

*Appendix Outline:*

- F.0 Overview
- F.1 Local Plans
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## APPENDIX F: EXISTING PLANNING EFFORTS

### F.0 Overview

Numerous plans, guidelines, and strategies have covered issues related to bicycle planning in Carboro and the surrounding region. They have addressed alternative transportation, greenways and trails, land use, and facility design standards on municipal, county, regional, state, and private levels. All of these documents represent important efforts, provide valuable insight and background, and have influenced the development of this plan.

The current plans are reviewed and summarized below only as they relate to bicycle planning in Carboro. For further information on each plan, please consult the reviewed document in its entirety.

### F.1 Local Plans

#### *Carrboro Vision 2020 (2000)*

This is a policy-making document informed by citizen input to craft future policies that reflect the visions and will of the community. It is divided into several components including programming, development, economic development, transportation, environmental protection, and housing. The town wants to maintain its character and protect its natural environment.

Key policies affecting this bicycle planning effort are pulled directly from the document below.

#### *1.1 Recreation and Parks*

1.11 The town should encourage and support the development of greenways and parklands dedicated to public use along streams and easements. There should be a

network of connected greenways throughout the town. These greenways should serve as nature trails, biking and walking trails, wildlife corridors. All should protect our natural environment.

1.14 The town should practice and encourage ecologically sound and sustainable maintenance of open space, including parks and greenways.

#### *4.3 Bicycle and pedestrian traffic*

4.31 The town should fully implement its bicycle and pedestrian network plan. This plan should identify links needed now as well as links that will be needed by 2020.

4.32 The town should establish connections with bicycle and pedestrian ways in other jurisdictions.

4.33 The maintenance of these paths and ways should continue to be a high priority.

#### *4.4 Established Roads*

4.41 As a general policy, established roads should be widened to accommodate bike lanes and sidewalks, but not to provide additional lanes for automobiles.

#### *4.5 New Development*

4.51 The town should continue to require developers to install sidewalks and bicycle paths in new developments.

4.52 New developments should bear the costs of upgrading connector and arterial facilities in the areas adjacent to their pro-



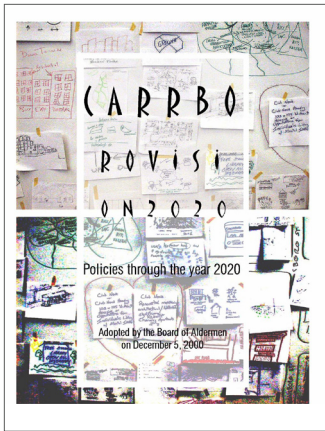


Fig. F-1. Key policies are documented in the Carrboro Vision 2020 plan.

properties to the extent appropriate, including upgrades to serve pedestrians and bicycles, given the added load to the infrastructure and anticipated use of facilities.

### 5.30 Open Space, Greenways, and Natural Areas

5.31 Carrboro should work to preserve open space and greenways through all available means, such as direct purchase, conservation easements, donations, and federal and state grants.

5.32 The town should map a connected series of greenways that are large enough to serve as wildlife corridors.

### ***Town of Carrboro Residential Traffic Management Plan for Speed and Traffic Control (Revised 2006)***

One of the goals of traffic calming measures is to provide alternative transportation modes in order to reduce automobile traffic. In determining areas to install traffic calming measures, bicycle volume is a measurement that is taken into account. Points are given for every 10 cyclists on roads with and without bicycle lanes.

### ***Facilitated Small Area Plan for Carrboro's Northern Study Area (1998)***

This document provides planning and goals for future land use within Carrboro's northern growth area. This area begins at Carrboro's town limits to the south and extends north to Carrboro's joint planning jurisdiction line to the north. At this stage, the area is fairly rural and undeveloped with some established neighborhoods.

One of the goals is to address the provision of adequate transportation routes including bicycle, pedestrian, and mass transit. The plan states that Carrboro's bicycle and pedestrian system should be extended into the Study area, especially where higher density development occurs. The plan further recommends that all new development be designed for easy bicycle and pedestrian access with bicycle paths when possible. It is a goal to acquire land and provide off-road bikeways when possible.

A list of possible funding and revenue sources to finance the recommendations of this Plan are provided. General obligation bonds are an option and had been used previously with the 1978 \$1.5 million recreation bond referendum for the development of the Community Park and segments of the bikeway system.

