semana monta en bicicleta (ida y vuelta)?

- Sin frecuencia (solo un par de veces al mes)  
 1-2 veces por semana  3-4 veces  
 Más de 5 veces

6. Cuando sale en bicicleta, a dónde va por lo general? *(marque todo los que apliquen)*

- Biblioteca  Escuela  
 Tienda  Trabajo  
 Dentro de la ciudad  
 Centro de diversiones  
 Hacia y dentro del parque  
 En el vecindario  
 Todos los anteriores

Otros: \_\_\_\_\_

7. Cuando monta bicicleta, usa casco?

- Sí  No

7a. Si la respuesta anterior fue No, por qué?

- No posee uno  Parece tonto  
 No es cómodo  No es necesario  
 Otro: \_\_\_\_\_

8. Le gustaría poder montar más en bicicleta?

- Sí  No

Nombre (opcional): \_\_\_\_\_

Código postal: \_\_\_\_\_

Dirección: \_\_\_\_\_

Email: \_\_\_\_\_

Usted es:  Hombre  Mujer

Cuál es su edad?

- 19 o menos  50 - 69  
 20 - 29  70 o más  
 30 - 49

Le gustaría recibir un boletín de noticias del proyecto?

- Sí  No

*Marque todo los que apliquen*

9. Le gustaría montar más en bicicleta si:

- Supiera como andar en bicicleta.  
 Tuviera una bicicleta.  
 Se sintiera más confiado en su bicicleta.  
 Se sintiera más seguro en su bicicleta.  
 Los conductores manejaran más despacio.  
 Hubiera caminos más claramente marcados.  
 Tuviera un mejor lugar a donde ir.  
 Sintiera que los conductores respetasen a los ciclistas, entendiendo sus derechos y responsabilidades.  
 Hubiera una mejor condición de los caminos, pavimentos más parejos y más limpios.  
 Hubiera caminos más anchos.  
 Solamente si no pudiera conducir.  
 Otros: \_\_\_\_\_

10. Por favor marque el destino hacia dónde le gustaría circular en bicicleta, pero actualmente no lo hace o no puede:

- Escuela  Trabajo  
 Tienda  Biblioteca  
 Parada del bus  Estación del tren  
 Hacia y dentro del parque  
 Dentro de la ciudad  
 En mi vecindario  
 Centro de diversiones  
 Todos los anteriores  
 Otros: \_\_\_\_\_

**Sigue atrás...**





# Wilson Bicycle 2008 Plan **UPDATE**

## Why a Bicycle Plan?

The City of Wilson, like many communities across the state, recognizes the importance of a bicycle- and pedestrian-friendly community in attracting residents and businesses. Beyond better and safer bicycle access to destinations, a more bicycle-friendly community can have economic, environmental, and health benefits for residents.

## What is in the Bicycle Plan?

The Bicycle Plan will contain recommendations for projects, programs, and policies which will help make Wilson a more bicycle-friendly community. Some preliminary project recommendations are shown on the map (see back). The Plan will need your input and that of your neighbors to make recommendations that serve everyone.

List of preliminary proposed projects (see map on back)

Road Name	Limit	Limit	Length (miles)
ACC Drive	Corbett	Nash	0.45
Airport Boulevard	Merck	Nash	3.40
Black Creek	Pender	Wilco	1.71
Charleston	Black Creek	MLK	1.88
Chelsea	Airport	Forest Hills	0.93
Corbett	Toisnot Park	ACC Drive	1.76
Downing	Glendale	Goldsboro	1.20
Forest Hills	Chelsea	Lakeside	0.20
Glendale	Raleigh Road	Downing	1.72
Goldsboro	Downing	US 301	0.86
Herring	Pender	Firestone Parkway	1.09
Lake Wilson Road	Nash	London Church	1.43
Lakeside	Forest Hills	Raleigh Road	1.10
Lane	Tuskegee	MLK	1.09
Lipscomb	Ward	MLK	1.18
Nash	Packhouse	Lodge	4.70
Pender	Herring	Black Creek	1.04
Stantonsburg	Black Creek	Charleston	1.04
Tilghman	Lake Wilson	Corbett	3.00
Wilco	US 301	Black Creek	1.68
<b>Total Miles:</b>			<b>31.46</b>

## When will the Plan be finished?

The Bicycle Plan is estimated to be complete by August 2008. Public participation is critical to a successful Bicycle Plan; therefore, the City will provide several opportunities for citizen comment during the process, including a series of public meetings and an online survey.

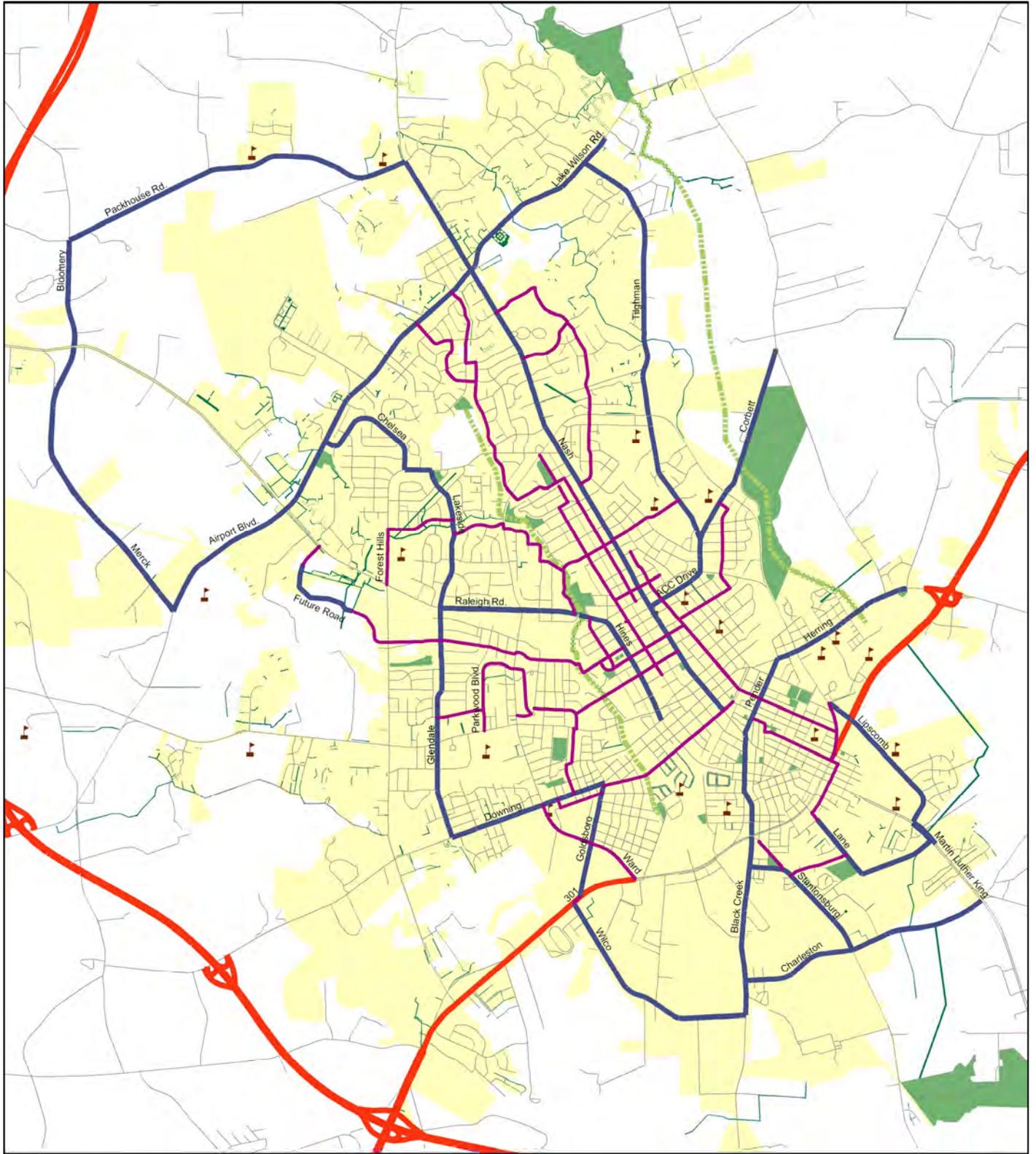
## How do I provide input?