### ***Carrboro Downtown Design Guidelines***

The majority of this document addresses planning issues from an urban design standpoint, but there is some mention of Carrboro bicycle facilities needing improvement. First, it is mentioned as essential to provide a continuous, connected bicycle network through Town. In order to reduce the conflict that already exists between automobiles, bikes and pedestrians, the plan suggests clearly identifying bicycle networks for the user in addition to providing a system complete with no gaps. The plans goes on to address the need for bicycle traffic to be encouraged on the downtown streets by providing separate lane systems and bicycle racks at points where bicyclists change modes of transportation. "Bicycle racks need to be located close to all centers of business, public buildings, places of public assembly, bus stops and so on. They should be located near major entrances and marked for easy visibility."

The design guidelines recommend that the existing system be modified and expanded to achieve separation from pedestrian facilities, clear demarcation, the furthest route possible and a relationship to downtown buildings, which include bike racks near the main entrances.

***Recreation and Parks Comprehensive Master Plan Update (2006)***

The purpose of this Plan is to evaluate existing recreational facilities and guide the Town in meeting the community's future recreational needs. An inventory of facilities and programs was developed along with recommendations and funding guidance. A thorough public input process occurred. Public response indicated that the most popular recreational activities were walking, biking, swimming, hiking, and running/jogging (in that order). Since four out of the five top responses involved activities that take place on bike paths, trails, and greenways, these are a high priority for the Carrboro community.

Some of the top goals of this Plan include the acquisition and construction of greenway trail and bike path facilities. Focus areas include Bolin Creek (extending from Martin Luther King Jr Road to Estes Drive Extension, then to Homestead Road) and Morgan Creek (from Culbreth Road/Highway 15-501 to Smith Level Road at Frank Porter Graham School.) Also emphasized is the desire to link greenway trail development in Chapel Hill and the future construction of the Twin Creeks Park and Educational Campus and Carolina North projects. Another goal presented is connectivity to regional systems such as the American Tobacco Trail and Chatham County.

In addition to greenway development, an emphasis was placed on programming to promote and educate residents on the benefits, health, and safety of walking and bicycling. Programming should reach all user groups, including Latino populations.

A significant portion of this Master Plan update discusses the types of greenways, acquisition strategies, and design guidelines for greenways. It is recommended that the Carrboro greenway system be composed of six types:

- Type 1: No Facility Development (Natural state green corridors for conservation purpose)
- Type 2: Low Impact/Limited Development (Natural trail surface 4-6 feet wide)
- Type 3: Multi-use Unpaved Trail Development (Compacted crushed stone, minimum of 8 feet wide)
- Type 4: Multi-use Paved Trail Development (Asphalt or concrete, minimum of 10 feet wide)
- Type 5: On-road Facilities (Sidewalks at 5-foot minimum and bike lanes at 4 feet minimum)
- Type 6: Mountain Bike Facilities (Off-road unpaved corridor for mountain biking, minimum 6 feet wide)



### **1989 Town of Carrboro Bicycle and Sidewalk Policies**

This plan identifies two major objectives in the interest of the bicycle facilities:

- Increase safety of bicycle riders in town by creating a series of separate facilities
  1. Complete separation of motor traffic from bicycle traffic
  2. Designated bikelanes on major streets such as Weaver Street, Jones Ferry Rd., Greensboro St., Main St. and Hillsborough Rd.
  3. Shared roadways on less traveled residential streets
- Access to major destination points
  1. Connect existing bicycle system with major community facilities such as schools, Town Hall, and the Downtown, including the University
  2. The system should expand to connect high density areas. An example of such an area is the apartment communities on Smith Level Road and BPW Road.
  3. Lower density developments should be connected with the existing system.

Taken directly from the text, policy requirements for bicycle facilities include:

#### **EXISTING STREETS**

Consideration will be given to construction of bicycle lanes on all existing arterial and collector streets. An off-road bicycle path may be built in place of on-

road facilities if it is determined that bicycle travel would be better served by a separate facility.

To adequately serve the residents or patrons of a new development, existing roads shall be widened to accommodate bicycle lanes along the frontage to allow the development to connect to the existing bicycle network.

#### **NEW ARTERIAL AND COLLECTOR STREETS**

Bicycle lanes shall be required to be constructed on all new arterial and collector streets, as classified in Section 15-210(b) of the Carrboro Land Use Ordinance.

As motor vehicle traffic and speeds on sub-collectors, local and minor streets are low, and combining motor vehicle and bicycle traffic would not create a safety hazard on these streets, no on-road bicycle lanes will be required.

#### **CONSTRUCTION STANDARDS**

The following presumptive standards shall apply unless modifies in a particular case by the permitting authority in light of environmental or other public welfare considerations.

1. On road bikelanes shall be constructed to the same standards as the motor vehicle portion of the pavement. Most bikelanes in Carrboro are five (5) feet in width.
2. Off-road facilities shall be constructed according to standards in AASHTO Guide for Development of New Bicycle Facilities.



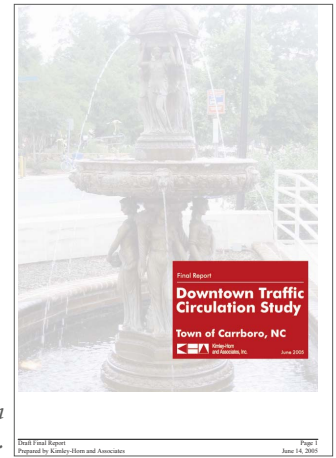


Fig. F-2. An overall report on existing downtown features.

The plan goes on to list the location, length and status of existing and proposed facilities for the town of Carrboro.

## F.2 Local Studies

### *Downtown Carrboro: New Vision (Downtown Visioning Charrette Report (2001))*

This report summarizes the public workshop process and outcomes of a downtown community visioning process. The citizens of Carrboro identified their top values which included diversity, inclusiveness, friendliness, a sense of community, green space, and walkable communities. Regarding downtown development, bicycle lanes, increased public space, and connections between residential and commercial areas were listed as priorities.

Recommendations included a number of bicycle facility improvements including promotion of bicycling to reduce congestion along with bicycle racks and signage that are designed to enhance the downtown identity. Pedestrian facility improvement recommendations included crosswalks, maintained sidewalks, bulb-outs, and pedestrian-scale lighting. A number of planning and policy recommendations were provided which mostly focused on the provision of sidewalks of adequate width and buffer between the roadway.

Recommendations were developed for downtown streets. A number of traffic calming facilities and roundabouts were recommended. Specific to bicycle, recommendations included:

- West Weaver Street: Street reconstruction should include bicycle lanes with high visibility crossings and refuge islands.
- Main Street: Traffic calming should be installed with bicycle racks along both sides.

### *2005 Downtown Traffic Circulation Study*

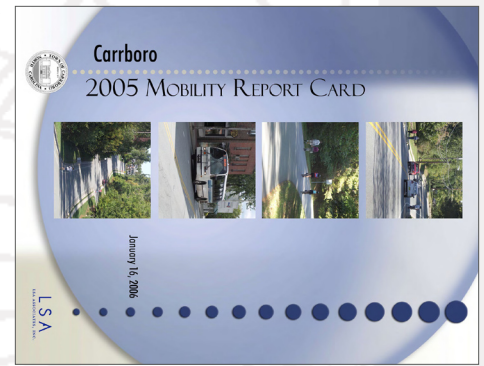
Drafted by Kimley-Horn and Associates, this plan serves as an overall report on existing downtown features with a focus on transportation and circulation patterns. Current conditions as well as improvement areas are outlined in the extensive Implementation and Phasing Section of the Plan and range from repaving and restriping options on local downtown corridors, street extensions and bicycle/pedestrian improvements, to Main Street redesign and traffic calming measures. The plan addresses current bicycle conditions as well as crash reports and identifies the Town’s major objectives and community goals to improve bicycle circulation and safety standards. The plan builds on previous Design Guidelines and downtown visionary charrettes, and significant data collected from local citizens of Carrboro. It includes a number of goals and objectives that address bicycle networks.

Bicycle facility improvements that are recommended include:

- Restripe all intersections to continue bicycle lanes through the intersection to enhance conditions for bicyclists to mix with vehicular traffic.
- Continuous bicycle lanes would be provided throughout the study area on



Fig. F-3. The 2005 Mobility Report Card assesses bicycle facilities.