There are several avenues – a survey is available in both paper copy and online. Paper copies can be picked up at the Open House, City Hall, or at Recreation Centers in Wilson. The online version can be accessed by visiting the City's webpage: [www.wilsonnc.org](http://www.wilsonnc.org) and you will find a link to the survey from there. The contact for the City is:

Denise Boswell, Ph.D.  
City of Wilson  
Senior Planner  
252-399-2214 (t)  
[dboswell@wilsonnc.org](mailto:dboswell@wilsonnc.org)

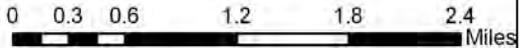
**Thank you for your time  
and participation!**





**Legend**

- City Park
- City Limits
- City-owned Easement
- Routes Identified as Suitable for Bicycling
- Preliminary Proposed Project
- Preliminary Proposed Greenways
- Limited Access Road
- School



**Map of preliminary proposed projects and suitable routes for Bicycle Plan**

## Appendix 2: Demographics Analysis Results

The following tables display US Census demographic data for the year 2000 that is pertinent to the City of Wilson’s Bicycle Plan. All data was collected from the US Census website, except where noted.

### Population

	City of Wilson	North Carolina	United States
1990 Census Population	36,930	6,628,637	248,709,873
2000 Census Population	44,405	8,049,313	281,421,906
Percent Change	20%	21%	13%
2005 Census Population Estimate	<b>46,967</b>		

### Age

	City of Wilson	North Carolina	United States
<b>Total Population</b>	<b>44,405</b>	<b>8,049,313</b>	<b>281,421,906</b>
<i>Percent of Population:</i>			
14 and under	21.9	20.54	21.41
15 - 19	7.1	6.71	7.18
20 - 24	6.9	7.17	6.74
25 - 34	14	15.07	14.18
35 - 44	14.9	15.99	16.04
45 - 54	13.4	13.48	13.39
55 - 64	8.5	8.99	8.63
65 - 74	7.1	6.63	6.54
75 and up	6.4	5.41	5.9

### Race

	City of Wilson	North Carolina	United States
<b>Total Population</b>	<b>44,405</b>	<b>8,049,313</b>	<b>281,421,906</b>
<i>Percent of Population</i>			
White Alone	46.7	72.1	75.1
Black Alone	47.5	21.6	12.3
American Indian	0.3	1.2	0.9
Asian	0.6	1.4	3.6
Two or More Races	1	1.3	2.4
Other	3.9	2.4	5.6

**Educational Attainment**

	City of Wilson	North Carolina	United States
<b>Population 25 years and over</b>	<b>28,196</b>	<b>5,282,994</b>	<b>182,211,639</b>
<i>Percent of Population</i>			
Less than 9th grade	12.3	7.83	7.55
9th to 12th grade, no diploma	18.4	14.03	12.05
High school graduate (includes equivalency)	27.1	28.45	28.63
Some college, no degree	17.9	20.45	21.05
Associate degree	5.1	6.78	6.32
Bachelor's degree	14	15.3	15.54

**Income and Poverty (in 1999)**

	City of Wilson	North Carolina	United States
Median Household Income	\$31,169	\$39,184	\$41,994
Median Family Income	\$41,041	\$46,335	\$50,046

<b>Total Population</b>	<b>44,405</b>	<b>8,049,313</b>	<b>281,421,906</b>
<i>Percent of Population</i>			
Below Poverty Line	21.6	11.9	12
Percent of Children Under Age (5/6) Below Poverty Line	33.3	12.8	9.7
Percent of People Over Age 65 Below Poverty Line	20.4	31.5	33.6

**Household Vehicle Availability**

	City of Wilson	North Carolina	United States
<i>Percent of Housing Units</i>			
None	14.9	7.5	10.3
1	37.3	32.3	34.2
2	30.9	39.9	38.4
3 or more	16.9	20.3	17.1

**Work Commute Mode**

	City of Wilson	North Carolina	United States
<b>Total Workers 16 years and over</b>	<b>18,932</b>	<b>3,837,773</b>	<b>128,279,228</b>
<i>Percent of Workers 16 years and over</i>			
Car, truck, or van	94.1	93.4	87.9
Drove alone	77.3	79.4	75.7
Carpooled	16.8	14	12.2
- In 2-person carpool	10.3	10.4	9.4
- In 3-person carpool	3.5	2.1	1.7
- In 4-person carpool	1.5	0.8	0.6
- In 5- or 6-person carpool	0.9	0.4	0.3
- In 7-or-more-person carpool	0.5	0.2	0.2
Public transportation	1.5	0.9	4.7
Bus or trolley bus	0.5	0.7	2.5
Taxicab	1.1	0.1	0.2
Motorcycle	0.1	0.1	0.1
Bicycle	0.4	0.2	0.4
Walked	1.5	1.9	2.9
Other means	1.1	0.8	0.7

**Work Commute Travel Time**

	City of Wilson	North Carolina	United States
<b>Workers who did not work at home</b>	<b>18,684</b>	<b>3,734,822</b>	<b>124,095,005</b>
<i>Percentage of workers travel time</i>			
Less than 10 minutes	22.2	13.5	14.4
10 to 14 minutes	26	16.2	15
15 to 19 minutes	21.1	18	15.8
20 to 24 minutes	9.4	15.9	14.5
25 to 29 minutes	2.8	6	5.8
30 to 34 minutes	7	13.3	13.2
35 to 44 minutes	1.9	5.2	5.9
45 to 59 minutes	3.7	6.3	7.4
60 to 89 minutes	3.7	3.5	5.2
90 or more minutes	2.2	2.3	2.8
<b>Mean travel time to work (minutes)</b>	<b>19.5</b>	<b>24</b>	<b>25.5</b>

**Occupation Type**

	City of Wilson	North Carolina	United States
<b>Employed civilian population 16 years and over</b>	<b>19,254</b>	<b>3,824,741</b>	<b>129,721,512</b>
<i>Percentage of workers</i>			
Management, professional, and related occupations	28.4	31.2	33.6
Service occupations	15.9	13.5	14.9
Sales and office occupations	22.4	24.8	26.7
Farming, fishing and forestry occupations	1.4	0.8	0.7
Construction, extraction, and maintenance occupations	9.5	11	9.4
Production, transportation, and moving occupations	22.4	18.7	14.6

## Appendix 3: Survey Results

Have you ridden a bicycle in the last six months?