Main Street, Weaver Street, Jones Ferry Road, and a route defined as Carr Street, Maple Street, Roberson Street, Libba Cotton bike path, Railroad Street, and Brewer Lane

- Retain a contractor to complete a design/build project that will install bicycle detection capabilities at all signalized intersections throughout Carrboro (Consider using video image and tracking system to detect and process bicyclists at selected intersections; an example of such a system is provided with the California Department of Transportation).
- As streets are repaved in downtown Carrboro, consideration should be given to restriping them with 11-foot travel lanes and 5-foot bicycle lanes (for state roads) or 10-foot travel lanes on town roads, if feasible.
- Bicycle route signs should be posted on streets that provide interconnectivity between bicycle lanes and shared-use paths radiating from downtown.
- Greensboro Street corridor: Turn stormwater grates to the bicycle-friendly position and resurface to remove ruts and rough edges between grates and surrounding concrete.
- Free space on Main Street and Weaver Street to provide interconnected bicycle lanes
- Promote bicycling and install signs and bicycle racks

### **2005 Mobility Report Card**

This plan documents existing vehicle circulation and transportation modes in the Town of Carrboro and specifically in the Bicycle Facilities section, examines patterns of improvement, types of facilities, and bicycle activity. Existing bicycle networks are closely inventoried and mapped over the course of two years with the results presented in different figures and charts throughout the document. Because Carrboro's existing bicycle network is already somewhat extensive, there is little improvement in the course of the years; however the plan concludes that there are still opportunities to "fill in missing gaps and further enhance the bicycle system."

Bicycle activity data was collected and measured to determine peak hours of activity, locations of activity, and volume of bicyclists. The data revealed that the highest level of bicycling does occur in the downtown area, where facilities were determined to be the most complete. Other bicycle paths in the downtown area such as the Libba Cotton Bikeway and the Francis Shetley Bikepath were described as having a very high volume of activity with some of the highest counts in Carrboro being taken on the Libba Cotton Bikeway during a 12-hour period.

The 2005 Mobility Report Card concludes the document by pointing out that mobility is highest in downtown Carrboro. Also noted in the findings and conclusions section was bicycle use and its fluctuations. The two main corridors (Main Street from Davie Road to Hillsborough Road and Hillsborough Road from Greensboro Street to Main Street) were used 7 percent of the time by bicyclists, while other locations ranged in use from 4 percent to 2.5 percent.

**2003 Mobility Report Card**

Measurement of miles of bicycle routes, paths and lanes using existing facilities through GIS is used as the objective of this inventory. The 2003 Mobility Report Card document clearly served as a benchmark for the 2005 Mobility report card. In 2003, there were approximately 34 miles of various types of bicycle facilities in Carrboro. This data includes actual bicycle lanes, bicycle paths, shoulders, and wide lanes. Carrboro had 71 percent bicycle lanes within city limits in 2003, with only 5 percent bicycle paths and 24 percent wide shoulders.

Both the 2003 and the 2005 Mobility Report Card do little to make suggestions as to the overall improvement of existing and/or future bicycle facilities. Based on the findings and conclusions from both of these Report Cards, it seems apparent that downtown facilities are successful but other areas of the city need more connectivity. The bicyclists are out using what is existing, but a network of safe, extensive lanes and paths will attribute to the ultimate success of Carrboro’s alternative mobility.

**Active Projects Report for October 2007**

This document serves as a summary of current development projects in Carrboro. Project type, address, status and description are listed. GWI will use this information to determine necessary outreach bicycle facilities to serve these areas by locating approved projects on GIS maps.

**F.3 Regional Plans**

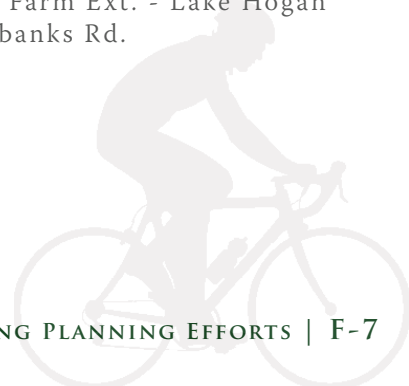
**2030 Long Range Transportation Plan (2005, DCHC MPO)**

The Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHCMPO) has set a goal to create a “pedestrian and bicycle system that provides alternative transportation, allows greater access to public transit, and supports recreational opportunities.” Furthermore, the MPO strives towards the development of “a safe, accessible and convenient network of regional bike and pedestrian routes.” On a regional level, the Transportation Advisory Committee adopted a policy of inclusion for pedestrian and bicycle projects in all roadway improvement projects. In addition to facility improvements, the MPO created recommendations for education, enforcement, and encouragement (to provide incentive to get more people biking and walking).