	Online	Paper	Total
Yes	180	101	<b>281</b>
No	90	137	<b>227</b>

Why not? (check all that apply)

	Online	Paper	Total
Don't know how	6	6	<b>12</b>
Don't own a bike	38	35	<b>73</b>
Distances to destinations are too far	20	11	<b>31</b>
Unsafe	33	13	<b>46</b>
Unable	4	15	<b>19</b>
Too busy, no time	34	28	<b>62</b>
Lack of interest	8	39	<b>47</b>

What do you ride your bike for? (check all that apply)

	Online	Paper	Total
Shopping	24	18	<b>42</b>
Work	29	16	<b>45</b>
Exercise	161	58	<b>219</b>
Family event	38	21	<b>59</b>
Recreation	136	48	<b>184</b>
School	7	10	<b>17</b>
Other	6	9	<b>15</b>

When do you usually bike? (check all that apply)

	Online	Paper	Total
Weekdays	109	72	<b>181</b>
Weekends	166	83	<b>249</b>

Do you ride regardless of weather?

	Online	Paper	Total
Yes, any conditions.	16	31	<b>47</b>
No, only when it's not raining.	104	39	<b>143</b>
No, only when it's warm and sunny out.	60	29	<b>89</b>

How often during the week do you ride (round trip)?

	Online	Paper	Total
Infrequently (a couple times a month)	64	32	<b>96</b>
1 - 2 times	50	22	<b>72</b>
3 - 4 times	48	18	<b>66</b>
5 or more times	18	25	<b>43</b>

When you bike, where do you typically go? (check all that apply)

	Online	Paper	Total
Library	21	10	<b>31</b>
In neighborhood	139	59	<b>198</b>
To or in a park	70	31	<b>101</b>
Recreational center	22	17	<b>39</b>
School	10	8	<b>18</b>
Store	29	23	<b>52</b>
Into town	30	13	<b>43</b>
Work	30	12	<b>42</b>
All of the above	8	9	<b>17</b>
Other	34	13	<b>47</b>

When you bike, do you wear a helmet?

	Online	Paper	Total
Yes	101	40	<b>141</b>
No	79	61	<b>140</b>

Why not?

	Online	Paper	Total
Don't own one	44	24	<b>68</b>
Uncomfortable	13	12	<b>25</b>
Looks silly	2	4	<b>6</b>
Unnecessary	11	9	<b>20</b>
Other	18	8	<b>26</b>

Would you like to be able to ride your bike more?

	Online	Paper	Total
Yes	250	103	<b>353</b>
No	20	135	<b>155</b>

Would you ride a bike more if: (check all that apply)

	Online	Paper	Total
You knew how to ride a bicycle.	7	6	<b>13</b>
You owned a bike.	33	17	<b>50</b>
You felt more comfortable on your bike.	14	10	<b>24</b>
You felt safer	152	32	<b>184</b>
Drivers drove slower.	105	22	<b>127</b>
There were more clearly marked trails.	192	44	<b>236</b>
You had better places to ride to.	185	45	<b>230</b>
You felt motorists respected cyclists and better understood cyclists' rights and responsibilities.	167	39	<b>206</b>
There were better roadway conditions such as smoother pavement, less debris.	157	48	<b>205</b>
There were wider roads to ride on.	175	42	<b>217</b>
Only if you couldn't drive.	6	8	<b>14</b>
Other	32	9	<b>41</b>

Please check the destinations where you would like to ride your bike but currently do not or cannot? (check all that apply)

	Online	Paper	Total
To or in a park	119	36	<b>155</b>
In my neighborhood	81	34	<b>115</b>
Recreational center	43	24	<b>67</b>
Library	58	14	<b>72</b>
Store	86	20	<b>106</b>
Into town	80	18	<b>98</b>
School	30	8	<b>38</b>
Work	74	14	<b>88</b>
Bus stop	8	5	<b>13</b>
Train station	11	5	<b>16</b>
All of the above	19	8	<b>27</b>
Other	45	6	<b>51</b>

Which roads do you feel are currently safe and comfortable for bicycling on in Wilson? (Please respond even if you do not ride a bicycle. Please check all that apply.)

	Online	Paper	Total
Anderson St	116	36	<b>152</b>
Brentwood Dr	89	45	<b>134</b>
Canal St	83	29	<b>112</b>
Elizabeth Rd	17	21	<b>38</b>
Kincaid Ave	92	30	<b>122</b>
Lakeside Dr	93	45	<b>138</b>
Lodge St	8	10	<b>18</b>
Park Ave	16	8	<b>24</b>
Vance St	29	21	<b>50</b>
All roads in Wilson	14	34	<b>48</b>
Westwood Ave	32	20	<b>52</b>
Other	92	32	<b>124</b>

Which roads would you ride on if improvements were made to make it a more safe and comfortable experience? (Check all that apply. If you have additional roads you would like to discuss, please feel free to include in the comment box.)

	Online	Paper	Total
Airport Dr	153	62	215
Black Creek Rd	32	33	65
Bloomery Rd	46	17	63
Charleston St	13	8	21
Corbett Ave	44	27	71
Downing St	52	34	86
Forest Hills Rd	167	51	218
Glendale Dr	102	30	132
Goldsboro St	57	56	113
Herring Ave	45	62	107
Lake Wilson Rd	157	44	201
Lane St	13	60	73
Lipscomb Rd	37	24	61
London Church Rd	82	59	141
Merck Rd	43	18	61
Nash St	162	91	253
Packhouse Rd	61	24	85
Pender St	18	64	82
Stantonsburg Rd	24	37	61
Tilghman Rd	94	37	131
US 301	47	41	88
Wilco Blvd	16	10	26
Other	62	19	81

What are some improvements that you think Wilson should do to make it better for bicycling in the City? (check all that apply)

	Online	Paper	Total
More bike lanes	235	131	366
More off-road paths, like greenways	204	127	331
More bike racks	113	99	212
More "Share the Road" signs	148	96	244
Accommodations for bikes on buses	48	41	89
None	2	7	9
Other	41	5	46

Zip Code:

	Online	Paper	Total
27893	113	46	159
27894	5	0	5
27895	3	1	4
27896	118	29	147
Other	31	8	39

Would you like to receive newsletters and project notices?

	Online	Paper	Total
Yes	112	60	<b>172</b>
No	158	178	<b>336</b>

Are you:

	Online	Paper	Total
Male	128	54	<b>182</b>
Female	134	51	<b>185</b>

Age:

	Online	Paper	Total
19 and under	11	18	<b>29</b>
20 - 29	37	14	<b>51</b>
30 - 49	125	44	<b>169</b>
50 - 69	94	34	<b>128</b>
70 and over	3	4	<b>7</b>

*This page left intentionally blank.*

## Appendix 4: Inventory Results



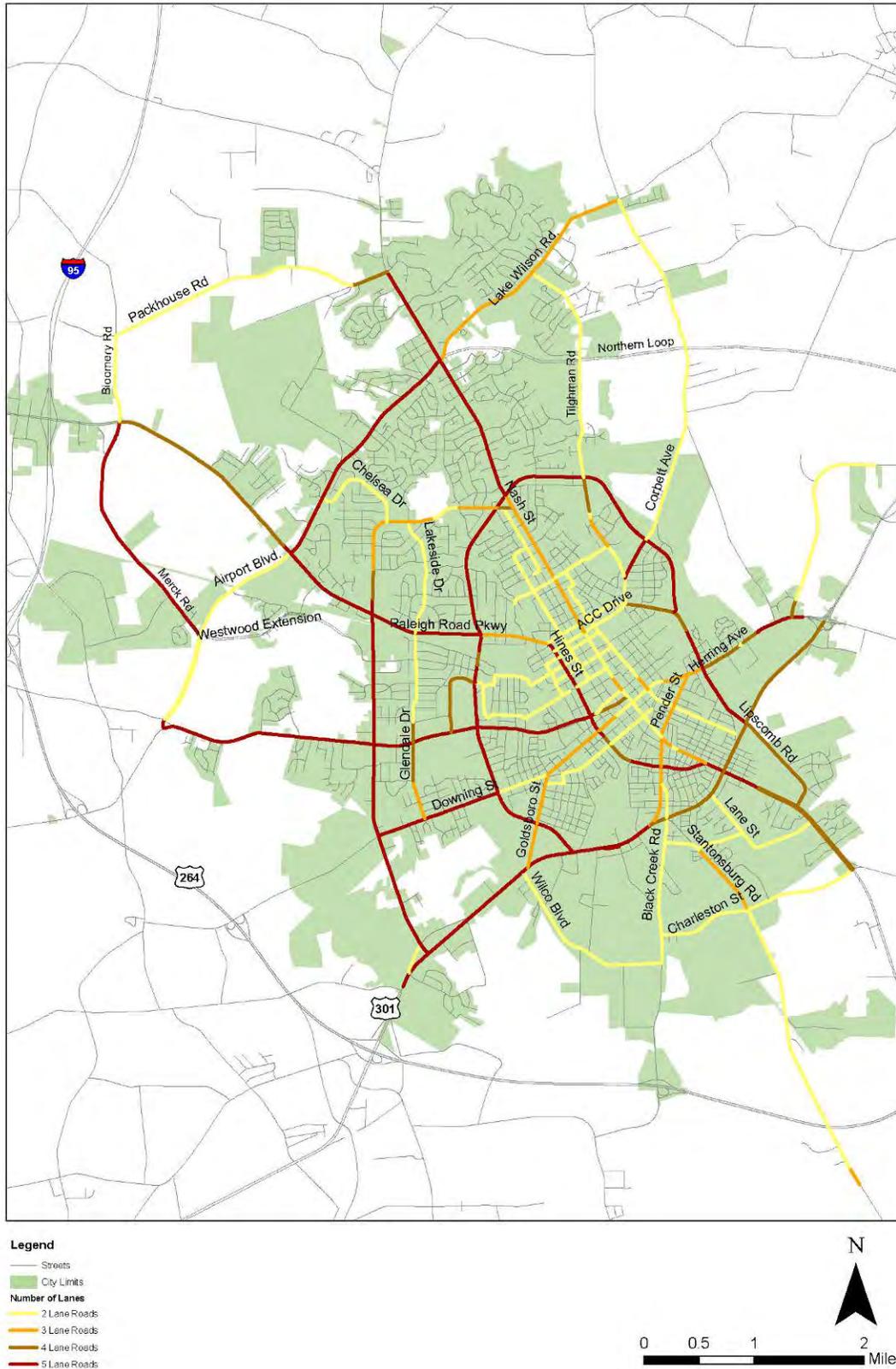


Figure 2. Inventory results for number of lanes on major roads in Wilson

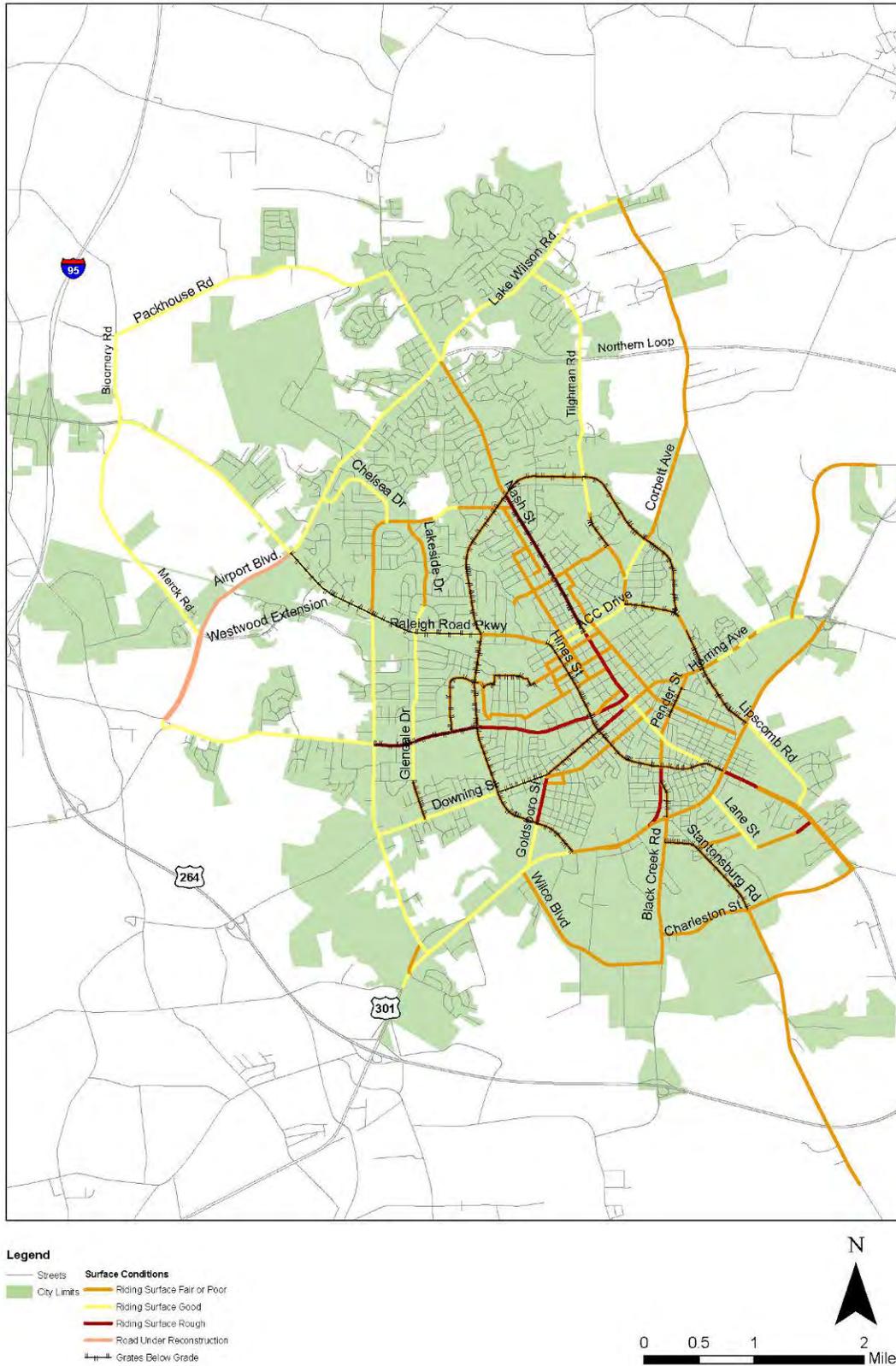


Figure 3. Inventory results for surface conditions on major roads in Wilson

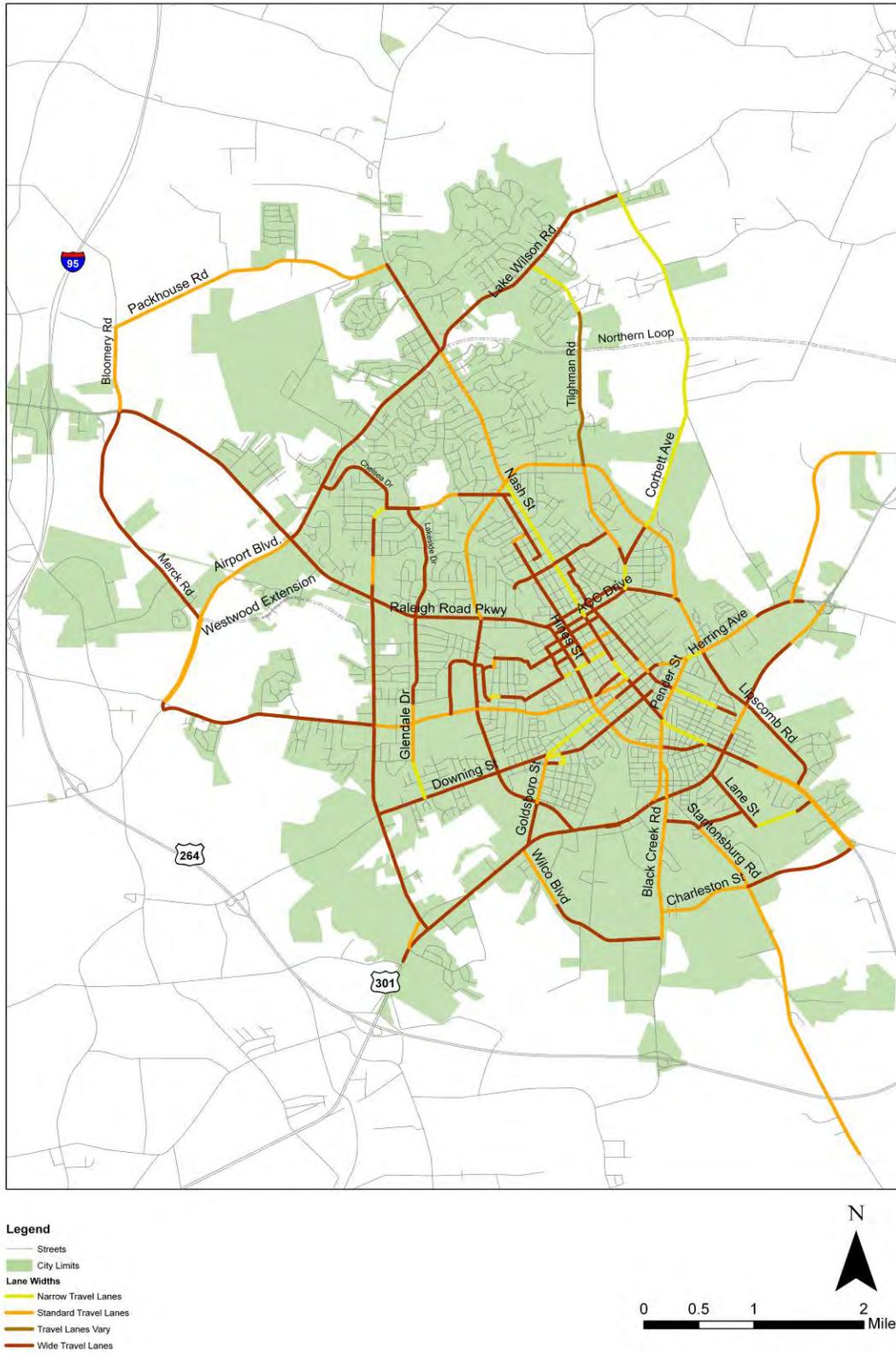


Figure 4. Inventory results for travel lane widths on major roads in Wilson

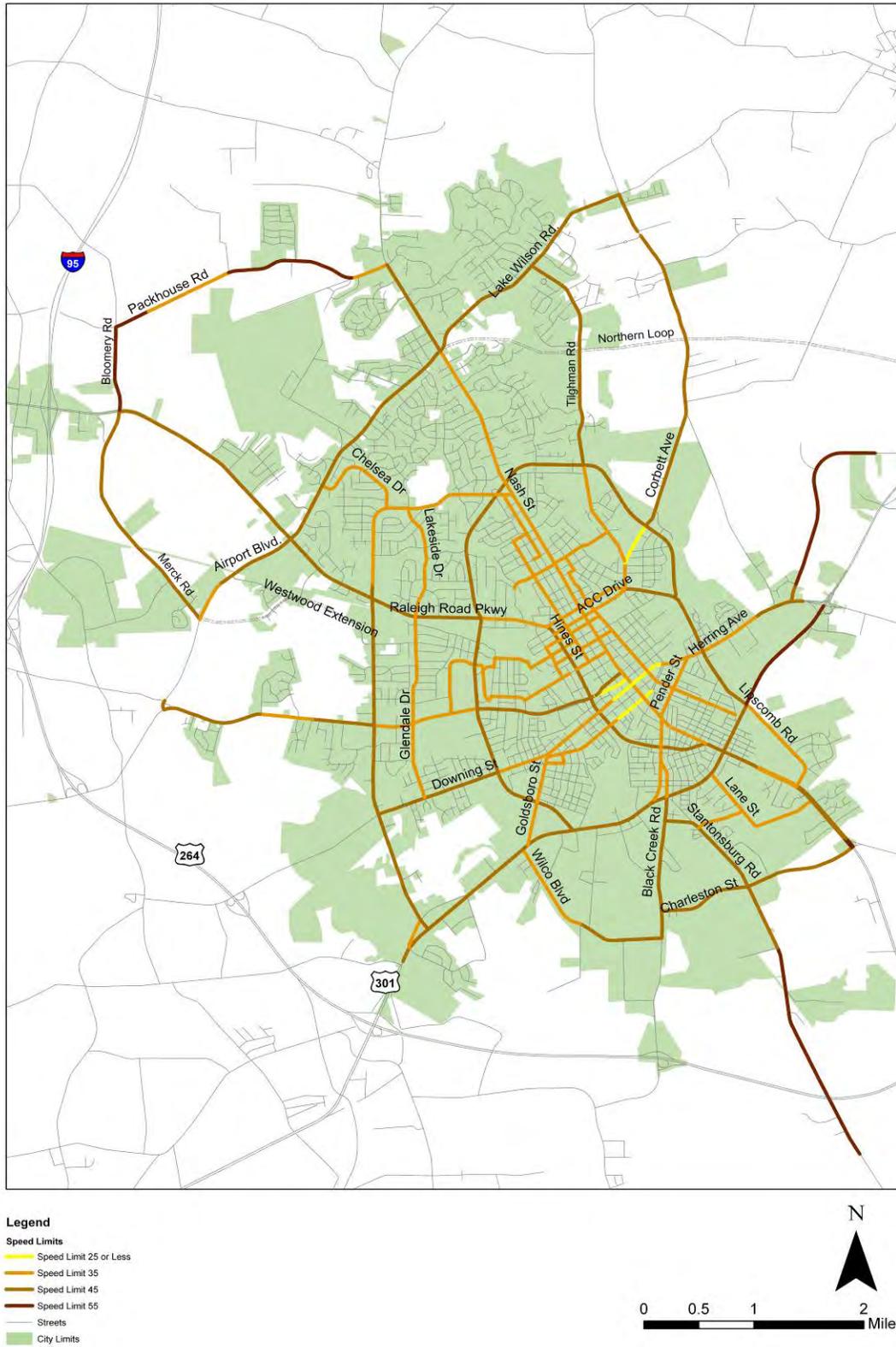


Figure 5. Inventory results for speed limits on major roads in Wilson

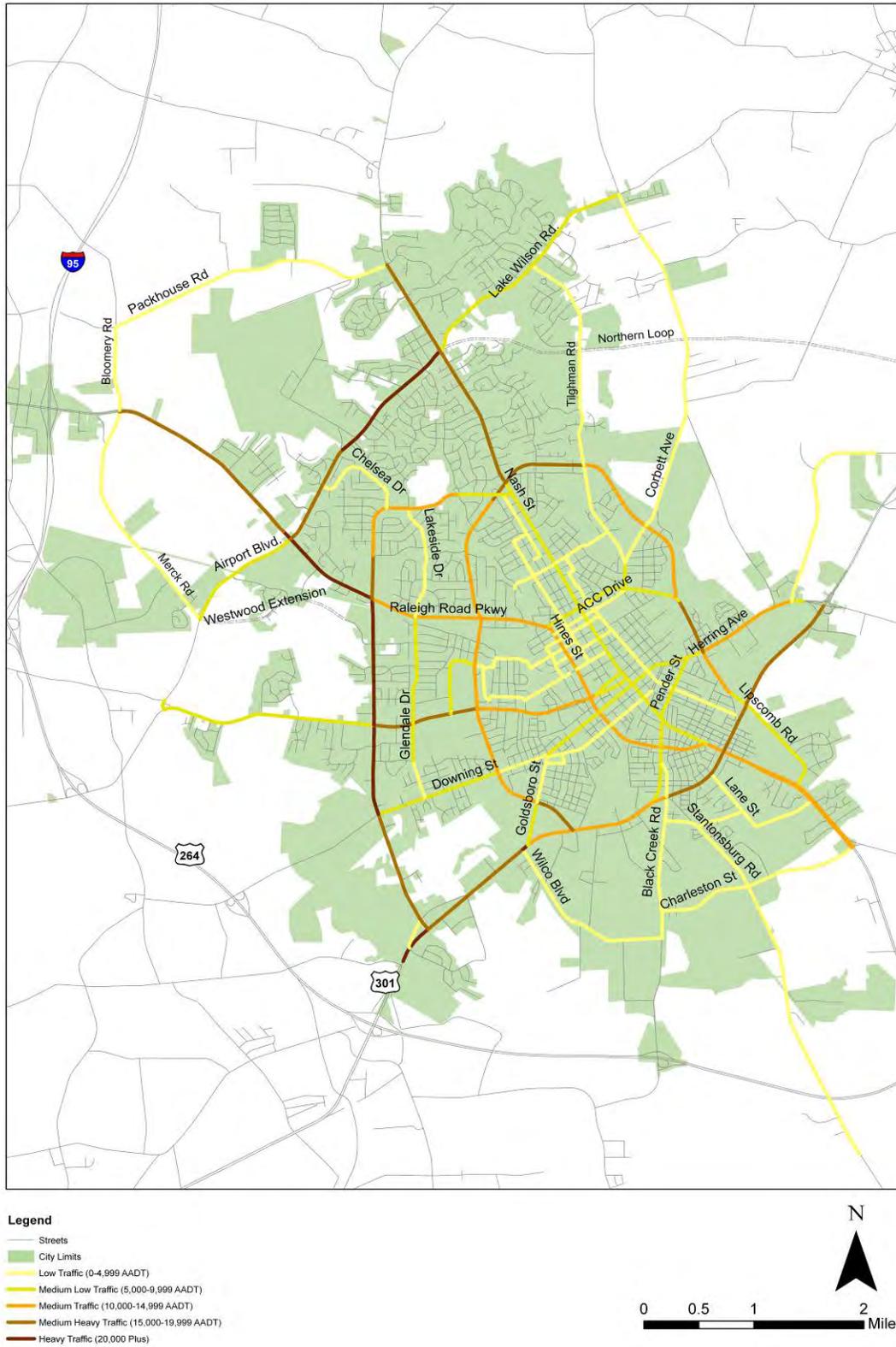


Figure 6. Inventory results for volumes on major roads in Wilson

*This page left intentionally blank.*

## Appendix 5: On-road projects, proposed actions, and final treatments

Road Name	Limit	Limit	Length (miles)	Traffic Volume	Speed Limit	Roadway Width	No. of Lanes	Curb and Gutter?	Compatibility Index Score	Action
ACC Drive	Corbett	Nash	0.45	L	35	W	2	yes	5	- Restripe to accommodate bike lane (one way)
Airport Boulevard	Merck	Raleigh	1.15	ML	45	S	2	no	8	- Currently under construction to widen. Redesign to accommodate bike lanes per NCDOT standards
	Raleigh	Chelsea	0.57	MH	45	W	5	yes	9	- Construct shared path adjacent to the road
	Chelsea	Buckingham	1.45	MH - H	45	W	5	yes	9 to 10	- Short-Term: Sign parallel route in neighborhood and shared lane/signage treatment on route. Long-Term: Redesign to include bike lanes per NCDOT standards.
	Buckingham	Nash	0.22	H	45	W	5	yes	10	- Redesign to accommodate bike lanes per NCDOT standards