For the Town of Carrboro, the Plan recommends a total of 22 projects (17 miles) at an estimated cost of \$4.8 million. The MPO’s recommended bicycle projects have been taken into account during the development of this Plan. The projects are:

**BICYCLE LANES:**

- BPW Club Rd. - Tar Hill Dr. to Rock Haven Rd.
- Dairyland Rd. - Old NC 86 to Union Grove Church Rd
- Davie Rd. - W. Main St. to Jones Ferry Rd.
- Farm House/Tramore Connector
- Jones Ferry Rd. - Old Greensboro Rd. to Hwy 54
- N. Lake Hogan Farm Ext. - Lake Hogan Farm Rd. to Eubanks Rd.



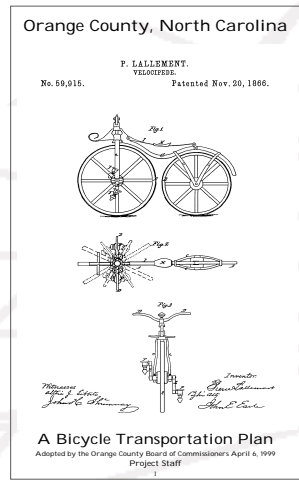


Fig. F-4. The Orange County Bike Plan examines bicycle strategies county-wide.

- Old Fayetteville Rd. - Jones Ferry Rd. to Strowd Lane
- Old Greensboro Rd. - Jones Ferry Rd. to Sturbridge Lane
- Old NC 86 - Farm House Dr. to Eubanks Rd.
- Quail Roost Dr. - Hillsborough Rd. to McDougale School
- S. Lake Hogan Farm Rd. - Tramore Rd. to Homestead Rd.
- Seawell School Connector - Lake Hogan Farm Rd. to Seawell School Rd.
- Smith Level Rd. - NC 54 Bypass to Ray Rd.
- Strowd Lane - Old Fayetteville Rd. to Anderson Community Park
- Tripp Farm Rd. - Hillsborough Rd. to Fair Oaks

**MULTI-USE PATHS**

- Bolin Creek Greenway Trail. Estes Dr. to Old NC 86.
- Morgan Creek Greenway Trail. Smith Level Rd. to University Lake
- Pathway Dr. - Cates Farm Rd. to Seawell School Rd.
- Robeson Place Bikepath - Eugene St. to Rand Rd.
- Tripp Farm Rd.- Fair Oaks to Seawell School Rd.

**Joint Planning Agreement (Orange County - Town of Chapel Hill - Town of Carrboro) (Amended 2003)**

This planning agreement, while making no specific mention of bicycle transportation, establishes the environment for coordinated and comprehensive

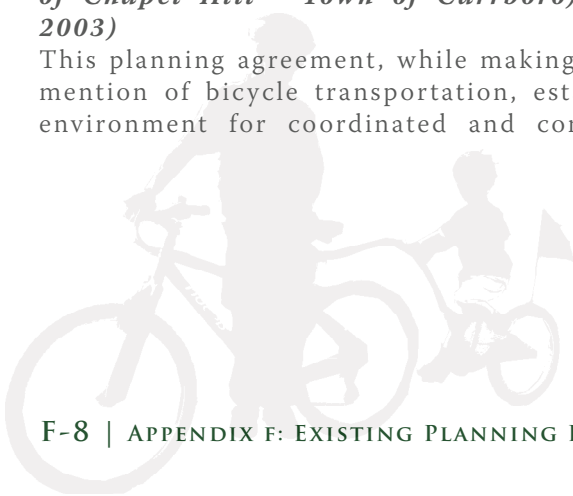
planning in the Joint Planning Area of the three entities. For long term bicycle connectivity, it will be critical for Chapel Hill, Carrboro, and Orange County to work together on bicycle facility development.

**Orange County Bicycle Transportation Plan 1999**

This extensive bicycle plan addresses facilities on a more expansive scale, including the towns of Carrboro, Chapel Hill, and the City of Durham. The plan’s introductory goals include providing rural areas with routes that access urban areas within and adjacent to Orange County as well as addressing current facilities by providing increased connectivity between these urban areas.

The plan has outlined goals and objectives for achieving successful bicycle facilities:

1. *Construct bicycle facilities in Orange County that will make cycling for transportation purposes safer, more convenient, and more efficient.*
  - Widen travel lanes to 12 feet and provide paved shoulders
  - Change state and regional bicycle transportation policies and programs
  - Dedicate funding for better surfacing, maintenance, and signage
  - Establish a Bicycle Advisory Committee at the local and regional levels
  - Provide intersection improvements and treatments including bicycle pavement markings and “bicycle sensitive” traffic signal actuators





*2. Increase safety on Orange County bicycle transportation routes.*

- Provide education for adults and children bicyclists and drivers
- Improve cycling routes by providing route mapping
- Target illegal cyclist and motorist behavior and enforce rights regarding NC law
- Provide accurate accident reporting
- Assess implementation with performance measures (measures being annual number of miles of road lanes widened to 12 feet and number of miles of 4 foot shoulders constructed; also the number of persons attending the cyclist skills and traffic education courses

*Specific construction schedules for 4' paved shoulders on all Orange County primary priority bicycle routes were:*

- NC 86 from Chapel Hill to Hillsborough and Old NC 10 from Hillsborough to Durham (Primary Route 1 and 1/2 of Primary Route 2) - by 2005
- Remainder of Primary Route 2 (West 10 from Hillsborough to Mebane) - by 2010
- NC Route 2, Primary Route 3 (Old Greensboro Road from Chapel Hill to Alamance County) - by 2015
- Primary Routes 4, 5, 6 (Erwin Road, Whitfield Road, and Old NC 86) - by 2020
- Primary Routes 7 and 8 (Jones Ferry Road and Mt. Carmel Church Road) - by 2025

*Specific strategies to improve bicycle facilities and programs included:*

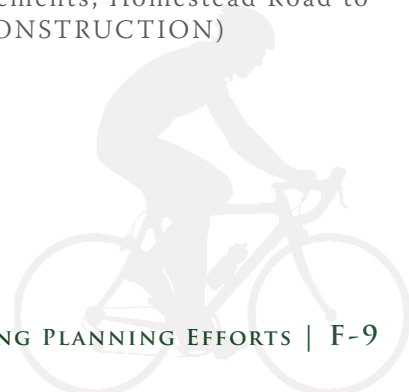
- Dedicating funding for bicycle facilities
- Provide greater emphasis and funding for surface quality and debris removal
- Provide end-of-trip facilities (racks and lockers)
- Insure adequate right-of-way is dedicated along bicycle routes to provide for 4' paved shoulders
- Stricter enforcement for cyclists and motorists
- Teach Effective Cycling Course in schools
- Develop incentives for major employers to promote cycle commuting

Finally, Orange County bicycle commuters were estimated. UNC-Chapel Hill indicated that approximately 3,396 persons commuted by bicycle each day during the academic year (3.7% of employees and 16.5% of total students).

***Transportation Improvement Program (2009-2015): Independent Projects***

A document published every year by the NCDOT, several bicycle projects are slated for Orange County. These projects include:

- Countywide: Bicycle route mapping and signing (IN PROGRESS)
- Carrboro: Robeson Place Bike path: Rand Road to Wesley Street. Construct Bicycle Path (UNDER CONSTRUCTION)
- Chapel Hill: Seawell School Road bicycle improvements, Homestead Road to Estes Drive (CONSTRUCTION)



***DCHC MPO Regional Priority List for Bicycle and Pedestrian (Division 7 - Orange County)***

A top priority project list exists for bicycle and pedestrian improvements specifically. The ones pertinent to this effort include:

- Old Fayetteville Road (McDougle School to NC 54) - Bicycle and pedestrian improvements
- Homestead Road (NC 86 to High School Road) - Bicycle lanes and sidewalks
- Estes Extension (S. Greensboro Street to Carrboro Town limits) - Multi-use path from Williams Street to Estes Drive. Add bicycle lanes, sidewalks to both sides of the road. Project connects to wide shoulders on Estes Drive
- Southern Railway Greenway (Estes Drive to Seawell School Road)
- Old NC 86 (Hillsborough to Homestead ) - Bicycle and pedestrian improvements
- BPW Club Road/Westbrook Drive Greenway
- Old NC 86 (Eubanks to I-40) - Bicycle lanes
- Old NC 86 (Homestead to Eubanks - Bicycle and pedestrian improvements
- Eubanks (Old NC 86 to Rogers) - Bicycle and pedestrian improvements