Black Creek Road	Pender	Ward	0.39	L	35	S	2	yes	6	- Shared lane/signage treatment
	Ward	Wilco	1.32	L	45	S	2	no	7	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder
Bloomery Street	Raleigh	Packhouse	0.78	L	55	S	2	no	8	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder
Charleston Street	Black Creek	MLK	1.88	L	45	V	2	no	6 to 7	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder
Chelsea Drive	Airport	Forest Hills	0.93	L	35	W	2	yes	5	- Treatment unnecessary
Corbett Street	London Church	Toisnot Park	3.26	L	45	N	2	no	9	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder
	Toisnot Park	Tilghman	0.4	L	25	W	5	yes	4	- Redesign to accommodate bike lanes per NCDOT standards
	Tilghman	ACC Drive	0.24	ML	35	W	2	yes	9	- Paint sharrows
Downing Street	Glendale	Ward	0.71	ML	45	W	5	Yes	7	- Redesign to accommodate bike lanes per NCDOT standards
	Ward	Goldsboro	0.48	L	35	W	2	Yes	5	- Paint sharrows or restripe for bike lanes
Glendale Road	Downing	Katherine	0.89	L - ML	35	N	3	yes	7 to 8	- Redesign to accommodate bike lanes per NCDOT standards
	Katherine	Raleigh	0.81	ML	35	V	4 and 2	yes	7 to 6	- Paint sharrows
Goldsboro Street	Downing	Ward	0.45	L	35	V	3	yes	6	- Shared lane/signage treatment (may be unnecessary)
	Ward	US 301	0.41	ML	35	W	3	yes	6	- Paint sharrows
Herring Avenue	Pender	Ward	0.14	ML	35	N	3	yes	9	- Paint sharrows
	Ward	Firestone	0.94	M	35 to 45	S	2, 4, 5	yes	8	- Redesign to accommodate bike lanes per NCDOT standards
Lake Wilson Road	Nash	Lake Wilson Park	1.77	ML	45	W	3	yes	7	- Redesign to accommodate bike lanes per NCDOT standards
	Lake Wilson Park	London Church	0.52	ML	45	W	3	half with half without	7	- Redesign to accommodate bike lanes per NCDOT standards
Lakeside Road	Forest Hills	Raleigh	1.08	L	35	W	2	yes	5	- Shared lane/signage treatment
Lane Street	Tuskegee	MLK	1.09	L	35	W	2	yes	5	- Shared lane/signage treatment and widen where no curb or shoulder
Lipscomb Road	Ward	US 301	0.15	ML	45	W	5	yes	7	- Redesign to accommodate bike lanes per NCDOT standards
	US 301	MLK	0.98	ML	35	W	4	yes	6	- Redesign to accommodate bike lanes per NCDOT standards
Lodge Street	Green	Goldsboro	1.16	L	20 - 35	V	2	yes	3, 5, 8	- Shared lane/signage treatment (may be unnecessary)
London Church	Lake Wilson	Corbett	2.14	L	45	N	2	no	9	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder
Merck	Airport	Bloomery	2.28	L	45	W	5	yes	6	- Redesign to accommodate bike lanes per NCDOT standards
Nash	Pender	Ward	2.63	ML	20 - 35	V	2 to 3	yes	4 to 9	- Sign parallel route and paint sharrows on route
	Ward	Packhouse	2.32	MH	35 - 45	V	5	yes	9	- Short-Term: Sign parallel route & shared lane/signage treatment on route. Long-Term: Redesign to accommodate bike lanes per NCDOT standards
Packhouse Road	Bloomery	Nash	2.66	L	35 or 55	S	4 to 2	portions	6 to 8	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder
Pender Street	Herring	Black Creek	1.04	M L	35	S	3	yes	7	- Paint sharrows or shared lane/signage treatment
Raleigh Road	Corbett	Hines	0.81	M L	35	W	2	yes	6	- Restripe to accommodate bike lane (one way)

Road Name	Limit	Limit	Length (miles)	Traffic Volume	Speed Limit	Roadway Width	No. of Lanes	Curb and Gutter?	Compatibility Index Score	Action
Parkway	Hines	Lakeside	1.18	M	35 to 45	W	3 to 5	yes	7 to 8	- Redesign to accommodate bike lanes per NCDOT standards
Stantonsburg Road	Black Creek	Charleston	1.04	L	45	V	3	no	6 to 7	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder
Tilghman Road	Lake Wilson	Corbett	3	L	35 - 45	V	mostly 2	mostly no	6 to 8	- Restripe to accommodate bike lanes
Wilco Boulevard	US 301	Black Creek	1.68	L	45 - 35	V	2	no	5 to 6	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder

**Legend**

Traffic Volume:

- L – Low Volume
- ML – Medium Low Volume
- M – Medium Volume
- MH – Medium High Volume
- H – High Volume

Roadway Width

- N – Narrow Width
- S – Standard Width
- V – Varies in Width
- W – Wide Width

## Appendix 6: On-road project ratings

Table 1. Project Rating (Alphabetized by road name)

Road Name	Limit	Limit	Length (miles)	Shopping & Work	Recreation	Schools	Residential	Safety	Centrality	Connectivity	Rating
ACC Drive	Corbett	Nash	0.45	1	1	1	1	1	1	1	7
Airport Boulevard	Buckingham	Nash	0.22	1	1	0	1	1	1	1	6
Airport Boulevard	Chelsea	Buckingham	1.45	1	1	0	1	1	1	1	6
Airport Boulevard	Merck	Raleigh Rd.	1.15	0	1	1	0	1	0	0	3
Airport Boulevard	Raleigh Rd.	Chelsea	0.57	0	1	0	1	1	0	0	3
Black Creek	Pender	Ward	0.39	1	0	1	1	1	1	1	6
Black Creek	Ward	Wilco	1.32	1	1	0	0	1	0	1	4
Bloomery	Raleigh	Packhouse	0.78	0	1	0	0	1	0	0	2
Charleston	Black Creek	MLK	1.88	1	1	0	0	1	0	1	4
Corbett	London Church	Toisnot Park	3.26	0	1	0	0	1	0	0	2
Corbett	Tilghman	ACC Drive	0.24	1	1	1	1	1	1	1	7
Corbett	Toisnot Park	Tilghman	0.4	0	1	1	1	1	1	1	6
Downing	Glendale	Ward	0.71	0	0	1	1	1	0	1	4
Downing	Ward	Goldsboro	0.48	1	0	1	1	1	1	1	6
Glendale	Downing	Katherine	0.89	1	0	1	1	1	1	1	6
Glendale	Katherine	Raleigh	0.81	1	0	1	1	1	1	1	6
Goldsboro	Downing	Ward	0.45	1	1	0	1	1	0	1	5
Goldsboro	Ward	US 301	0.41	1	1	0	0	1	0	1	4
Herring	Pender	Ward	0.14	1	0	0	1	0	0	1	3
Herring	Ward	Firestone Parkway	0.94	1	1	1	0	1	0	0	4
Lake Wilson Road	Lake Wilson Park	London Church Road	0.52	0	1	0	1	1	0	1	4
Lake Wilson Road	Nash	Lake Wilson Park	1.77	0	1	0	1	1	0	1	4
Lakeside	Forest Hills	Raleigh Road	1.08	0	1	0	1	0	0	0	2
Lane	Tuskegee	MLK	1.09	1	1	0	1	0	0	0	3
Lipscomb	US 301	MLK	0.98	1	1	1	0	1	0	0	4
Lipscomb	Ward	US 301	0.15	1	1	1	0	1	0	0	4
Lodge	Green	Goldsboro	1.16	1	1	1	1	0	1	1	6
London Church	Lake Wilson	Corbett	2.14	0	1	0	0	1	0	1	3
Merck	Airport	Bloomery	2.28	0	1	0	0	1	0	0	2
Nash	Pender	Ward	2.63	1	1	0	1	1	1	1	6
Nash	Ward	Packhouse	2.32	1	1	0	1	1	1	1	6
Packhouse	Bloomery	Nash	2.66	0	1	1	1	1	0	1	5
Pender	Herring	Black Creek	1.04	1	1	1	1	1	1	1	7
Raleigh	Corbett	Hines	0.81	1	1	1	1	1	1	1	7
Raleigh	Hines	Lakeside	1.18	1	1	0	1	1	1	1	6
Stantonsburg	Black Creek	Charleston	1.04	1	1	0	0	1	0	0	3
Tilghman	Lake Wilson	Corbett	3	0	1	1	1	1	0	1	5
Wilco	US 301	Black Creek	1.68	1	1	0	0	1	0	0	3

Table 2. Project rating (by project rating)

Road Name	Limit	Limit	Length (miles)	Shopping & Work	Recreation	Schools	Residential	Safety	Centrality	Connectivity	Rating
ACC Drive	Corbett	Nash	0.45	1	1	1	1	1	1	1	7
Corbett	Tilghman	ACC Drive	0.24	1	1	1	1	1	1	1	7
Pender	Herring	Black Creek	1.04	1	1	1	1	1	1	1	7
Raleigh	Corbett	Hines	0.81	1	1	1	1	1	1	1	7
Airport Boulevard	Chelsea	Buckingham	1.45	1	1	0	1	1	1	1	6
Airport Boulevard	Buckingham	Nash	0.22	1	1	0	1	1	1	1	6
Black Creek	Pender	Ward	0.39	1	0	1	1	1	1	1	6
Corbett	Toisnot Park	Tilghman	0.4	0	1	1	1	1	1	1	6
Downing	Ward	Goldsboro	0.48	1	0	1	1	1	1	1	6
Glendale	Downing	Wooten	0.52	1	0	1	1	1	1	1	6
Lodge	Green	Goldsboro	1.16	1	1	1	1	0	1	1	6
Nash	Pender	Ward	2.63	1	1	0	1	1	1	1	6
Nash	Ward	Packhouse	2.32	1	1	0	1	1	1	1	6
Raleigh	Hines	Lakeside	1.18	1	1	0	1	1	1	1	6
Glendale	Wooten	Raleigh	1.2	1	0	0	1	1	1	1	5
Goldsboro	Downing	Ward	0.45	1	1	0	1	1	0	1	5
Packhouse	Bloomery	Nash	2.66	0	1	1	1	1	0	1	5
Tilghman	Lake Wilson	Corbett	3	0	1	1	1	1	0	1	5
Black Creek	Ward	Wilco	1.32	1	1	0	0	1	0	1	4
Charleston	Black Creek	MLK	1.88	1	1	0	0	1	0	1	4
Downing	Glendale	Ward	0.71	0	0	1	1	1	0	1	4
Goldsboro	Ward	US 301	0.41	1	1	0	0	1	0	1	4
Herring	Ward	Firestone Parkway	0.94	1	1	1	0	1	0	0	4
Lake Wilson Road	Nash	Lake Wilson Park	1.77	0	1	0	1	1	0	1	4
Lake Wilson Road	Lake Wilson Park	London Church Road	0.52	0	1	0	1	1	0	1	4
Lipscomb	Ward	US 301	0.15	1	1	1	0	1	0	0	4
Lipscomb	US 301	MLK	0.98	1	1	1	0	1	0	0	4
Airport Boulevard	Merck	Raleigh Rd.	1.15	0	1	1	0	1	0	0	3
Airport Boulevard	Raleigh Rd.	Chelsea	0.57	0	1	0	1	1	0	0	3
Lane	Tuskegee	MLK	1.09	1	1	0	1	0	0	0	3
London Church	Lake Wilson	Corbett	2.14	0	1	0	0	1	0	1	3
Stantonsburg	Black Creek	Charleston	1.04	1	1	0	0	1	0	0	3
Wilco	US 301	Black Creek	1.68	1	1	0	0	1	0	0	3
Herring	Pender	Ward	0.14	1	0	0	1	0	0	1	3
Bloomery	Raleigh	Packhouse	0.78	0	1	0	0	1	0	0	2
Corbett	London Church	Toisnot Park	3.26	0	1	0	0	1	0	0	2
Lakeside	Forest Hills	Raleigh Road	1.08	0	1	0	1	0	0	0	2
Merck	Airport	Bloomery	2.28	0	1	0	0	1	0	0	2

## Appendix 7. On-road project cost estimates based on proposed treatments

Road Name	Limit	Limit	Length (miles)	Action	Proposed Final Treatment
<b>Expense: Lowest Cost</b>					
Airport Boulevard	Chelsea	Buckingham	1.45	- Sign parallel route in neighborhood & shared lane/signage treatment on route	- Signed parallel route and STR signage
Black Creek	Pender	Ward	0.39	- Shared lane/signage treatment	- STR signage
Goldsboro	Downing	Ward	0.45	- Shared lane/signage treatment (may be unnecessary)	- STR signage
Lakeside	Forest Hills	Raleigh Road	1.08	- Shared lane/signage treatment	- STR signage
Lane	Tuskegee	MLK	1.09	- Shared lane/signage treatment	- STR Signage
Lodge	Green	Goldsboro	1.16	- Shared lane/signage treatment (may be unnecessary)	- STR signage
Nash	Pender	Packhouse	4.91	- Sign parallel route in neighborhood & shared lane/signage treatment on route	- Signed parallel route and STR signage
<b>Expense: Low Cost</b>					
ACC Drive	Corbett	Nash	0.45	- Restripe to accommodate bike lane (one way)	- Bike lanes
Corbett	Tilghman	ACC Drive	0.24	- Paint sharrows	- Sharrows
Downing	Ward	Goldsboro	0.48	- Paint sharrows or restripe for bike lanes	- Sharrows or bike lanes
Glendale	Katherine	Raleigh	0.81	- Paint sharrows	- Sharrows
Goldsboro	Ward	301	0.41	- Paint sharrows	- Sharrows
Herring	Pender	Ward	0.14	- Paint sharrows	- Sharrows
Nash	Pender	Ward	2.63	- Paint sharrows	- Sharrows
Pender	Herring	Black Creek	1.04	- Paint sharrows or shared lane/signage treatment	- Sharrows or STR signage
Raleigh	Corbett	Hines	0.81	- Restripe to accommodate bike lanes (one way)	- Bike lane
<b>Expense: Moderate Cost</b>					
Black Creek	Ward	Wilco	1.32	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder	- Wide paved shoulder
Bloomery	Raleigh	Packhouse	0.78	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder	- Wide paved shoulder
Charleston	Black Creek	MLK	1.88	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder	- Wide paved shoulder
Corbett	London Church	Toisnot Park	3.26	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder	- Wide paved shoulder
Herring	Ward	Firestone Parkway	0.94	- Redesign to accommodate bike lanes per NCDOT standards	- Bike lanes
Lane	Lane Street Park	Water Easement	0.5	- Widen to curb	- Keep STR Signage
London Church	Lake Wilson	Corbett	2.14	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder	- Wide paved shoulder
Packhouse	Bloomery	Nash	2.66	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder	- Wide paved shoulder
Stantonsburg	Black Creek	Charleston	1.04	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder	- Wide paved shoulder
Wilco	301	Black Creek	1.68	- Widen shoulder (both sides) additional 3 feet for wide paved shoulder	- Wide paved shoulder
<b>Expense: High Cost</b>					
Airport Boulevard	Buckingham	Nash	0.22	- Redesign to accommodate bike lanes per NCDOT standards	- Bike lanes
Airport Boulevard	Merck	Raleigh Rd.	1.15	- Redesign to accommodate bike lanes per NCDOT standards	- Bike lanes
Airport Boulevard	Raleigh Rd.	Chelsea	0.57	- Construct shared path adjacent to road	- Shared path
Airport Boulevard	Chelsea	Buckingham	1.45	- Redesign to include bike lanes per NCDOT standards	- Bike lanes
Corbett	Toisnot Park	Tilghman	0.4	- Redesign to accommodate bike lanes per NCDOT standards	- Bike lanes
Downing	Glendale	Ward	0.71	- Redesign to accommodate bike lanes per NCDOT standards	- Bike lanes
Glendale	Downing	Katherine	0.89	- Redesign to accommodate bike lanes per NCDOT standards	- Bike lanes
Lake Wilson Road	Nash	Lake Wilson Park	1.77	- Redesign to accommodate bike lanes per NCDOT standards	- Bike lanes
Lake Wilson Road	Lake Wilson Park	London Church Road	0.52	- Redesign to accommodate bike lanes per NCDOT standards	- Bike lanes
Lipscomb	Ward	301	0.15	- Redesign to accommodate bike lanes per NCDOT standards	- Bike lanes
Lipscomb	301	MLK	0.98	- Redesign to accommodate bike lanes per NCDOT standards	- Bike lanes
Merck	Airport	Bloomery	2.28	- Redesign to accommodate bike lanes per NCDOT standards	- Bike lanes

Road Name	Limit	Limit	Length (miles)	Action	Proposed Final Treatment
<b>Expense: High Cost (continued)</b>					
Nash	Ward	Packhouse	2.32	- Redesign to include bike lanes per NCDOT standards	- Bike lanes
Raleigh	Hines	Lakeside	1.18	- Redesign to accommodate bike lanes per NCDOT standards	- Bike lanes
Tilghman	Lake Wilson	Corbett	3	- Restripe to accommodate bike lanes	- Bike lanes

**CITY OF WILSON COMPREHENSIVE BICYCLE PLAN • ADOPTED AUGUST 2008**



